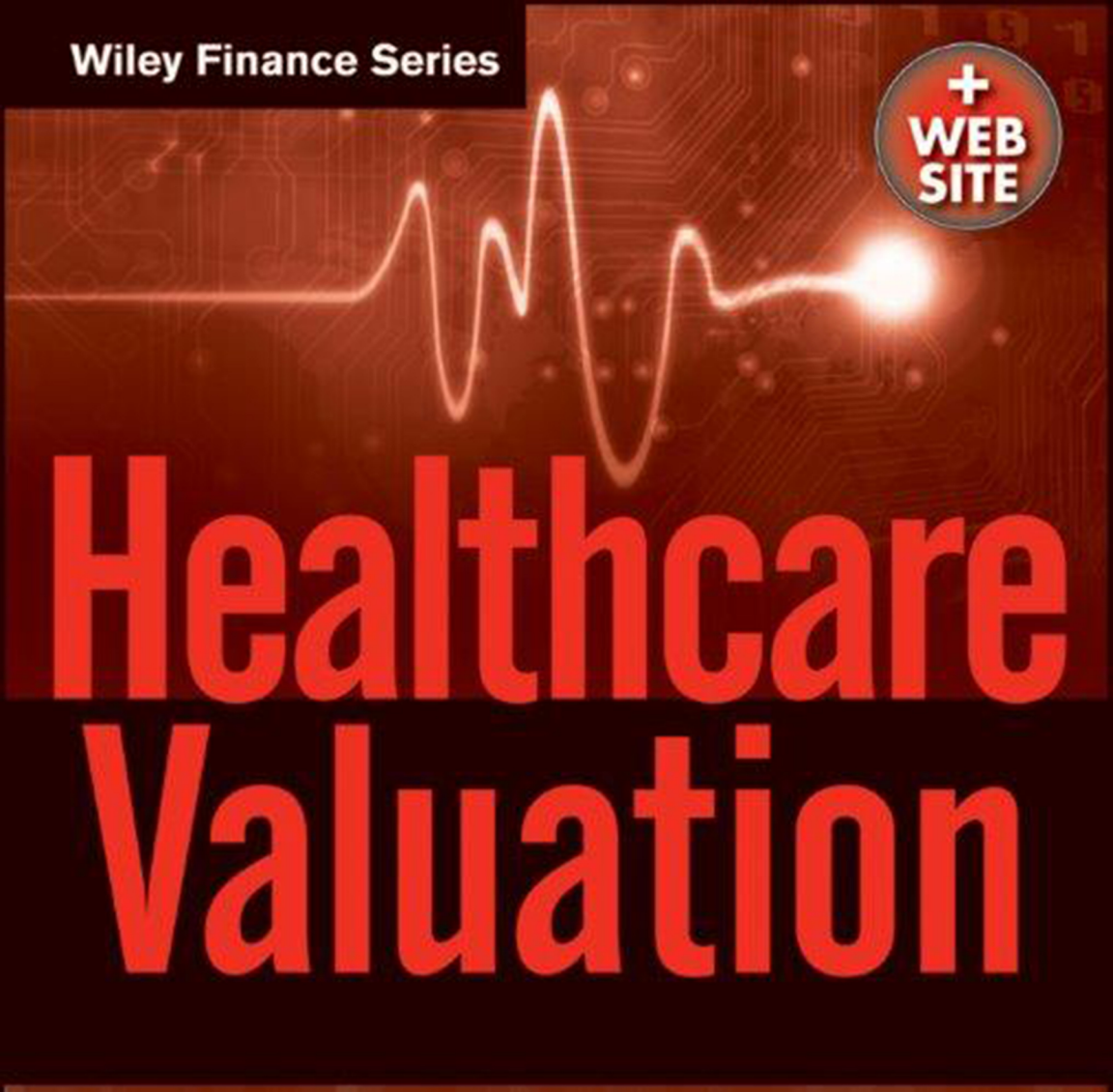
Wiley Finance Series



Healthcare Valuation

The Financial Appraisal of Enterprises, Assets, and Services

Robert James Cimasi
MHA, ASA, FRICS, MCBA, AVA, CM&AA

Foreword by Shannon P. Pratt

WILEY

Healthcare Valuation

Volume 1

Founded in 1807, John Wiley & Sons is the oldest independent publishing company in the United States. With offices in North America, Europe, Australia and Asia, Wiley is globally committed to developing and marketing print and electronic products and services for our customers' professional and personal knowledge and understanding.

The Wiley Finance series contains books written specifically for finance and investment professionals as well as sophisticated individual investors and their financial advisors. Book topics range from portfolio management to e-commerce, risk management, financial engineering, valuation and financial instrument analysis, as well as much more.

For a list of available titles, visit our Web site at www.WileyFinance.com.

Healthcare Valuation

Volume 1

The Four Pillars of Healthcare Value

ROBERT JAMES CIMASI

WILEY

Cover Image: © iStockphoto.com/kalawin jongpo; © iStockphoto.com/Dean Turner
Cover Design: WILEY

Published by John Wiley & Sons, Inc., Hoboken, New Jersey.
Published simultaneously in Canada.

Library of Congress Cataloging-in-Publication Data

Cimasi, Robert James.
The four pillars of healthcare value / Robert James Cimasi.
volumes cm.—(Wiley finance series)
Includes index.
ISBN 978-1-118-83297-4 (2 vol. set)—ISBN 978-1-118-29279-2 (vol. 1: cloth)—
ISBN 978-1-118-83291-2 (vol. 2: cloth)—ISBN 978-1-118-33173-6 (epub)—
ISBN 978-1-118-33402-7 (epdf) 1. Medical care, Cost of—United States.
2. Health insurance—United States. 3. Health care reform—United States. I. Title.
RA410.53.C56 2014
362.10973—dc23

Printed in the United States of America

10 9 8 7 6 5 4 3 2 1

Dedicated to my wife,
Laura M. Baumstark, MBA, CAE

Contents

Volume 2

Foreword

This comprehensive book traces the structure and economies of the healthcare system in the United States from its origins through the present day, as the foundation for the financial appraisal of healthcare enterprises, assets, and services.

It is based on exhaustive research and the 20-plus years of experience of Bob Cimasi's firm, Health Capital Consultants (its library holds over 50,000 books, papers, etc.). The book is heavily documented—the first chapter alone has more than 300 footnotes, and the second, more than 650!

While Bob is one of the most incisive authors covering the healthcare system, he is at the same time one of the system's harshest critics. For example, he makes reference to "the falling rank of U.S. health status as compared to other developed nations," and

> *The last two decades have seen the accelerated transformation of the U.S. healthcare professions into a service industry enterprise, whereby health services have been unitized, protocolized, and homogenized, in order to facilitate their sale in the market, just as if they were any other fungible market commodity, e.g., soybeans and pork bellies.*

Note his frequent use of italics for emphasis, so that the reader can almost hear him speaking.

His chapter on technology gets into the value drivers of management technology, as well as what we more conventionally think of as scientific technology. For example, he offers statistics on the rise in the incidence, complexity, and cost of both Electronic Health Records (EHRs) and the new version of the *International Statistical Classification of Diseases and Related Health Care Problems* (ICD). Originally established in 1893, the ICD is scheduled to implement its tenth revision, ICD-10, in 2014, which will increase the number of procedure codes from 4,000 to 72,000 and diagnostic codes from 14,000 to 69,000.

Bob Cimasi introduces a lot of healthcare industry–specific acronyms, (e.g., ACA for Affordable Care Act) and defines each acronym the first time it is used, but most often not subsequently, so readers need to pay attention to the sidebars of key terms included in each chapter and the acronyms

appearing at the end of each chapter (as well as the Glossary found in Volume 2) so that they don't get lost in the sea of acronyms, which are seemingly endemic in healthcare.

As a layman with respect to healthcare, I was surprised and impressed with the recent developments in clinical technology, both diagnostic and treatment, that Bob summarizes in his extensive chapter on healthcare technology.

He liberally sprinkles illustrative tables, charts, and graphs where applicable throughout the text. These are often quite helpful to the reader to give more detail or a more lucid feeling for what the text is saying.

Prior to the chapters on the valuation of specific types of healthcare entities, there are three excellent general chapters on valuation in Volume 2, "Basic Valuation Tenets"; "Valuation Approaches and Methods"; and "Costs and Sources of Capital." These comprehensive chapters delve into more detail than I perceive the average reader may need to know, so I believe that the average reader can skip over some of the more esoteric parts of these chapters without losing the central essence of them, while the more advanced professional may seek to focus on this robust content.

The several chapters on the valuation of specific types of healthcare enterprises, services, and their various tangible and intangible assets demonstrate Bob's insightful knowledge of the healthcare industry and its components. For each major category of enterprises within the healthcare professions, he explains the nature, value drivers, and relevant trends of each subcategory, from hospitals to various types of clinical and nonclinical services.

For example, in the chapter on valuing inpatient enterprises, he points out that for hospitals, both capacity and occupancy rates are among the value drivers, and he provides a table of average occupancy rates by ownership category and size from 1975 through 2009. He gives a useful chart of other variables to consider and another convenient chart of sources of benchmarking data for these variables.

Readers should not delude themselves into believing that they will become instant experts in healthcare valuation. This is not a "how to" book. However, it provides both breadth and depth of detailed understanding into many specialties within the healthcare field, for both facilities and services. At this time of the greatest evolution in the history of healthcare valuation, it provides both exhaustively researched information and keen insight into value drivers and trends in most aspects of the healthcare field. It is a monumental contribution to the literature about the valuation of the healthcare industry and the medical profession.

Shannon Pratt, CFA, FASA, MCBA, ARM, ABAR
Shannon Pratt Valuations, Inc.
Portland, Oregon
shannon@shannonpratt.com

Preface

The great thing in this world is not so much where we stand, as in what direction we are moving.

—Oliver Wendell Holmes

This year marks my thirtieth as a healthcare appraiser and the twentieth anniversary of Health Capital Consultants (HCC), the consulting firm I started in 1993. During that period, I've witnessed and experienced unprecedented change in both the healthcare industry and the valuation profession, as described in the following sections.

THE CHANGING HEALTHCARE INDUSTRY PARADIGM: THE CORPORATIZATION OF MEDICINE

The *corporatization* of medicine and the rise of *for-profit* healthcare have replaced the cottage industry of *Marcus Welby*–physician practices and the small community hospitals that were prevalent at the start of my career. The last three decades have seen the accelerated transformation of the medical professions into U.S. healthcare service *industry* enterprises, whereby healthcare services have been *unitized*, *protocolized*, and *homogenized*, in order to facilitate their *sale* in the market, just as if they were any other fungible market commodity, little differentiated from soybeans and pork bellies. This new healthcare delivery paradigm has accelerated alongside the *corporatization* of medicine, as demonstrated by the increase in large hospital systems; the retreat from private practice of medicine to employed physicians; and the consolidation of payors by large, for-profit health insurance firms.

CHANGES IN THE ENTERPRISES, ASSETS, AND SERVICES SUBJECT TO APPRAISAL AND SCOPE OF ENGAGEMENT

This changing paradigm has resulted in an evolving array in the types of *enterprises*, *assets*, and *services* that are subject to being appraised. As the complexities associated with healthcare transactions have increased

significantly, there has been a simultaneous increase in the opportunities available for the business valuation profession in scope and diversity arising from the growing demand for analysis related to both *Fair Market Value* and *commercial reasonableness* opinions for pending transactions. There will inevitably be fewer engagements focused on appraising solo and small group medical practices, as the healthcare industry consolidates, and greater numbers of physicians and other providers form larger organizations based on new emerging models of organizing the delivery of care.

These *emerging healthcare organizations* (EHOs) will continue to be driven by the need to develop new affiliations, capital structures, and governance configurations, in order to align the interests of patients/consumers with the various U.S. healthcare industry subsectors, including *inpatient* and *outpatient* providers; *payors* and *managed care entities*; and *suppliers* and *vendors*, in such a manner as to address the emergence of *value-based reimbursement* initiatives focused on both lowering costs and improving quality. These factors have necessarily also changed the scope of appraisal assignments, with an increasing volume of appraisals focused on property interests other than at the *total enterprise* level, and more emphasis on discrete property interests and services, as well as more focused attention on the *highest and best use* concept and the selection of the appropriate *premise of value*, that is, either *value in-use as a going concern* or *value in-exchange*. Given these complexities, the opportunities for additional collaboration among the various appraisal disciplines, such as business valuation, intangible assets and intellectual property, real estate, and machinery and equipment and personal property, have never been greater.

CAPITAL MARKET CHANGES: AVAILABILITY OF CAPITAL AND NEW FINANCIAL INSTRUMENTS

Changes in the capital markets related to both the availability of capital sources and the types of financial instruments used in financing healthcare transactions, particularly in recent years following the Great Recession, have transformed the way that healthcare providers, as well as the healthcare transactional marketplace, operate.[1] Neither healthcare enterprises nor the *capital markets* in which they operate, exist within a *vacuum*. Wide-ranging *factors* have an impact on the global and national economy and *reverberate* through markets, affecting the functioning of *capital markets* in healthcare,

[1] As with other industries, healthcare was dramatically affected during the difficult years following the collapse of the capital markets from 2007 through 2009.

as well as in other industries. The effects of the economic downturn of the Great Recession included a dramatic *retraction in the availability of capital*, as well as the *imposition of strict lending conditions* on those few credits that were being granted, even for stable and profitable healthcare enterprises.[2]

CHANGES IN THE VALUATION LITERATURE AND EDUCATION

The valuation profession has also progressed significantly during the last three decades. When I first began my appraisal education in the late 1970s, the availability of business valuation literature related to the appraisal of closely held enterprises was virtually nonexistent, with only a few seminal interdisciplinary valuation works, for example, Taussig's *Principles of Economics* (1918), Bonbright's *The Valuation of Property* (1937), and Babcock's *Appraisal Principles and Procedures* (1968), with most other authoritative texts relating only to real estate appraisal and corporate finance.[3] However, starting in the 1970s, several books began to address (albeit slowly) the appraisal of other closely held businesses and business interests.[4] During the next two decades, several additional texts related to appraising closely held business enterprises were published, including:

- **1977:** *How to Price a Business: A Special Report* by Raymond C. Miles;
- **1981:** *Valuing a Business* by Shannon Pratt;
- **1984:** *Basic Business Appraisal* by Raymond C. Miles; and
- **1987:** *Appraisal and Valuation: An Interdisciplinary Approach* by Richard Rickert.[5]

---

[2] Gary S. Becker, "The Great Recession and Government Failure," *Wall Street Journal*, September 2, 2011, http://online.wsj.com/article/SB10001424053111904199404576536930606933332.html (accessed April 26, 2012).

[3] F. W. Taussig, *Principles of Economics* (New York: Macmillan, 1918); James C. Bonbright, *The Valuation of Property* (New York: McGraw-Hill Book Company, 1937); Henry A. Babcock, *Appraisal Principles and Procedures* (Washington, DC: American Society of Appraisers, 1989).

[4] For example, McCarthy and Healy's *Valuing a Company*, published by John Wiley & Sons, in 1971, devoted just four pages to valuing professional practices and services companies.

[5] Raymond C. Miles, *How to Price a Business: A Special Report by Raymond C. Miles* (Englewood Cliffs, NJ: Institute for Business Planning, 1977); Shannon P. Pratt, DBA, CFA, CFP, ASA, *Valuing a Business* (Homewood, IL: Dow Jones-Irwin, 1981); Raymond C. Miles, *Basic Business Appraisal* (New York: John Wiley & Sons, 1984); Richard Rickert, *Appraisal and Valuation: An Interdisciplinary Approach* (Washington, DC: American Society of Appraisers, 1987).

Beginning in the 1980s, the cannon of professional valuation literature related to appraising professional practices, including medical practices, began to emerge, including such titles as:

- **1980:** *How to Value Professional Practices* by Glenn Desmond;
- **1981:** *Valuing a Medical Practice* by the American Medical Association;
- **1986:** *Valuing Small Businesses and Professional Practices* by Shannon Pratt;
- **1987:** *New Trends in Dental Practice Valuation and Associateship Arrangements* by James Jackson and Roger Hill;
- **1988:** *Selling the Medical Practice* by Madeleine Pelner Cosman;
- **1989:** *Understanding the Valuation of Medical Practices* by James Unland;
- **1990:** *Valuing Professional Practices* by James Horvath; and
- **1991:** *Financial Valuation of Your Practice* by Linda Ginsburg.[6]

Since that time, there has been a flurry of books and peer-reviewed journal articles, as well as academic research sources and industry newsletters, related to the various aspects of financial valuation, including the application of *cost of capital*, *tax affecting*, and *discounts for lack of marketability* to the valuation of closely held businesses and professional practices. Today, there are now excellent treatises and other authoritative texts and sources related to those aspects of financial valuation, as well as benchmarking and forecasting in both the transactional and litigation support arenas.

While healthcare financial appraisal literature has grown exponentially in the last 10 years, its very availability and the volume of information present a challenge to all professional consultants working at the forefront of this competitive healthcare industry. Simply stated, how do we find the

[6] Glenn M. Desmond, *How to Value Professional Practices* (Los Angeles: Valuation Press, 1980); *Valuing a Medical Practice* (Monroe, WI: American Medical Association, 1981); Shannon Pratt, DBA, CFA, CFP, ASA, *Valuing Small Businesses and Professional Practices* (Homewood, IL: Dow Jones-Irwin, 1986); James B. Jackson and Roger K. Hill, *New Trends in Dental Practice Valuation and Associateship Arrangements* (Chicago: Quintessence Publishing, 1987); Madeleine Pelner Cosman, *Selling the Medical Practice* (Tenafly, NJ: Bard Hall Press, 1988); James J. Unland, *Understanding the Valuation of Medical Practices* (Chicago: Health Capital Group, 1989); James L. Horvath, Ca, CBV, ASA, CCH, *Valuing Professional Practices* (Canadian Limited, 1990); Linda G. Ginsburg, *Financial Valuation of Your Practice* (Los Angeles: Practice Management Information Corporation, 1991).

time to sort through an accelerating ocean of information and data, select what is relevant, analyze it, and report it to our clients in a comprehensible, timely, and cost-effective manner? I addressed these challenges in my career by making a commitment to act on behalf of those providers who lacked the resources to adapt to change quickly enough to effectively compete in today's intensely competitive and dynamically turbulent market. Toward that end, the development of a disciplined healthcare finance and economics research staff and library resource was established as the focus of the core services that HCC delivers to its clients.

CHANGE IN VALUATION PROFESSION STANDARDS

Valuation standards and codes of ethics have also evolved during the last 30 years, concurrent with the development of professional business valuation designations by the American Society of Appraisers, the Institute of Business Appraisers, the National Association of Certified Valuators and Analysts, and the American Institute of Certified Public Accountants. The emergence of these various groups in promulgating standards has sometimes presented the appraisal community with conflicting valuation standards—perhaps due, in part, to changes in accounting concepts and procedures, for example, International Financial Reporting Standards (IFRS) versus Financial Accounting Standards Board (FASB) pronouncements.

More recently, the International Valuation Standards Council (IVSC) and other groups, building on the previous efforts of CLARENCE to develop the international glossary of business valuation terms, and the National Association Business Valuation Standards Council, which attempted to *harmonize* the standards of various appraisal organizations, have made efforts to consolidate professional standards. The issuance of judicial gatekeeping authority regarding expert witness testimony emanating from *Daubert v. Merrell Dow Pharmaceuticals, Inc.*, decided by the U.S. Supreme Court in 1993, superseded the *Frye* (1923) standard in federal courts regarding the admissibility of *scientific* expert testimony, and in 1999, the *Kumho Tire v. Carmichael* case held that *Daubert*'s factors should be extended to apply to *nonscientific* expert testimony, thereby setting additional thresholds and standards for appraisers.[7]

[7] *Frye v. US,* 293 F. 1013 (D.C.C. 1923); *Daubert v. Merrell Dow Pharms., Inc.*, 509 U.S. 579 (1993); *Kumho Tire v. Carmichael*, 526 U.S. 137 (1999).

CHANGES IN REGULATORY SCRUTINY

During the last several years, there has been intensifying regulatory scrutiny related to the healthcare transactional marketplace regarding the potential for Anti-kickback, Stark, and other fraud and abuse violations involving Medicare and other government payors. Initiatives such as the Fraud Enforcement and Recovery Act (FERA), the Healthcare Fraud Prevention and Enforcement Action Team (HEAT), and the Medicare Fraud Strike Force have only been intensified with the passage of the 2010 Patient Protection and Affordable Care Act (ACA). A significant portion of this regulatory scrutiny has focused on the issues of Fair Market Value and *commercial reasonableness* related to the consideration being paid in transactions between tax-exempt hospital organizations to for-profit physician groups as part of the massive consolidation and integration initiatives currently being undertaken.

There has also been heightened regulatory scrutiny and the potential for severe penalties aimed at appraisers under Section 6695A of the Pension Protection and Affordable Care Act of 2006 for "substantial and gross valuation misstatements attributable to incorrect appraisals" that were "prepared by a person who prepared an appraisal of the value of property and who knew, or should reasonably have known, the appraisal would be used in connection with a return or claim for refund."[8]

CHANGES IN CLIENT EXPECTATIONS

Client expectations have also evolved, particularly as a result of technological advancements that have transformed the manner by which we communicate with our clients. The days of hanging wet copy fax pages on a clothesline to dry and using a 56K dial-up modem have been replaced with cell phones, e-mail, instant messaging, video teleconferencing, and secure *back offices* and *data rooms*. Each of these advances has come with an accompanying rise in client expectations and demands for access to appraisers, as well as a rise in the requirement for appraisers to be instantaneously accessible throughout the engagement. The way in which our financial models are developed and prepared has also evolved, largely due to the accessibility

[8] Substantial value is 150 percent or more than the amount determined to be correct (income tax); or the value is 65 percent or less than the amount determined to be correct (estate or gift tax). Gross value is 200 percent or more than the amount determined to be correct (income tax); or the value is 40 percent or less than the amount determined to be correct. "Substantial and gross valuation misstatements attributable to incorrect appraisals," Internal Revenue Code, 26 USC § 6695A.

of available data sources required for *due diligence* (particularly prevalent in the healthcare arena) that we receive electronically through databases and other data portals, as well as the exponential growth in the availability of healthcare financial and economic literature, and the input of academic theory, especially during the last 10 years.

HEALTHCARE INDUSTRY SPECIALIZATION

While the subject of industry specialization has been a point of contention for many years, in 1999, Chris Mercer (a valuation thought leader whom I greatly admire and respect), stated the issue succinctly as, "The basic question often boils down to: Should we hire an *industry expert* for this engagement, or is it preferable to hire a *valuation professional*?" Chris commented that "I believe I can say, based on many years of valuation experience, that *valuation expertise* combined with a broad base of industry experience, is a preferable experience set than purely industry expertise."[9] Based on my more than 30 years of healthcare valuation experience, I believe I can say that I both agree (in part) and disagree (in part) with Chris's comment.

I hold both valuation "generalists" and healthcare "industry specialists" in high regard; each group has contributed enormously to the advancement of the valuation profession. I would certainly agree that a strong base of general business knowledge and experience, as well as a thorough education in economic and financial principles, basic valuation tenets, appraisal methodology, and professional standards, are prerequisites to a successful appraisal engagement. However, given the complexities associated with understanding the value drivers that are often unique to the healthcare industry, the explosion of information and data available to appraisers, the heightened regulatory scrutiny, and the volatile dynamics of the new paradigm of healthcare reform, the valuation profession has necessarily evolved toward industry specialization. This is generally the result of the recognition that to be credible in performing a healthcare valuation, the appraiser also needs to possess an in-depth, informed understanding of the esoteric and complex attributes of the healthcare industry, which often appears to operate under a disparate, seemingly counterintuitive, framework of market economics (e.g., demand-driven, inelastic pricing).

The in-depth, robust knowledge required of a healthcare appraiser often can begin with a background of healthcare industry expertise, such

[9] Mercer Capital Management, Inc., "The 'Valuation Professional' vs. the 'Industry Expert,'" *E-Law Business Valuation Perspective Newsletter*, 1999-17 (December 15, 1999).

as in hospital financial management, but that experience alone is not sufficient without a thorough valuation education. Furthermore, credibility as an appraiser of healthcare interests requires a continuing commitment to keep abreast of the almost daily changes in national and regional economic conditions impacting the healthcare industry; payment and reform initiatives, reimbursement trends, regulatory and enforcement trends, the payor/delivery system mix, healthcare manpower and labor practices, supply-side dynamics, capital costs, emerging and declining models of healthcare organizations, and other issues related to the healthcare industry and transactional markets. For those valuation professionals who lack specific healthcare industry expertise, there has never been greater access to data and information related to the economic financial, and transactional areas of healthcare. Also, there is an increasing availability for both valuation education and professional development, as well as for obtaining a comprehensive understanding of the healthcare arena through healthcare associations and medical societies; online newsletters, journals, and health law and policy reporters; academic curricula; and courses, conferences, workshops, and symposiums, many of which are available through distance education, for example, audio conferences webinars.

There has long been a discernible pattern of consensus among healthcare industry clients to engage healthcare valuation specialists, at least for projects of any size or complexity. Recently, there also appears to be a growing acknowledgment in the valuation profession that industry specialization, in this case, with a professional focus on research and training specific to the healthcare industry, is warranted. Toward that end, on January 28, 2012, the Board of Governors of the American Society of Appraisers (ASA), "the oldest and only major appraisal organization representing all of the disciplines of appraisal specialists," passed a resolution establishing the "ASA Advanced Multidisciplinary Education in Healthcare Valuation" program as developed by the ASA Healthcare Special Interest Group (ASA HSIG) educational subcommittee.[10]

WHY I WROTE THIS BOOK

The healthcare industry is a vast and diverse part of the American economy that is undergoing a sustained and dramatic transformation. While the ultimate course that U.S. healthcare reform initiatives will follow is uncertain,

[10] "About US," American Society of Appraisers, www.appraisers.org/AboutUs/AboutUs.aspx (accessed April 22, 2013).

and there is still a quandary of unresolved issues posed by this *perfect storm*, one thing I know for certain is that whether one views it as a blessing or a curse, it is undeniable that there will be exponential growth in the demand for healthcare valuation professional services, and that the financial appraisal of healthcare enterprises, assets, and services will continue to grow in scope and complexity.[11]

In writing *Healthcare Valuation*, I focused, first and foremost, on the historical development of the U.S. healthcare industry and medical profession and the broad underlying market conditions and trends in which healthcare transactions and litigation take place, as well as the related basic tenets of financial economics in regard to the approaches and methods of healthcare valuation. The objective of this text is to gather and present the technical aspects of business valuation methodology relative to the financial appraisal of emerging healthcare organizations, within the context of the Four Pillars of the healthcare industry, that is, *reimbursement*, *regulatory*, *competition*, and *technology*.

This book is intended to *supplement*, not *supplant*, the existing cannon of professional valuation literature and builds on a solid foundation of authoritative texts, treatises, and research by professionals who have contributed greatly to that literature, as well as to the development of the business valuation profession, many of whom I am proud to call my friends and colleagues of many years and gratefully acknowledge as mentors. It is my hope that this book will augment what they have previously contributed.

Robert James Cimasi, MHA, ASA, FRICS, MCBA, AVA, CM&AA
Health Capital Consultants
Saint Louis, Missouri
March 2013

[11] See the Introduction.

Acknowledgments

The assistance and support of a number of my Health Capital Consultants (HCC) colleagues were instrumental to the development and publication of this book.

Todd A. Zigrang, MBA, MHA, FACHE, ASA, HCC President, and Anne P. Sharamitaro, Esq., HCC Executive Vice President and General Counsel, were central to the development of this project and greatly assisted by contributing to this work.

Other HCC colleagues who contributed significantly to this book include Vice President Matthew J. Wagner, MBA; Vice President John R. Chwarzinski, MSF, MAE; Senior Financial Analyst Jonathan T. Wixom; and Senior Financial Analyst Grant D. Heggie, MBA, MHA.

In addition, HCC's research and library staff, as well as members of HCC's consulting and administrative support team, were of great help.

Also, many thanks to our professional colleagues and clients who served as reviewers of, and commentators on, the various drafts of this work along the way, including Dr. Shannon Pratt, CFA, FASA, MCBA, ARM, ABAR, for his encouragement and inspiration over many years, as well as his comments on this text and his contribution of the Foreword; David Grauer, Esq., of Squire Sanders, LLP; Bob Morrison, ASA, BV/IA; Robert Schlegel, ASA, CBA, CCP, CDP, CISA, CSP; Richard M. Wise, FASA, MCBA, FCBV, FRICS, CVA, FCA, CPA, CA; Chris M. Mellen, ASA, MCBA, CVA, ABAR, CM&AA, MBA; Michael Gregory, ASA, AVA, PE; James B Lurie, ASA, CBA, CVA, BVAL; Howard Lewis, MS, GVA, AVA; Robert L. Wilson, Jr. Esq.; Lari B. Masten, MSA, CPA, ABV, CFF, CVA, ABAR; John Paglia, PhD, MBA; Dick Thorsen, CPA, CMEA, CVA; Morton Cohen, CPA; and, Tim Alexander, MLS, for their helpful review and commentary.

About the Author

Robert James Cimasi, MHA, ASA, FRICS, MCBA, AVA, CM&AA, serves as Chief Executive Officer of Health Capital Consultants (HCC), a nationally recognized healthcare financial and economic consulting firm headquartered in St. Louis, Missouri, serving clients in 49 states since 1993. Mr. Cimasi has more than 30 years of experience in serving clients, with a professional focus on the financial and economic aspects of healthcare service sector entities, including valuation consulting and capital formation services; healthcare industry transactions, including joint ventures, mergers, acquisitions, and divestitures; litigation support and expert testimony; and certificate-of-need and other regulatory and policy planning consulting.

Mr. Cimasi holds a Masters in Health Administration from the University of Maryland, as well as several professional designations: Accredited Senior Appraiser (ASA—American Society of Appraisers); Fellow—Royal Institute of Chartered Surveyors (FRICS—Royal Institute of Chartered Surveyors); Master Certified Business Appraiser (MCBA—Institute of Business Appraisers); Accredited Valuation Analyst (AVA—National Association of Certified Valuators and Analysts); and Certified Merger & Acquisition Advisor (CM&AA—Alliance of Merger & Acquisition Advisors). He has served as an expert witness on cases in numerous courts and has provided testimony before federal and state legislative committees. He is a nationally known speaker on healthcare industry topics and the author of several books, the latest of which include *Accountable Care Organizations: Value Metrics and Capital Formation* (Taylor & Francis, a division of CRC Press, 2013), *The Adviser's Guide to Healthcare*—Vols. I, II, and III (2010—AICPA), and *The U.S. Healthcare Certificate of Need Sourcebook* (2005—Beard Books). Mr. Cimasi is the author of numerous additional chapters in anthologies, books, and legal treatises, published articles in peer-reviewed and industry trade journals, and research papers and case studies, and he is often quoted by the healthcare industry press. In 2006, Mr. Cimasi was honored with the prestigious "Shannon Pratt Award in Business Valuation," conferred by the Institute of Business Appraisers. Mr. Cimasi serves on the Editorial Board of the Business Appraisals Practice of the Institute of Business Appraisers, of which he is a member of the College of Fellows. In 2011, he was named a Fellow of the Royal Institution of Chartered Surveyors (RICS).

Disclaimer

This work includes information regarding the basic characteristics of various statutes, regulations, and case law related to the healthcare industry. It is intended to provide only a general overview of these topics. This information is provided with the understanding that the author and the publisher are not rendering legal or tax advice and services. The author has made every attempt to verify the completeness and accuracy of the information; however, neither the author nor the publisher can guarantee, in any way whatsoever, the applicability of the information found herein. Furthermore, this work is not intended as legal or tax advice or as a substitute for appropriate legal counsel.

Introduction

Whereof what's past is prologue; what to come, in yours and my discharge.

—William Shakespeare, *The Tempest*, Act 2, scene

It may be the "*perfect storm.*" The continued rise in healthcare expenditures, the increasing segment of the U.S. population that is uninsured or underinsured, the growth in demand for care from the changing patient demographic of the aging baby-boomer population, and declining reimbursement for physician services and provider manpower shortages are just a few of the several catalysts that are driving the *turbulent transactional marketplace* for healthcare *enterprises*, *assets*, and *services* in this new *era of reform*.

Those valuation analysts, whose healthcare engagements have been focused on appraising historically *traditional* provider organizations, for example, physicians in solo and small group practices, are seeing a decline in their client base as the healthcare industry consolidates, and greater numbers of providers form new and larger *emerging healthcare organizations* (EHOs). These EHOs are driven by the need to develop new affiliations, capital structures, and governance configurations, in order to align the interests of patients/consumers, as well as various U.S. healthcare industry subsectors, including *inpatient* and *outpatient* providers, *suppliers* and *vendors*, *payors*, and *managed care entities*, in such a manner as to address the emergence of *value-based reimbursement* initiatives, such as *Accountable Care Organizations*.

This book will address the key issues that the professional appraiser should consider when undertaking a healthcare valuation assignment, set within the conceptual construct of the "*Four Pillars*" of the U.S. healthcare delivery system.

THE FOUR PILLARS OF THE HEALTHCARE INDUSTRY

In developing an understanding of the forces and the stakeholders that have the potential to drive *healthcare markets*, it is useful to examine what *value*

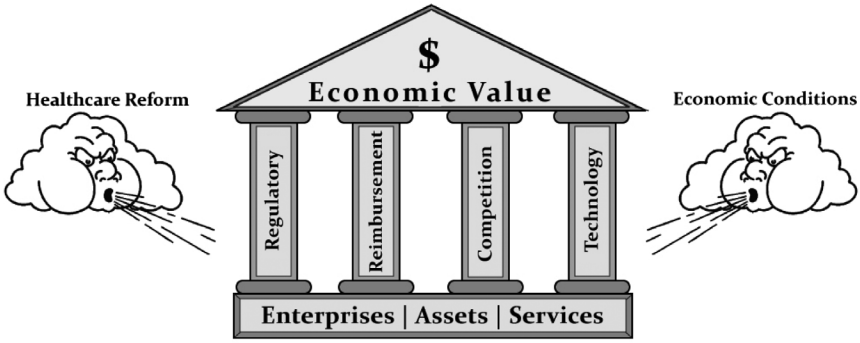


EXHIBIT I.1 The Four Pillars of the Healthcare Industry

may be attributable to healthcare *enterprises*, *assets*, and *services* as they relate to the four paramount market influences of the healthcare industry, that is, the *Four Pillars—reimbursement*, *regulatory*, *competition*, and *technology.* These four elements of the healthcare industry marketplace shape the dynamic by which providers and enterprises operate within the current transactional environment, while also serving as a conceptual framework for analyzing the *viability*, the *efficiency*, the *efficacy*, and, ultimately, the *value* that may be attributed to property interests, whether enterprises, assets, or services. Each of these *Four Pillars*, depicted in Exhibit I.1, will be further addressed in subsequent chapters.

STRUCTURE OF THIS TEXT

This text is meant to serve as both a *resource* and a *reference* and is focused on providing guidance in an era of reform related to the requisite research and analytical processes for both (1) the development of a supportable and replicable valuation conclusion and opinion in the financial appraisal of healthcare enterprises, assets, and services; and (2) the submission of a certified valuation report that is both comprehensive and credible. It is written for readers with a wide range of experience and professional focus, including healthcare industry C-suite executives; physicians and other clinical providers and their professional advisers, including attorneys, accountants, and consultants; banking, investment, and transactional advisors; and academics, researchers, and students, as well as other interested stakeholders.

This book is structured in two parts:

1. **Volume 1** consists of six chapters, beginning with a chronology of the U.S. healthcare delivery system, from the origins of medicine to the transformation of modern healthcare in the twentieth and twenty-first centuries (*Chapter 1*). *Chapters 2 through 5* explore the paramount influences of the *Four Pillars*, that is, *reimbursement*, *regulatory*, *competition*, and *technology*, as they apply to healthcare enterprises, assets, and services. *Chapter 6* provides an overview of the current healthcare environment in this new era of healthcare reform.
2. **Volume 2** consists of ten chapters, of which the first four provide a discussion of *basic valuation tenets* (*Chapter 7*), as well as a presentation of the generally accepted *valuation approaches*, *methods*, and *techniques* (*Chapter 8*), and the *costs/sources of capital* (*Chapter 9*), as these topics may be pertinent to healthcare valuation. *Chapter 10* sets forth the *planning* and *process* elements related to a healthcare valuation engagement. The next five chapters examine the following: the *value drivers* unique to each type of healthcare enterprise, asset, or service, as well as appropriate *valuation approaches*, *methodologies*, and *techniques* applicable to inpatient enterprises (*Chapter 11*), outpatient and ambulatory enterprises (*Chapter 12*), other healthcare-related enterprises (*Chapter 13*), tangible and intangible assets (*Chapter 14*), and healthcare services (*Chapter 15*). Finally, Chapter 16 provides the background and methodology regarding the regulatory threshold of *Commercial Reasonableness*.

READER TOOLS

This book will likely be used intermittently as a resource and a reference, in contrast to being read "cover to cover" in one sitting. Accordingly, to enhance the utility of this text as a navigable source for readers of various backgrounds, certain tools have been developed and appear throughout the text, including the following categories: *Key Concepts*, *Key Terms*, *Acronyms*, *Key Sources*, and *Factoids*. *Key Concepts* are the important *concepts* mentioned in the text that are significant to the healthcare valuation analysis. As an acknowledgment, *key concepts* are italicized in the text for emphasis and contrast. *Key Terms*, also italicized, refer to those significant words appearing in the text that may need to be defined for the reader and serve as a subset of the comprehensive *Glossary* that appears in Volume 2. *Acronyms*, formed by combining the initial letters or parts of a series of

words, are particularly prevalent in (and often the favorite pastime of) the healthcare industry and appear at the end of each chapter, as well as being included as part of the *Glossary*. *Key Sources* point to significant sources of data and information that are fundamental to the chapter content and serve as a subset of the comprehensive *Bibliography*, which is included in Volume 2. *Factoids* are brief, related facts of interest that are mentioned within the text. Also included are some concluding remarks and a brief epilogue.

A bedrock principle of financial valuation is that *economic value* is the *expectation* of *future economic benefit* to be derived from the *ownership* or *control of property.* The valuation analyst should, in keeping with the concept of the *principle of induction*, begin his forecast of the *future* with an in-depth understanding of the *past*, including the historical development of the U.S. healthcare delivery system within the context of the *Four Pillars*, the changing *reimbursement*, *regulatory*, *competitive*, and *technological* backdrop of an array of volatile, often complex market forces that make up the "*perfect storm*" within which the current U.S. healthcare transactional marketplace exists.[1] The first chapter of this text, "The Chronology of U.S. Healthcare Delivery: From Caduceus to Corporatization," begins the journey toward understanding the *financial appraisal of healthcare enterprises*, *assets*, and *services* in the *era of reform.*

[1]See Section 8.1.1.2.3.1, "Historical and Industry Trend Analysis," in Chapter 8, "Valuation Approaches and Methods."

CHAPTER 1

The Chronology of U.S. Healthcare Delivery: From Caduceus to Corporatization

1.1 FOUNDATION OF U.S. HEALTHCARE

Although the June 2012 decision by the Supreme Court of the United States (SCOTUS) to uphold the 2010 Patient Protection and Affordable Care Act (ACA) was one of the most anticipated rulings, for one of the most factious political debates in U.S. history, healthcare reform (in some guise) has been occurring in the U.S. healthcare delivery system for more than a century, as the manifestation of continuing evolution and change.

The foundation of the U.S. healthcare delivery system can be viewed as the product of (1) the evolution of *medical* thought and practice; and (2) the evolution of *philosophic* thought throughout many centuries. Paul Starr addresses this evolution in his book *The Social Transformation of American Medicine*, to wit: "first, the rise of professional sovereignty; and second, the transformation of medicine into an industry and the growing, though

still unsettled, role of corporations and the state."[1] This chapter addresses the chronological progression of medicine in accordance with this bimodal transformation, as related to the progress of the healthcare practitioner and professional practice credibility.

Medical historian Richard Harrison Shryock further assessed the historical context of medicine, noting:

> *Because it deals with the vital interests of both individuals and societies—with life and death, and with so much that matters in between—medicine has long had an unusually complex and intimate relationship to social and cultural developments at large . . . . In other words, medical history involves social and economic as well as biologic content and presents one of the central themes in human experience. After all, what is more basic in the life of any people than life itself?*
>
> —Richard Harrison Shryock, 1966[2]

An understanding of the chronology of both medical thought and events provides insight into the current state of healthcare delivery in the United States and shapes the trends that may affect those market factors, including valuation, that define the financial aspects of the healthcare industry.

1.1.1 Origins of Medicine

The origin of the evolution of the practice of medicine and the delivery of healthcare services can be traced to the earliest civilizations located in the Mediterranean region, which saw illness as a curse or a punishment from the gods that could befall *sinners*, their families, or their descendants.[3] The abstract notion of *medicine* was intertwined with religious concepts within Babylonian, Greek, and Roman cultures. Each of these groups depicts its respective god of healing as a figure holding a snake-coiled staff, and this symbol (often referred to as a *Caduceus*) is still widely used today to represent medicine.[4] An image of the Greek Caduceus is provided in Exhibit 1.1.

---

[1] Paul Starr is a reputed scholar of sociology and public affairs known for his writings on the development of American medicine. Paul Starr, *The Social Transformation of American Medicine: The Rise of a Sovereign Profession and the Making of a Vast Industry* (New York: Basic Books Inc., 1982), p. ix.

[2] Richard Harrison Shryock, *Medicine in America: Historical Essays* (Baltimore: Johns Hopkins Press, 1966), p. xiii.

[3] Albert S. Lyons and R. Joseph Petrucelli, *Medicine: An Illustrated History* (New York: Harry N. Abrams, 1978), p. 59.

[4] Robert A. Wilcox and Emma M. Whitham, "The Symbol of Modern Medicine: Why One Snake Is More Than Two," *Annals of Internal Medicine* 138, no. 8 (April 15, 2003).

EXHIBIT 1.1 Image of the Greek Caduceus
"Greek Caduceus," detail from t.p. of Marco Amelio Severino. Viper Pythia (Patavii: Typis Pauli Frambotti, 1651), from the U.S. National Library of Medicine.

Caduceus

Double serpent winding around a staff; a symbol for medicine.

"The Symbol of Modern Medicine: Why One Snake Is More Than Two," by Robert A. Wilcox and Emma M. Whitham, Annals of Internal Medicine, *138, no. 8 (April 15, 2003).*

Factoid

The original concept of medicine derived from the concern for human pain.

A History of Medicine, *by Arturo Castiglioni (New York: Alfred A. Knopf, 1947), pp. 3–12.*

Factoid

Sumerian, Assyrian, and Babylonian civilizations studied Astronomy intently, and medical concepts developed as a result of the assumed relationships between physiology and celestial findings.

A History of Medicine, *by Arturo Castiglioni (New York: Alfred A. Knopf, 1947), pp. 31–44.*

ASSYRO-BABYLONIAN MEDICINE

A systematic medical concept established in the fourth millennia B.C. by the people of Southern Mesopotamia, under which medicine was regarded as an abstraction and was treated with priestly reverence.

"Antiquity," in The Greatest Benefit to Mankind: A Medical History of Humanity, *by Roy Porter (New York: HarperCollins, 1997), pp. 46–47;* A History of Medicine *by Arturo Castiglioni (New York: Alfred A. Knopf, 1947), p. 32.*

Greek medicine continued in this tradition (which was thought to have its origin in Egyptian medical practices and efforts toward hygiene) but began to diverge from its religious foundations to include ethical principles. Toward the end of the fifth century, Greek medicine included three elements: (1) the generally discarded religious element; (2) the strong philosophical element; and (3) a rational element relying on observation and accumulated experience.[5] Hippocrates, born in Greece in 460 BC, was both a priestly

Factoid

Hippocrates served as both a priestly and empirical authority of medicine during the golden age of Greece, responsible for compiling the Oath of Hippocrates as well as other works.

"Antiquity," in The Greatest Benefit to Mankind: A Medical History of Humanity, *by Roy Porter (New York: HarperCollins, 1997), p. 56;* A History of Medicine *by Arturo Castiglioni (New York: Alfred A. Knopf, 1947), pp. 148–49.*

[5]W. H. S. Jones, trans., *Hippocrates, Volume I* (Cambridge, MA: Harvard University Press, 1923), p. xiv.

and an empirical authority of medicine and was often recognized, in Western culture, as the *father of medicine*.[6] He wrote several ethical texts, the first of which was the *Oath of Hippocrates*. Castiglioni's book *A History of Medicine* describes the importance of this oath as covering "the duty of the physician to his teacher, his pupils, and his patients, [and] clearly shows that a relationship existed between Hippocratic medicine and priestly medicine; but it raises medicine to a height and human dignity that assures it its own position as a science."[7] Today, medical students still commonly take the Hippocratic Oath as a commitment to uphold ethical standards in their practice of medicine.[8]

1.1.2 Professional Practice and Status of the Physician

Initially, Greek physicians practicing in Rome were looked down on and regarded with little, if any, respect.[9] Many people at the time adopted the title of *physician* without any significant or standardized training, contributing to the defamation of the profession.[10] However, in 46 BC, *Julius Caesar* granted physicians the right to Roman citizenship, an honor that elevated the reputation of physicians.[11] Soon thereafter, laws requiring the training, certification, and control of physicians were established in an effort to repel the invasion of unqualified *healers* looking for easy profit in Rome.[12] The skill of these *professionals* also improved as the number of medical schools approved by the Roman Empire increased, the most celebrated of which could be found outside of Italy, in France (Marseille and Lyon), Spain

[6] Lois N. Magner, *A History of Medicine,* 2nd ed. (New York: Informa Healthcare, 2007), p. 93.

[7] Arturo Castiglioni, M.D. (1874–1953), was a renowned Italian and American historian who taught the History of Medicine at Yale University. Jerome P. Webster, "Arturo Castiglioni, M.D.: 1874–1953," *Bulletin of the New York Academy of Medicine* 29, no. 5 (1953): 438–439; Arturo Castiglioni, *A History of Medicine*, 2nd ed. (New York: Alfred A. Knopf, 1947), p. 177.

[8] S. J. Huber, "The White Coat Ceremony: A Contemporary Medical Ritual," *Journal of Medical Ethics* 29 (2003): 364.

[9] Frederick Stenn, *The Growth of Medicine* (Springfield, IL: Charles C. Thomas Publisher, 1967), p. 46.

[10] Arturo Castiglioni, *A History of Medicine*, 2nd ed. (New York: Alfred A. Knopf, 1947), pp. 232–233.

[11] Albert S. Lyons and R. Joseph Petrucelli, *Medicine: An Illustrated History* (New York: Harry N. Abrams, 1978), p. 231.

[12] Ibid., p. 235.

(Saragossa), and Greece (Antioch, Athens, and Alexandria).[13] Eventually, Greek physicians flourished intellectually and socially, playing an essential role in politics and legal affairs, and as the practice of medicine became systemized, so did the social position of physicians.[14]

Through medical experiments and dissection, Hippocratic theories were solidified, and any mystery or doubt that surrounded physicians was reduced. Furthermore, the quality of medical care in the Roman Empire was enhanced.[15] The first influential strides in this direction were made by *Claudius Galen* of Pergamon in Asia Minor (129 AD–216 AD). A student of Hippocrates, Galen was a key figure in the spread of medicine and the growth of the field. Galen's concentration on anatomical studies resulted in some of the earliest discoveries on such topics as the central nervous system, the cardiovascular system, and the anatomies of the spinal cord and the uterus.[16] Among his accomplishments, he was appointed the physician of the gladiators, an honorable and sought-after position.[17] Galen quickly became known as an extraordinary medical practitioner, writer, and student.[18]

Galen was a pioneer in the field of anatomy and one of the most influential medical writers of all time.[19] His philosophical background drove many of his hypotheses, chiefly those related to the physiological explanation that arteries contained blood, not air, and that the heart propelled blood through the body.[20] Though *Galenic medicine* represented a huge step forward for evidence-based medicine, it also served as a barrier to future advances in anatomy and physiology, due to inherent flaws, such as applying animal

---

[13] Arturo Castiglioni, *A History of Medicine*, 2nd ed. (New York: Alfred A. Knopf, 1947), p. 233.

[14] Roy Porter, "*Cambridge Illustrated History of Medicine*" (Oakleigh, Melbourne, Australia: Cambridge University Press, 1996), p. 61.

[15] Lois N. Magner, *A History of Medicine*, 2nd ed. (New York: Informa Healthcare, 2007), p. 120.

[16] Albert S. Lyons and R. Joseph Petrucelli, *Medicine: An Illustrated History* (New York: Harry N. Abrams, 1978), p. 254.

[17] Lois N. Magner, *A History of Medicine*, 2nd ed. (New York: Informa Healthcare, 2007), p. 121; Lawrence I. Conrad, et al., *The Western Medical Tradition: 800 BC to AD 1800* (New York: Cambridge University Press, 1995), p. 61.

[18] Lawrence I. Conrad, et al., *The Western Medical Tradition: 800 BC to AD 1800* (New York: Cambridge University Press, 1995), p. 79.

[19] Albert S. Lyons and R. Joseph Petrucelli, *Medicine: An Illustrated History* (New York: Harry N. Abrams, 1978), p. 251.

[20] Frederick Stenn, *The Growth of Medicine* (Springfield, IL: Charles C. Thomas Publisher, 1967), p. 49.

GALENIC MEDICINE

Based on the findings of Galen and his followers. Pioneered anatomy and physiology, animal dissection, and the circulation of blood. While this generation of medicine was significant to developments in scientific inquiry, false assumptions about animal-to-human anatomic translation and hematology served in the medical world's disfavor as time progressed.

"The Reawakening," in Doctors: The Illustrated History of Medical Practices, *by Sherwin B. Nuland (New York: Random House, 1988), p. 71;* The Western Medical Tradition: 800 BC to AD 1800, *by Lawrence I. Conrad, et al: (New York: Cambridge University Press, 1995), p. 225.*

THREE KINDS OF ROMAN UNIVERSITIES

(1) Community-funded universities, (2) state-funded universities, and (3) ecclesiastically funded universities.

A History of Medicine, *by Arturo Castiglioni (New York: Alfred A. Knopf, 1947), p. 325.*

Factoid

The Roman Empire was first to incorporate a system of legal medicine which was an important part of Rome's intricate system of laws.

A History of Medicine, *by Arturo Castiglioni (New York: Alfred A. Knopf, 1947), pp. 233–235.*

Factoid

Drawbacks of Galenic Medicine: findings based entirely on animal dissection and false perceptions regarding the circulation of blood.

"The Reawakening," in Doctors: The Illustrated History of Medical Practices, *by Sherwin B. Nuland (New York: Random House, 1988), p. 71;* The Western Medical Tradition: 800 BC to AD 1800, *by Lawrence I. Conrad, et al, (New York: Cambridge University Press, 1995), p. 225;* A History of Medicine, *by Arturo Castiglioni (New York: Alfred A. Knopf, 1947), pp. 218–219.*

physiology, including that of pigs and primates, to humans and the blind adoption of his findings by the medical and religious communities.[21]

1.1.3 Rise of the Medical University

Universities, though originating from the ancient Latin schools, did not flourish until the end of the thirteenth century.[22] Although some schools focused entirely on medicine, others (termed *Studia Generalia*) also incorporated law, theology, and philosophy in their curricula.[23] The Catholic Church's influence on medical curricula often hindered anatomical and physiological advancements due to its refusal to accept many clinical and experimental research findings.[24] Christian leaders held the belief that disease, illness, famine, war, or natural disasters were a result of God's benevolent means of punishing sinners, and, therefore, healing and medicine were seen as inferior and subordinate to theology.[25] The shortcomings of medical education in the early Middle Ages, in Western civilizations, was diminished when a trend of translating Arabian medical texts began and scholars advanced what became known as *Greco-Arabian medicine*.[26] The physician *Abu Ali al-Husayn ibn 'Abdallah ibn Sinna* (known in the west as *"Avicenna")* compiled the first comprehensive medical text in Arabic.[27] His work, entitled *Al-Quanum l-tibb (The Canon of Medicine)*,[28] organized Galen's medical writings under a system governed by Aristotelian natural

---

[21] Sherwin B. Nuland, *Doctors: The Illustrated History of Medical Practices* (New York: Random House, 1988), pp. 71, 72; Lawrence I. Conrad, et al., *The Western Medical Tradition: 800 BC to AD 1800* (New York: Cambridge University Press, 1995), ""p. 225.

[22] Irvine Loudon, *Western Medicine: An Illustrated History* (New York: Oxford University Press, 1997), p. 58.

[23] Arturo Castiglioni, *A History of Medicine*, 2nd ed. (New York: Alfred A. Knopf, 1947), pp. 325–327.

[24] Sherwin B. Nuland, *Doctors: The Illustrated History of Medical Practices* (New York: Random House, 1988), p. 71

[25] Lois N. Magner, *A History of Medicine*, 2nd ed. (New York: Informa Healthcare, 2007), p. 136.

[26] Roy Porter, *The Greatest Benefit to Mankind: A Medical History of Humanity* (New York: HarperCollins), pp. 98–99.

[27] Lawrence I. Conrad, et al., *The Western Medical Tradition: 800 BC to AD 1800* (New York: Cambridge University Press, 1995), p. 114.

[28] Avicenna, *The Canon of Medicine*, adapted by Laleh Bakhtiar (Chicago: Great Books of the Islamic World, republished in 1999), p. xxxvii.

Studia Generalia

Universities in the Roman Empire where law, theology, and philosophy were taught in addition to medicine.

A History of Medicine, *by Arturo Castiglioni (New York: Alfred A. Knopf, 1947), p. 325.*

GRECO-ARABIAN MEDICINE

The solution to shortcomings of the medical education of the Middle Ages; involved incorporation of Arabian medical texts, introduced by scholars and physicians who infused Arabian medicine with the scholarship of philosophy, while attempting to compromise their differences.

"Medicine and Faith," in The Greatest Benefit to Mankind: A Medical History of Humanity, *by Roy Porter (New York: HarperCollins), pp. 98–99;* A History of Medicine, *by Arturo Castiglioni (New York: Alfred A. Knopf, 1947), pp. 325–329.*

sciences and philosophy.[29] His mastery of medical science became legendary, and some estimate that *The Canon of Medicine* has become the most studied medical text ever written.[30]

1.1.4 Eastern Medical Traditions

While Western medicine evolved through the development of hypothetical *deductions*, Eastern medicine developed using more *inductive* methods, where every individual was thought to possess a balance between *internal defenses* and *external insults*, a lack of which balance resulted in disease.[31] The theories underlying the practice of medicine in Eastern cultures emphasized the laws of nature as a parallel to bodily phenomena, leading to traditional Eastern concepts that "man is nothing but a creature living between

[29] Lawrence I. Conrad, et al., *The Western Medical Tradition: 800 BC to AD 1800,* (New York: Cambridge University Press, 1995), p. 114.

[30] Ibid., p. 115.

[31] Julia J. Tsuei, "Eastern and Western Approaches to Medicine," *Western Journal of Medicine* 128, no. 6 (June 1978): 551, 552.

heaven and earth," the duality of *yin* and *yang*, *Buddhist* philosophy, and the teachings of *Ayurvedic medicine* (*the science of life*).[32]

Although Western and Eastern medicine advanced on significantly different time lines, within their unique foundations, their progression was somewhat parallel, growing from religious roots and ancient texts. In India, the *Vedas*, a set of ancient texts revered by Hindus as sacred, referenced medical lore through tales of demons and charms. These teachings gave way to *the science of life*, or *Ayurvedic medicine*, which applied the *theory of humors* to bodily health; however, the Ayurvedic system complicated Greek teachings on humors by also considering the five elements, the five winds, and the two souls, as well as blood, in the assessment of health.[33] Ancient Indian medicine also encompassed early forms of surgery, hospitals, and medical colleges.[34] Chinese medicine is arguably the oldest practice of medicine, with the *Huang-ti Nei Ching (The Inner Canon of the Yellow Emperor)*, published during the T'ang Dynasty (618–907) and influencing folk healing practices for more than 2,500 years, based on the balance between *yin* and *yang*, which generate five phases (wood, fire, earth, metal, and water) that affect health. Theories on anatomy, illness, and diagnosis were all founded on this duality, with the focus of Chinese healing being more preventative than reactionary.[35]

Factoid

Confucius, likely the most famous Chinese philosopher/teacher/political theorist, lived from 551 BCE to 479 BCE, making him one of the first philosophers.

The Analects of Confucius, *by Simon Leys (New York: W.W. Norton & Company, 1997), p. xxi.*

[32] From the ancient Chinese *Nei Ching (Cannon of Medicine)*, published at the end of the Chou Dynasty (1121–249 BC) or the beginning of the Chin Dynasty (221–207 BC); Julia J. Tsuei, "Eastern and Western Approaches to Medicine," *Western Journal of Medicine* 128, no. 6 (June 1978): 552; Lois N. Magner, *A History of Medicine*, 2nd ed. (New York: Informa Healthcare, 2007), pp. 53–56.

[33] The three humors (i.e., wind, bile, and phlegm) compose the bodily systems and must remain in balance to ensure good health. Lois N. Magner, *A History of Medicine*, 2nd ed. (New York: Informa Healthcare, 2007), p. 59.

[34] Lois N. Magner, *A History of Medicine*, 2nd ed. (New York: Informa Healthcare, 2007), pp. 56–65.

[35] Ibid., pp. 66–71.

VEDAS

A collection of doctrinal Ayurvedic medical texts.

A History of Medicine, *2nd ed., by Lois N. Magner (New York: Informa Healthcare, 2007), p. 56.*

Unlike Western medicine, which has changed dramatically throughout its development, the current methods and theories of Eastern medicine show a significant resemblance to their origins in India and China. Currently used alternative medical techniques, such as acupuncture, were discussed in the ancient Chinese *Inner Canon of the Yellow Emperor* and aim, even today, to restore the flow of *yin* and *yang* in the body.[36]

1.1.5 Renaissance: Revival of Anatomy and Physiology

Scientific knowledge expanded beyond the limitations of Galenic medicine through the work of early Renaissance anatomists in the late 1400s and early 1500s.[37] *Artist-anatomists* such as *Andrea Verrochio* and *Leonardo da Vinci* were pioneers in the field.[38] Da Vinci performed dissections of human cadavers and made drawings of his observations.[39] Da Vinci refuted many of the statements made by his Galenic predecessors, but due in part to his objective perspective of anatomy, his work was not immediately recognized as revolutionary to the scientific community.[40]

Andreas Vesalius also refuted aspects of Galen's work, claiming that Galen's anatomical knowledge applied only to animals and was flawed when applied to humans.[41] His discoveries in anatomy, released in the mid-1500s,

[36] Ibid., p. 76.

[37] Sherwin B. Nuland, *Doctors: The Illustrated History of Medical Practices* (New York: Random House, 1988), p. 72; Arturo Castiglioni, *A History of Medicine*, 2nd ed. (New York: Alfred A. Knopf, 1947), p. 668.

[38] Sherwin B. Nuland, *Doctors: The Illustrated History of Medical Practices* (New York: Random House, 1988), p. 72.

[39] Irvine Loudon, *Western Medicine: An Illustrated History* (New York: Oxford University Press, 1997), p. 78.

[40] Arturo Castiglioni, *A History of Medicine*, 2nd ed. (New York: Alfred A. Knopf, 1947), p. 417.

[41] Albert S. Lyons and R. Joseph Petrucelli, *Medicine: An Illustrated History* (New York: Harry N. Abrams, 1978), p. 416.

Factoid

Philosophers like Thales of Miletus, Plato, Aristotle, Anaximander, Anaximenes, Zoroaster, Confucius, Buddha, and Pythagoras contributed to a mathematical, cosmic, and physiological concept of nature and the biologic system.

A History of Medicine, *by Arturo Castiglioni (New York: Alfred A. Knopf, 1947), pp. 129–141.*

became medical landmarks.[42] In contradicting Galen's deductions from animal dissection and philosophical conjecture, Vesalius's magnum opus, *De humani corporis fabrica*, revolutionized both the study of human anatomy and general scientific teaching.[43] In daring to question the doctrinal teachings of their honored predecessors, these and other artists, anatomists, philosophers, and scientists heralded an era of enlightenment, through which "the sluices of objective inquiry and experiment had been opened."[44]

1.1.6 Seventeenth Century: The Dawn of Scientific Liberty

Countless influential figures significantly contributed to the overhaul of Galenic medicine, laying the foundation for the school of medical thought to date. The work of da Vinci and Vesalius prompted advances in anatomy and physiology.[45] The breakthroughs of *Servetus* in pulmonary circulation and *Fabricius* in the discovery of the valves in veins, as well as revelations on the enigmatic circulation of the blood by *William Harvey*, gave mathematical, mechanical, and methodical aspects and insights into the sciences of physiology and pathological anatomy.[46]

---

[42] Arturo Castiglioni, *A History of Medicine*, 2nd ed. (New York: Alfred A. Knopf, 1947), pp. 420–423.

[43] Albert S. Lyons and R. Joseph Petrucelli, *Medicine: An Illustrated History* (New York: Harry N. Abrams, 1978), p. 416.

[44] Frederick Stenn, *The Growth of Medicine* (Springfield, IL: Charles C. Thomas Publisher, 1967), pp. 78–79.

[45] Sherwin B. Nuland, *Doctors: The Illustrated History of Medical Practices* (New York: Random House, 1988), pp. 68–69.

[46] Roy Porter, *The Greatest Benefit to Mankind: A Medical History of Humanity* (New York: HarperCollins, 1997), pp. 183–184; Arturo Castiglioni, *A History of Medicine*, 2nd ed. (New York: Alfred A. Knopf, 1947), pp. 434–435, 515.

Factoid

The devastation of the seventeenth century, endured as a consequence of epidemics, such as scurvy, malaria, typhus, the Bubonic plague, smallpox, diphtheria, and influenza, prompted the dawn of epidemiology and, more important, modern hygiene.

"The New Science," in The Greatest Benefit to Mankind: A Medical History of Humanity, *by Roy Porter (New York: HarperCollins, 1997), pp. 236–240;* A History of Medicine, *by Arturo Castiglioni (New York: Alfred A. Knopf, 1947), pp. 560–563.*

Interest in the molecular implications of human anatomy was triggered by advancement in the early 1670s in the technology of microscopes by Marcello Malpighi and Antoni van Leeuwenhoek.[47] The microscope was originally developed by a Dutch spectacle-maker named Zacharias Janssen, but his early crude models could magnify an object no more than ten times.[48] Van Leeuwenhoek's microscopes could magnify up to 270 times, and he is attributed with the discovery of red blood corpuscles and the skeletal muscle structure.[49]

1.1.6.1 Progress in Hygiene A series of devastating epidemics terrorized Europe from the thirteenth century to the beginning of the eighteenth century. During this period, Europe suffered the onset of scurvy, malaria, typhus, smallpox, diphtheria, influenza, and, perhaps most notably, the various infestations of a plague known today as *the Black Death*, which decimated Europe.[50] In the 100 years preceding 1420, the population of Europe dropped by two-thirds.[51] The notable devastation endured through the seventeenth century, prompting the focused study of the causes of disease and the emergence of the field of epidemiology, as well as the rise of modern hygiene.[52]

Bernardino Ramazzini of Carpi arose to be known as the *father of industrial hygiene* and authored the first treatise on occupational disease,

[47] Albert S. Lyons and R. Joseph Petrucelli, *Medicine: An Illustrated History* (New York: Harry N. Abrams, 1978), p. 439.

[48] Ibid.

[49] Ibid.

[50] David Herlihy, *The Black Death and the Transformation of the West* (Boston: Harvard University Press, 1997), pp. 17–18.

[51] Ibid.

[52] Irvine Loudon, *Western Medicine: An Illustrated History* (New York: Oxford University Press, 1997), p. 99.

Factoid

Bernardo Ramazzini of Carpi became known as the father of industrial hygiene; he authored the first treatise on occupational disease: *De morbis artificum*.

"Enlightenment," in The Greatest Benefit to Mankind: A Medical History of Humanity, *by Roy Porter (New York: HarperCollins, 1997), p. 296;* A History of Medicine, *by Arturo Castiglioni (New York: Alfred A. Knopf, 1947), p. 564.*

Factoid

Beginning in the seventeenth century and continuing through the eighteenth and nineteenth centuries, advances in hygiene, methods for arriving at pathological conclusions, and preventative and sanitary control measures became areas of legislative reform.

"Public Medicine," in Greatest Benefit to Mankind: A Medical History of Humanity, *by Roy Porter (New York: HarperCollins, 1997), pp. 397–400, 405-407;* A History of Medicine, *by Arturo Castiglioni (New York: Alfred A. Knopf, 1947), p. 567.*

Industrial Hygiene

The science of keeping people safe at work and in their communities. Industrial hygienists (IHs) are professionals dedicated to the health and well-being of workers. Originally industrial hygienists worked primarily in factories and other industrial settings but as our society has changed, so has the definition of industrial hygiene. Today, IHs can be found in almost every type of work setting. Industrial hygienists also use the term OEHS or occupational and environmental health and safety to refer to the work that they do.

"Industrial Hygienists: Dedicated to Protecting People in the Workplace and the Community," American Industrial Hygiene Association, November 2, 2007, http://www.aiha.org/content/accessinfo/consumer/IHsDedicatedtoworkplaceandcommunity.htm (accessed September 10, 2009).

De morbis artificum (On the Diseases of Workers).[53] Ramazzini compiled research on the diseases of miners and studied the harmful effects of metals on artisans, the risks associated with surgeons' exposure to mercurial inunctions, and the exposure to lead, antimony, and countless other toxins that chemists, pharmacists, gilders, painters, tinners, and colored-glass workers endured.[54] Ramazzini's report of his findings resembled what today would be called *occupational risk assessment*.

Legislatures began passing sanitation laws toward the end of the seventeenth century.[55] When the plague broke out in Rome, the city took measures to contain the disease by means of regulatory sanitary controls, including isolation of the sick, the burning of bodies, the quarantine of gravediggers, and forbidding physicians to leave infected areas.[56] Physicians took appropriate measures to disinfect victims of the plague and to maintain their own safety, which included wearing elaborate costumes consisting of long robes, gloves, and bird-nosed masks, which they considered sanitary.[57] A depiction of a *plague doctor* is presented in Exhibit 1.2.

Following these largely unsuccessful efforts, military hygiene strategies were pursued.[58] From these advances in hygiene, preventative and sanitary control measures became areas of legislative reform that developed throughout the eighteenth and nineteenth centuries, for example, through the efforts of individuals such as John Snow, who used statistical prevalence models to control cholera outbreaks in London in 1849.[59]

---

[53] Lois N. Magner, *A History of Medicine*, 2nd ed. (New York: Informa Healthcare, 2007), pp. 232–233.

[54] Roy Porter, *The Greatest Benefit to Mankind: A Medical History of Humanity* (New York: HarperCollins), p. 296.

[55] Arturo Castiglioni, *A History of Medicine*, 2nd ed. (New York: Alfred A. Knopf, 1947), pp. 566–567.

[56] Roy Porter, *The Greatest Benefit to Mankind: A Medical History of Humanity* (New York: HarperCollins, 1997), pp. 125–126; Arturo Castiglioni, *A History of Medicine*, 2nd ed. (New York: Alfred A. Knopf, 1947), pp. 566–567; Lois N. Magner, *A History of Medicine*, 2nd ed. (New York: Informa Healthcare, 2007), p. 166.

[57] Lois N. Magner, *A History of Medicine*, 2nd ed. (New York: Informa Healthcare, 2007), p. 165.

[58] Arturo Castiglioni, *A History of Medicine*, 2nd ed. (New York: Alfred A. Knopf, 1947), p. 567.

[59] Roy Porter, *The Greatest Benefit to Mankind: A Medical History of Humanity* (New York: HarperCollins, 1997), pp. 397–400, 405-407. In 1849, physician John Snow examined death registries in Golden Square, London, and found a pattern of disease surrounding the Broad Street water pump. By removing the handle to the pump, and cutting off access to the water in the well, he directly limited the spread of cholera through the town. Frederick F. Cartwright, *Disease and History* (New York: Dorset Press, 1972), pp. 160–162.

EXHIBIT 1.2 Image of a Plague Doctor
Plague Doctor, from U.S. National Library of Medicine, History of Medicine Division.

Factoid

According to Emmanual Kant and his followers: "Philosophy is the queen of all sciences."

A History of Medicine, *by Arturo Castiglioni (New York: Alfred A. Knopf, 1947), pp. 580–582.*

1.1.7 Eighteenth Century: The Shift Toward the "Science" of Medicine

Scientific progress in the eighteenth century was marked by end of the *Dark Age*'s resistance to scientific advances and the resulting reformist attitude that health improvement was imperative "to human emancipation . . . from suffering, want, and fear."[60] Physicians and scientists argued that medicine

[60] Lawrence I. Conrad, et al., *The Western Medical Tradition: 800 BC to AD 1800* (New York: Cambridge University Press, 1995), p. 374.

should be more philosophical and/or method-based, notions that led to notable progress in the exact sciences.[61] Countless discoveries in various areas, including chemistry, physics, biology, physiology, anatomy, and pathology, yielded a single conclusion—without an applied understanding of each of these areas of science, the practice of medicine is arbitrary.[62]

1.1.8 Nineteenth Century: The Rise of "the Practice of Medicine" in the United States

Although the first medical schools were not established in the United States until the late eighteenth century, the nineteenth century saw an increase in medical schools and efforts to teach the advancement of the prior centuries in a focused, discipline-centric manner, which heralded the concept of the *practice* of medicine. The famed text published by Sir Thomas Watson in 1843, *Practice*, remained the prominent treatise on general medicine for more than 40 years.[63] However, as Watson's work became outdated, Sir William Osler wrote his prominent work *The Principles and Practice of Medicine: Designed for the Use of Practitioners and Students of Medicine*.[64] Osler's text, first published in 1892, established him as a leading authority on the practice of medicine, selling hundreds of thousands of copies and being published in multiple editions throughout and after his life.[65]

In the early nineteenth century, even with medical schools beginning to open across the country, medical licensure was little more than an honorary title, and some states chose not to enact medical licensure requirements.[66] Following the American Revolution, the equivalency of a medical license was obtained through membership in a state medical society.[67] Even with the lack of licensure laws in many states, membership in a medical society became

---

[61] Ibid., p. 374.

[62] Arturo Castiglioni, *A History of Medicine*, 2nd ed. (New York: Alfred A. Knopf, 1947), pp. 580–582.

[63] Harvey Cushing, *The Life of Sir William Osler* (Oxford, UK: Oxford University Press, 1925), p. 339.

[64] Ibid.

[65] Stephen Greenberg, "A History of William Osler's *The Principles and Practice of Medicine*," *Journal of the American Medical Association* 293, no. 15 (April 20, 2005): 1926.

[66] Paul Starr, *The Social Transformation of American Medicine: The Rise of a Sovereign Profession and the Making of a Vast Industry* (New York: Basic Books, 1982), p. 30.

[67] James Bordley III, *Two Centuries of American Medicine* (Philadelphia: W. B. Saunders Company, 1976), p. 69.

necessary if a physician were to be commercially successful. As memberships within the societies grew, and the societies themselves became more reputable, any nonmember physician was seen to be "unacceptable by his fellow-workers."[68] By the end of the nineteenth century, a trend began among states to establish licensing laws and boards of medical examiners. The popular movement continued for two decades until every state had a medical licensing law.[69]

1.1.9 Diversified Schools of Medicine

Since its initial inception, medicine has transformed into a field of rational science. Through the expansion of logical thought, studying of social value systems, increasing medical knowledge, and advancements in technological capabilities, *allopathic* (traditional) Western physicians adopted "a method of healing founded on a scientific basis."[70] At the time of its inception in 1847, the *American Medical Association* (*AMA*) largely consisted of allopathic physicians.[71] The AMA recognized the factious nature and the level of public disfavor toward the medical profession at that time and attempted to rebuild the *social connection* with the American people who had come to distrust medical providers.[72] Burrow characterized this effort toward enhanced credibility:

> *As the frontiers of scientific medicine extended, quackery found even broader fields of operation. Scientific explorations into the mysteries of vitamins, hormones, and antibiotics not only provided better medical care for the public, but also opened up new sources of gain for the unscrupulous. While scientific research kindled the imagination of crafty promoters who sought easy ways to riches, its failure to discover cures for various major ailments made the boastful claims of pretending healers all the more impressive.*[73]

---

[68] John B. Roberts, *The Doctor's Duty to the State: Essays on the Public Relations of Physicians* (Chicago: American Medical Association Press, 1908), p. 63.

[69] James Bordley III, *Two Centuries of American Medicine* (Philadelphia: W. B. Saunders Company, 1976), p. 71.

[70] John Dewey, *Theory of Valuation* (Chicago: University of Chicago Press, 1996); Frank D. Campion, *The AMA and U.S. Health Policy since 1940* (Chicago: Chicago Review Press, 1984), p. 468.

[71] James G. Burrow, *AMA: Voice of American Medicine* (Baltimore: Johns Hopkins Press, 1963), pp. 1–2.

[72] Rosemary Stevens, *American Medicine and the Public Interes* (Forge Village, MS: Yale University Press, 1971), p. 28.

[73] James G. Burrow, *AMA: Voice of American Medicine* (Baltimore: Johns Hopkins Press, 1963), pp. 252–253.

As such, the AMA served as an advocate for scientifically and ethically appraising the relative value of innovative medical developments, as well as educational standards, in hopes of regaining public support and trust.[74]

Allopathic practitioners were skeptical of "cultist" or "sectarian" physicians who practiced unconventional forms of medicine such as *homeopathic*, *eclectic*, *naturopathic*, or *chiropractic* medicine.[75] Allopathic sentiments toward alternative medical practices were distrustful and condemning. Oliver Wendell Holmes, a prominent physician attributed with coining the term *anesthesia,* went as far as to call homeopathic practitioners "a mingled mass of perverse ingenuity, of tinsel erudition, of imbecile credulity, and of artful misrepresentation."[76] Though not as prominent as allopathic medicine, alternative medicine is still practiced today, and while skepticism has not vanished entirely, education and training requirements, as well as regulation and licensing measures to legitimize alternative medicine, have acted to reduce the aversion and distrust of the past.[77]

Osteopathic medicine has evolved into one of the two most widely accepted mainstream schools of medicine in the United States.[78] Andrew Taylor Still, considered to be the *founder of osteopathic medicine*, treated patients by assessing not only their symptoms but also their overall health and environment.[79] He opened the first school of osteopathic medicine, the *American School of Osteopathy* (*ASO*), in 1892 in Kirksville, Missouri.[80] As of 1985, Doctors of Osteopathy (D.O.) could be board certified in all specialties.[81]

---

[74] James Bordley III, *Two Centuries of American Medicine* (Philadelphia: W. B. Saunders Company, 1976), p. 45.

[75] Rosemary Stevens, *American Medicine and the Public Interest* (Forge Village, MS: Yale University Press, 1971), pp. 43–44.

[76] Oliver Wendell Holmes, *Homeopathy and Its Kindred Delusions: Two Lectures Delivered before the Boston Society for the Diffusion of Useful Knowledge 1842*, (ebooks@adelaid, Creative Commons License, 2010), p. 61.

[77] Frank D. Campion, *The AMA and U.S. Health Policy since 1940* (Chicago: Chicago Review Press, 1984), pp. 468–469; Michael Frass, et al., "Use and Acceptance of Complementary and Alternative Medicine among the General Population and Medical Personnel: A Systematic Review," *Ochsner Journal* 12, no. 1 (Spring 2012): 45.

[78] Eileen L. DiGiovanna and Stanley Schiowitz, "History of Osteopathy," in *An Osteopathic Approach to Diagnosis and Treatment* (Philadelphia: Lippincott-Raven Publishers, 1997), p. 1.

[79] Ibid., pp. 1–3.

[80] Ibid., p. 3.

[81] Ibid., p. 1.

Despite advancements in the development of nonallopathic schools of medicine, the chiropractic profession was met with stiff resistance from allopathic physicians and associations well into the 1980s, when it gained judicial acceptance from the court ruling in *Wilk v. AMA*, which held that the AMA had violated antitrust law by engaging in an unlawful conspiracy to

Allopathic

"A method of healing founded on a scientific basis."

"The AMA in Science," in The AMA and U.S. Health Policy Since 1940, *by Frank D. Campion (Chicago: Chicago Review Press, 1984), p. 468.*

Homeopathic Medicine

A school of medicine that involves the assessment of overall health and environment, not just symptoms.

"The AMA in Science," in The AMA and U.S. Health Policy Since 1940, *by Frank D. Campion (Chicago: Chicago Review Press, 1984), p. 468.*

Eclectic Medicine

A school of medicine that uses herbal medicines and remedies to treat pathologic conditions; among less threatening therapies, eclectics were branded for their use of arsenic and mercury treatments.

The AMA in Science," in The AMA and U.S. Health Policy Since 1940, *by Frank D. Campion (Chicago: Chicago Review Press, 1984), p. 468.*

Naturopathic Medicine

A school of medicine that utilizes natural elements (like water, heat, and massage) in its therapies.

"The AMA in Science," in The AMA and U.S. Health Policy Since 1940, *by Frank D. Campion (Chicago: Chicago Review Press, 1984), p. 468.*

Chiropractic

A form of alternative medicine originating from the belief that vertebral lining would serve to remedy diseases.

"The AMA in Science," in The AMA and U.S. Health Policy Since 1940, *by Frank D. Campion (Chicago: Chicago Review Press, 1984), p. 468.*

Osteopathic

A school of medicine that involves the assessment of overall health and environment, not just symptoms.

"The AMA in Science," in The AMA and U.S. Health Policy Since 1940, *by Frank D. Campion (Chicago: Chicago Review Press, 1984), p. 468.*

Factoid

As of April 1985, Doctors of Osteopathy (D.O.) were certified in all specialties.

"History of Osteopathy," in An Osteopathic Approach to Diagnosis and Treatment, *by Eileen L. DiGiovanna and Stanley Schiowitz (Philadelphia: Lippincott-Raven Publishers, 1997), pp. 1–3.*

"contain and eliminate the entire chiropractic profession" (see Section 4.3, "Supply and Demand in Healthcare").[82]

1.1.10 Diversified Roles of Medicine

In the nineteenth century, the practice of medicine expanded from strictly clinical practice to include *legal medicine*, *public health*, and *medical research*. *Legal medicine*, or *forensic medicine*, is the field of study that deals with the application of medical knowledge to the administration of justice.[83] In the latter portion of the century, the scientific and medical communities

[82] *Wilk v. AMA*, 895 F.2d 352, 378 (7th Cir. 1990).

[83] Cyril H. Wecht, "The History of Legal Medicine," *Journal of the American Academy of Psychiatry and the Law* 33, no. 2 (2005).

began to grapple with the social and economic implications of healthcare. As such, medicine's transformation into an elite and sophisticated trade was redirected to "assume its role as a social science."[84]

Public health was developed as a relationship between human beings and their social environment, rather than being a relationship between human beings and their doctors.[85] All public health research, policies, and programs have stemmed from the same objective: to provide "defen(s)e against disease as a social problem" by way of preventative medicine.[86] Unfortunately, progress in prevention is difficult to quantify, and its value within the healthcare industry cannot be precisely measured; as a result, preventative care is often dismissed as inferior. Public health has faced significant resistance and alienation from the medical community.[87]

Finally, growth in holistic *medical research*, paired with parallel growth in scientific knowledge, facilitated the publication of substantial medical literature in serial journals, with the publication of the *American Journal of Medical Sciences* beginning in 1838 and the *New England Journal of Medicine and Surgery* first entering print in 1812.[88] This constant flow of new research findings and an increasing knowledge base resulted in the perpetual tendency toward specialization that continues to drive current trends in medicine.

Legal Medicine

Referred to as medical jurisprudence, involves the implementation of medical expertise for legal and judicial purposes.

A History of Medicine, *by Arturo Castiglioni (New York: Alfred A. Knopf, 1947), p. 902.*

[84] Arturo Castiglioni, *A History of Medicine*, 2nd ed. (New York: Alfred A. Knopf, 1947), p. 764.

[85] Lawrence I. Conrad, et al., *The Western Medical Tradition: 800 BC to AD 1800* (New York: Cambridge University Press, 1995), p. 485.

[86] Arturo Castiglioni, *A History of Medicine*, 2nd ed. (New York: Alfred A. Knopf, 1947), pp. 901–902.

[87] Roy Porter, *The Greatest Benefit to Mankind: A Medical History of Humanity* (New York: HarperCollins, 1997), p. 405.

[88] James Bordley III, *Two Centuries of American Medicine* (Philadelphia: W. B. Saunders Company, 1976), pp. 71–72.

Public Health

An area of healthcare centered around "community health point of view," that considers "the means of defen(s)e against disease a social problem."

A History of Medicine, *by Arturo Castiglioni (New York: Alfred A. Knopf, 1947), p. 902.*

1.1.11 Specialization of the Sciences

A significant period in technological progress, which proved extremely important to the advance of both science and medicine, occurred in the nineteenth century, during which continued advances in both chemistry and physics led to the emergence of the disciplines of *physiological* and *pathological* chemistry.[89] A more intensive knowledge base was established for biology, chemistry, anatomy, and physiology, giving rise to distinct fields such as biochemistry, cytology, genetics, endocrinology, anthropology, immunology, and microbiology.[90]

Louis Pasteur made drastic developments in the relevance of germ theory to infectious disease, surgery, hospital management, and agriculture, and he pioneered a branch of *microbiology* that became known as *bacteriology.*[91] Pasteur's work influenced both clinical and laboratory medicine through his discovery of *pasteurization*, a process widely used today in the preservation of perishable products.[92] In addition, through the discovery of pasteurization, heralded in 1876, developments occurred in *antirabic treatment* and Pasteur's observations of *anthrax*, *chicken cholera*, *staphylococci*, and *streptococci.*[93] Pasteur became recognized as one of the "greatest scientists of history," having improved healthcare and enhanced its economic

[89] Arturo Castiglioni, *A History of Medicine*, 2nd ed. (New York: Alfred A. Knopf, 1947), p. 668.

[90] Roy Porter, *The Greatest Benefit to Mankind: A Medical History of Humanity* (New York: HarperCollins, 1997), p. 305; Arturo Castiglioni, *A History of Medicine*, 2nd ed. (New York: Alfred A. Knopf, 1947), pp. 668–672.

[91] Lois N. Magner, *A History of Medicine*, 2nd ed. (New York: Informa Healthcare, 2007), p. 498.

[92] Albert S. Lyons and R. Joseph Petrucelli, *Medicine: An Illustrated History* (New York: Harry N. Abrams, 1978), p. 556.

[93] Louis Pasteur and John Tyndall, *Les Microbes Organisés, Leur Rôle dans la Fermentation, la Putréfaction et la Contagion* (Paris: Gauthier-Villares, 1878), p. 100.

Pasteurization

Widely used today in the preservation of perishable products, pasteurization involves the strategic application of heat to kill microbes without injuring the quality of its media (i.e., wine, beer, etc.).

A History of Medicine, *by Arturo Castiglioni (New York: Alfred A. Knopf, 1947), p. 811.*

benefits through his contributions to the fields of clinical, hygienic, and social medicine.[94]

1.1.12 Site of Care: Rise of the Hospital

With physicians developing expertise in exceedingly specialized areas of medicine, there was an expectation that their expertise would also apply to the level of care administered.[95] The demand for innovative technologies increased and allowed for the provision of services required for advanced diagnoses. Over time, demand took a different form to account for more than just advances in diagnostics and therapeutics, and it grew at astronomical rates.[96] Existing technologies evolved to improve the quality and efficiency of services delivered in response to growing and shifting demand, increased spending, and demographic and disease trends.[97]

Through the eighteenth and nineteenth centuries, hospitals began opening across the United States (the first, *the Pennsylvania Hospital*, having been established in 1751 by Benjamin Franklin and Dr. Thomas Bond), especially in large urban areas.[98] Such hospitals were plagued by high rates of infection,

[94] Albert S. Lyons and R. Joseph Petrucelli, *Medicine: An Illustrated History* (New York: Harry N. Abrams, 1978), p. 556.

[95] Arturo Castiglioni, *A History of Medicine*, 2nd ed. (New York: Alfred A. Knopf, 1947), pp. 701–711.

[96] "Cancer Molecular Diagnostics Take the Stage: CMDS Are at the Forefront of Evolving Healthcare Practices," *Genetic Engineering and Biotechnology News* 29, no. 7, April 1, 2009, http://www.genengnews.com/articles/chitem_print.aspx?aid=2852&chid=0 (accessed July 6, 2009).

[97] Steve Arlington and Anthony Farino, "Biomarket Trends: Pharmaceutical Industry Undergoing Transformation," *Genetic Engineering and Biotechnology News* 27, no. 15, September 1, 2007.

[98] Roy Porter, ed., *The Cambridge Illustrated History of Medicine* (Cambridge, UK: Cambridge University Press, 1996), p. 214; "In the Beginning: The Story of the Creation of the Nation's First Hospital," University of Pennsylvania, http://www.uphs.upenn.edu/paharc/features/creation.html (accessed August 21, 2012).

and in 1859, Florence Nightingale published *Notes on Hospitals*, in which she described the optimal design for hospitals to prevent infection, which included small pavilion-type wards joined by open-air corridors.[99] Developments in organization and medical knowledge following the Civil War led to tendencies of order and cleanliness in hospitals.[100] As hospital functions and procedures changed, construction and operating costs increased. Following World War II, with advances in medical technologies and the public health movement, the modern hospital era began, with hospitals gaining strong public support and an improved reputation. Such technological advances and an increased focus on acute care caused hospital budgets to exceed the capacity of the charities that funded them.[101] As increased costs were passed on to patients, and insurance plans established new revenue streams, physician-directed revenues, rather than donations, became the main source of income for hospitals. The influence and managerial powers of physicians increased, as reliance on charitable donations became less necessary.[102]

Accompanying the increase in spending, healthcare professional practitioners became viewed not only as *healers* but also as *businessmen*. As the demand for increasingly expensive medical technology grew, the old adage "No Buck, No Buck Rogers" was often cited to define the cyclical relationship between technological demand and business capital investment. Within that context, demand for more sophisticated management technologies to enhance practice efficiency and reliability increased significantly.[103] Both management and clinical technology are addressed extensively in Chapter 5,"Technology."

In the twentieth century, healthcare reform became a highly politicized concept in the United States. With each passing decade, new technologies and regulations changed the way in which healthcare was delivered. A compressed time line of healthcare reform in the United States, for the period 1912–1940, is illustrated in Exhibit 1.3. Note that a time line of technological milestones is provided in Chapter 5, "Technology."

---

[99] James Bordley III, *Two Centuries of American Medicine* (Philadelphia: W. B. Saunders Company, 1976), p. 62.

[100] Paul Starr, *The Social Transformation of American Medicine: The Rise of a Sovereign Profession and the Making of a Vast Industry* (New York: Basic Books, 1982), p. 154.

[101] Ibid., p. 160.

[102] Ibid.

[103] Stacy Lawrence, "Studies Show Electronic Medical Records Make Financial Sense," posted on CIO Insight, September 14, 2005, http://www.cioinsight.com/c/a/Health-Care/Studies-Show-Electronic-Medical-Records-Make-Financial-Sense/ (accessed August 17, 2012).

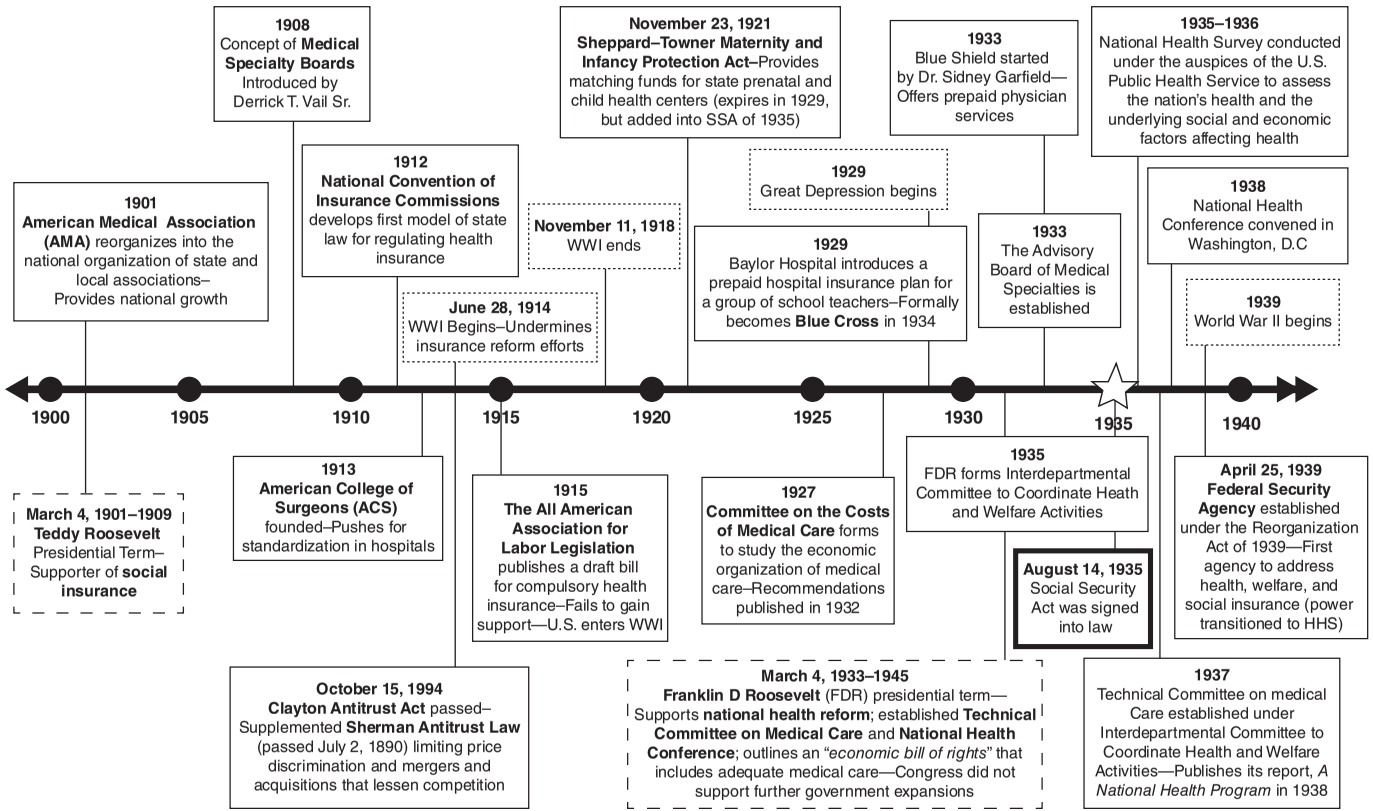


EXHIBIT 1.3 Healthcare Reform Historical Time Line: 1912–1940

1.2 EARLY 1900s

1.2.1 The Rise and Controversy of Physician Specialties

In the early 1900s, advancements in medicine and more precise instrumentation vastly improved healthcare delivery, and, as a result, specialization in specific areas became popular.[104] Although there was initial hesitation by many in the profession to the concept of specialization, pressures of scientific, social, and economic factors eventually led to the compartmentalization of medicine.[105] Physicians began to make claims as to the extent of their skill in a specific area of medicine; however, there was no formal system in place to validate such claims.[106] In 1866, the American Medical Association (AMA) issued a report outlining the benefits and risks of physician specialization.[107] These benefits and risks are set forth in Table 1.1.

The AMA's reorganization into a *national organization of state and local associations* caused membership to grow and pushed forward the notion of *organized medicine*.[108]

TABLE 1.1 Benefits and Risks of Specialization According to the AMA

Benefits	Risks
Minuteness of observation	Narrowness of view
Acuteness in study	Tendencies of specialists to magnify the effects of their covered disease
Wideness in observation	
Skill in diagnosis	Tendencies of specialists to undervalue the treatment of the disease by general practitioners

American Surgery: An Illustrated History, by Ira M. Rutkow (Philadelphia: Lippincott-Raven Publishers, 1998), p. 173.

[104] American Board of Medical Specialties, "The Specialty Board Movement," 2012, http://www.abms.org/About_ABMS/ABMS_History/Extended_History/Specialty_Board_Movement.aspx (accessed August 6, 2012).

[105] Albert S. Lyons and R. Joseph Petrucelli, *Medicine: An Illustrated History* (New York: Harry N. Abrams, 1978), p. 538.

[106] American Board of Medical Specialties, "The Specialty Board Movement,"2012, http://www.abms.org/About_ABMS/ABMS_History/Extended_History/Specialty_Board_Movement.aspx (accessed August 6, 2012).

[107] Ira M. Rutkow, *American Surgery: An Illustrated History* (Philadelphia: Lippincott-Raven Publishers, 1998), p. 173.

[108] James G. Burrow, *AMA: Voice of American Medicine* (Baltimore: Johns Hopkins Press, 1963), pp. 29–43.

The concept of a medical specialty board to establish minimum qualifications for specialists was first introduced by Derrick T. Vail Sr. in 1908.[109] Developing a workable plan to establish such medical specialty boards was a slow process, and, through the 1930s, individual examining boards were still working with specific specialties to advance the specialty board concept. Such boards included the *American Board of Ophthalmology*, the *American Board of Otolaryngology*, the *American Board of Obstetrics and Gynecology*, and the *American Board of Dermatology and Syphiology.* [110]

The specialty board system of the 1920s and the 1930s improved medical education and physician competence, and in 1933, the *Advisory Board of Medical Specialties* was established, operating as a federation of individual specialty boards.[111] Under the specialty board system, requirements were instituted that additional education must be either obtained through programs approved by the AMA or accredited through the boards and residency review committees.[112] Boards began to develop mandated experiential requirements, and a standard system of examinations was established, administered independently by the various specialty boards. Soon, national board organizations were able to restrain uneducated physicians from designating themselves as specialists. In 1970, the *Advisory Board of Medical Specialties* reorganized into the *American Board of Medical Specialties* (ABMS). The strong central agency was able to deal with matters common

Factoid

Some resisted specialization of medicine in the early 1900s because it too closly resembled notions of a tradesman.

Medicine: An Illustrated History, *by Albert S. Lyons and R. Joseph Petrucelli (New York: Harry N. Abrams, 1978), p. 538.*

[109] American Board of Medical Specialties, "The Specialty Board Movement," 2012, http://www.abms.org/About_ABMS/ABMS_History/Extended_History/Specialty_Board_Movement.aspx (accessed August 6, 2012).

[110] Ibid.

[111] American Board of Medical Specialties, "Becoming ABMS," http://www.abms.org/About_ABMS/ABMS_History/Extended_History/Becoming_ABMS.aspx (accessed August 6, 2012).

[112] American Board of Medical Specialties, "The Specialty Board Movement," 2012, http://www.abms.org/About_ABMS/ABMS_History/Extended_History/Specialty_Board_Movement.aspx (accessed August 6, 2012).

Factoid

In 1908, Derrick T. Vail Sr. introduced the concept of a medical specialty board for establishing minimum qualifications for specialists.

"The Specialty Board Movement," American Board of Medical Specialties, 2012, http://www.abms.org/About_ABMS/ABMS_History/Extended_History/Specialty_Board_Movement.aspx (accessed August 6, 2012).

to all specialty boards and act as the public representative of all specialty boards.[113]

1.2.2 Introduction of Health Insurance

Vestiges of the current U.S. health insurance system can be traced to practices arising from post–Industrial Revolution era mining and railroad behemoths providing medical treatment to employees for employment-related injuries. Individuals in that era could purchase accident or casualty insurance, which would replace their income in the case of an illness or an accident, but coverage was not offered for payment of non–casualty related medical services.[114] The first insurance company, which provided casualty insurance for rail and steamboat accidents, began offering coverage in 1847. By the end of the nineteenth century, 47 insurance companies existed in the United States offering accident insurance.[115]

Industrial medicine, as it came to be known, delineated between medical care for work-related injuries and that for work-acquired diseases. Company-employed physicians eventually began to oversee the health maintenance of a company's employees and become more involved in general employee health. As a result, companies partially competed for new employees through the relative value of their intracompany medical services.[116] At its core, the multigoal purpose of these programs was to establish a perceived

[113] American Board of Medical Specialties, "Becoming ABMS." http://www.abms.org/About_ABMS/ABMS_History/Extended_History/Becoming_ABMS.aspx (accessed August 6, 2012).

[114] Marshall W. Raffel, *The U.S. Health System: Origins and Functions* (New York: John Wiley & Sons, 1980), p. 394.

[115] Ibid.

[116] Paul Starr, *The Social Transformation of American Medicine: The Rise of a Sovereign Profession and the Making of a Vast Industry* (New York: Basic Books, 1982), pp. 200–209.

employee-employer connection, create goodwill toward the company from their employees and the public, but, most important, to reduce tort liability from work-related injuries and accidents.[117]

Ultimately, on employers realizing the potential benefits associated with providing employee health services, the movement evolved toward programs more closely resembling contemporary *health insurance*. Despite a positive reception, the early industrial health programs were one of the first casualties of the massive unemployment of the *Great Depression*, because major industries perceived in-house medical services to be an unnecessary expenditure.[118] However, during the *Great Depression*, one of today's largest and most highly publicized insurance conglomerates, Blue Cross Blue Shield, began operation.

The *Blue Cross Blue Shield Association* (BCBSA) started as two separate entities, with *Blue Cross* covering hospital services and *Blue Shield* providing coverage for physician services.[119] The first nonprofit, prepaid hospital plan that would become the *Blue Cross Organization* was first created in 1929 and was developed by Justin Ford Kimball, a vice president of the University Hospital at Baylor University, for Dallas-area teachers.[120] The plan initially covered 1,500 teachers who paid $6 per year for 21 days of hospital care at the University Hospital.[121] At that time, the *Great Depression* resulted in a growing number of patients who could not afford to pay their bills, and prepaid plans similar to the Baylor Plan quickly were established at hospitals across the country.[122] These plans, known as Blue Cross, gained formal recognition in 1934 when the *American Hospital Association* (AHA) and the *American College of Surgeons* (ACS) expressed their approval of hospital group plans.[123]

Blue Shield developed in response to the public's desire to have prepaid coverage for physician services, comparable to what *Blue Cross* offered for hospital services. Beginning in 1933, Dr. Sidney Garfield offered prepaid

---

[117] Ibid.

[118] Ibid.

[119] Robert Cunningham III and Robert M. Cunningham Jr., *The Blues: A History of the Blue Cross and Blue Shield System* (DeKalb: Northern Illinois University Press, 1997), p. viii.

[120] Ibid., p. 4.

[121] Paul Starr, *The Social Transformation of American Medicine: The Rise of a Sovereign Profession and the Making of a Vast Industry* (New York: Basic Books, 1982), p. 295.

[122] Ibid., pp. 295–296.

[123] Robert Cunningham III and Robert M. Cunningham Jr., *The Blues: A History of the Blue Cross and Blue Shield System* (DeKalb: Northern Illinois University Press, 1997), p. 19.

Industrial Medicine

Casualty insurance for laborers that delineated between medical care for work-related injuries and worked-acquired diseases.

The Social Transformation of American Medicine: The Rise of a Sovereign Profession and the Making of a Vast Industry, *by Paul Starr (New York: Basic Books, 1982), pp. 200–209.*

Factoid

The first health insurance was offered in 1847 and provided casualty insurance for rail and steamboat accidents.

The U.S. Health System: Origins and Functions, *by Marshall W. Raffel (New York: John Wiley & Sons, 1980), p. 394.*

physician services to 5,000 aqueduct workers in California, each of whom paid a nickel per day.[124] Admiring this success, Henry J. Kaiser adopted Dr. Garfield's approach in the late 1930s to provide his employees with physician services. The Kaiser Foundation Health Plan prospered and thrives today as the Kaiser-Permanente plan.[125] Since their formation, Blue Cross and Blue Shield have remained strong forces in the insurance market as the *Blue Cross Blue Shield Association* (the two companies combined on October 17, 1977).[126] The expansion of the insurance and other healthcare markets increased the need for regulation related to competition. A time line of reforms for the period 1940–1960 is depicted in Exhibit 1.4.

1.2.3 The Regulation of Competition in Healthcare

Competition in the healthcare industry is regulated through several means (see Chapter 4, "Competition"), but most prominently it is subject to the same legislation as all businesses under the *Sherman Antitrust Act*, which was signed into law on July 2, 1890.[127] Antitrust legislation prohibits specific activities that reduce competition in the marketplace for the purpose

[124] Ibid., p. 39.

[125] Ibid.

[126] Ibid., p. 197.

[127] "Sherman Antitrust Act," 15 U.S.C §1–7 (July 2, 1890).

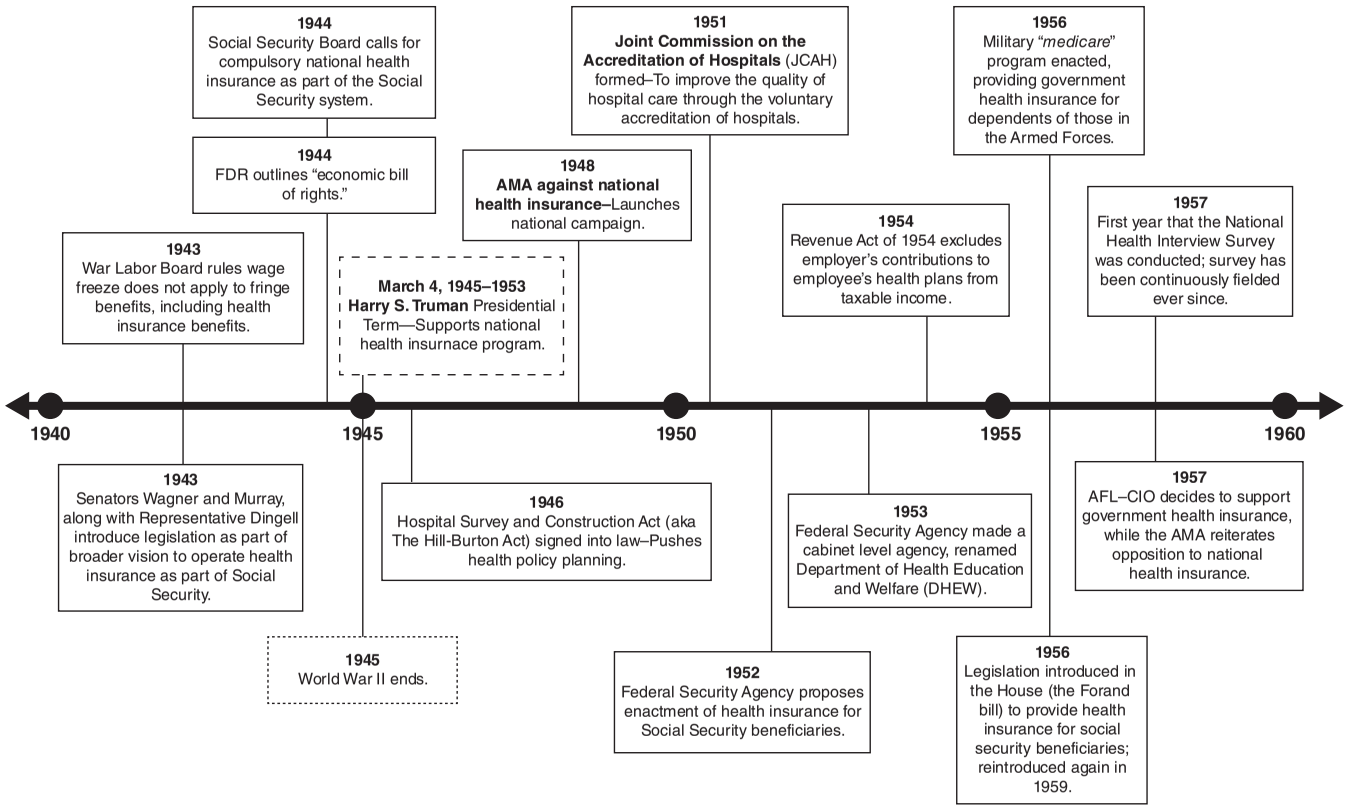


EXHIBIT 1.4 Healthcare Reform Historical Time Line: 1940–1960

of consumer protection. Signed into law on October 15, 1914, the *Clayton Act* modified the original antitrust law by addressing price discrimination (15.U.S.C.A. §13), mergers and acquisitions (15.U.S.C.A. §14), suspect sales agreements (15.U.S.C.A. §19), and conflicts of interest for corporation directors (15.U.S.C.A. §19).[128] These regulatory edicts have been significant in the regulation of healthcare entities. For more information on current antitrust laws, see Section 3.4.1, "Antitrust Regulations," in Chapter 3, "Regulatory Environment."

1.3 1930s–1950s

1.3.1 Social Security Act

Prior to the Industrial Revolution, economic stability within the United States was provided by the extended family because a majority of households resided on farms. Many families became vulnerable to economic problems and hardships, due in part to the *Great Depression*, which also acted as one of the most significant catalysts for the growth of the insurance market and Franklin D. Roosevelt's efforts to establish social-welfare programs as a social safety net for vulnerable U.S. populations, specifically the elderly, who saw a lifetime of savings disappear, and the unemployed.[129]

President Roosevelt's action to establish social security in the United States began on June 8, 1934, in a letter to Congress detailing his view of the federal government's role in securing "three great objectives" for the American people, the third being the security of social insurance. Weeks later, Roosevelt issued *Executive Order No. 6757*, establishing the *Committee on Economic Security*, consisting of high-level members of the president's cabinet.[130] Approximately seven months later, Roosevelt noted that a report released by the committee "sets forth a series of proposals that will appeal to the sound sense of the American people."[131] Based on this report, President Roosevelt proposed that social security insurance should include

[128] "Clayton Antitrust Act," 15 U.S.C §12–27 (October 15, 1914).

[129] U.S. House Ways and Means Committee, "Section 1—Social Security: The Old-Age, Survivors, and Disability Insurance (OASDI) Programs," "WMCP 108-6—Background Material and Data on Programs within the Jurisdiction of the Committee on Ways and Means (Green Book)" (Washington, DC: U.S. Government Printing Office, 2004), pp. 1–2.

[130] Social Security Administration, "FDR's Statements on Social Security," https://www.socialsecurity.gov/history/fdrstmts.html (accessed May 20, 2012).

[131] Ibid.

unemployment compensation, *old-age benefits*, *federal support for children* of various socioeconomic status, and *federal aid for public health agencies* throughout the nation. Later that year, on August 14, 1935, the Social Security Act was signed into law, providing many of the recommendations of the *Committee on Economic Security* and those benefits Roosevelt enumerated in his address to Congress in January 1935.[132] Since its passage, the *Social Security Act* (SSA) has been amended numerous times, with the most significant change concerning healthcare being the establishment of Medicare and Medicaid, a part of President Lyndon B. Johnson's *Great Society* initiatives during the 1960s (discussed later).

1.3.2 Disability Insurance

Only a year after it was signed into law, federal legislators discussed amending the SSA to include a disability insurance provision. Despite lengthy political debate, the SSA was not amended until 1956 to include *Social Security Disability Insurance* (SSDI), during the presidential administration of Dwight D. Eisenhower. Oveta Culp Hobby, the first *secretary of the U.S. Department of Health, Education, and Welfare* and the second female cabinet member in U.S. history, noted that "no accountant can estimate the physical rewards, the sense of independence, pride and usefulness and the relief from family strains which accrue to one of the disabled when he returns to his old job or to a newly learned job suited to his limitations."[133]

Under the original amendment, *disability* was defined as "the inability to engage in 'substantial gainful activity' (SGA) by reason of a physical or mental impairment [that is] medically determinable and expected to last for not less than 12 months, or to result in death."[134] A substantial portion of the legislative preparation occurred in the decades prior to the official amendment, a time when government officials worried about delineating between unemployment and disability benefits. Considering this environment, legislators adopted a strict definition of *disability*, partially out of fear of misuse from individuals who had been out of work for an extended period of time.

---

[132] Ibid.

[133] Edward D. Berkowitz, Chairman of the History Department at George Washington University, "Statement before the Subcommittee on Social Security," July 13, 2000, http://www.ssa.gov/history/edberkdib.html (accessed April 27, 2012).

[134] U.S. House Ways and Means Committee, "Section 1—Social Security: The Old-Age, Survivors, and Disability Insurance (OASDI) Programs," "WMCP 108-6—Background Material and Data on Programs within the Jurisdiction of the Committee on Ways and Means (Green Book)" (Washington, DC: U.S. Government Printing Office, 2004), pp. 1–15.

These individuals may have considered themselves "disabled" under a loose statutory definition.[135] Furthermore, from 1956 to 1960, benefits were provided only for workers over the age of 50, which limited the use of SSDI as a vocational rehabilitation program and essentially made it a retirement program.[136] It wasn't until the inclusion of supplemental security income under a 1972 amendment that social security benefits were provided for anyone over the age of 65 who was blind or disabled.[137] In 2011, Old-Age (retirement), Survivors, and Disability Insurance (OASDI) distributed more than $62 billion in Social Security benefits to 55 million U.S. citizens in all 50 states, in addition to American Samoa, Guam, the Northern Mariana Islands, Puerto Rico, and the U.S. Virgin Islands.[138]

1.3.3 Postwar Technologies

Following World War II (WWII), the U.S. healthcare delivery system saw the advent of a plethora of new medical technologies, leading to an increased life expectancy and higher levels of health, accompanied by a drastic spike in medical costs. These costs have been associated with a decline in infant and child mortality and greater longevity, increasing the size of the population and, therefore, the number of individuals to be treated.[139] Postwar discoveries of new medical therapies, such as *sulfa drugs* and *penicillin*, quickly reduced infectious disease rates, and within two decades, such rates had decreased to current levels.[140] Similarly, longer life spans resulted in a more aged population and shifted the focus of medicine toward *degenerative* age-related diseases, such as heart disease, stroke, cancer, and senile dementia, treatment of which is often costly due to the long-term nature of the care.[141]

---

[135] Edward D. Berkowitz, Chairman of the History Department at George Washington University, "Statement before the Subcommittee on Social Security," July 13, 2000, http://www.ssa.gov/history/edberkdib.html (accessed April 27, 2012).

[136] Ibid.

[137] Social Security Administration, "A History of the Social Security Disability Programs," January 1986, http://www.ssa.gov/history/1986dibhistory.html (accessed August 22, 2012).

[138] Social Security Administration, "Congressional Statistics: For December 2011," SSA Publication No. 13-11710, May 2012.

[139] Mervyn Susser, "Epidemiology in the United States after World War II: The Evolution of Technique," *Epidemiology Reviews* 7 (1985): 149–150.

[140] David Cutler, et al., "The Determinants of Mortality," *Journal of Economic Perspectives* 20, no. 3 (2006): 103.

[141] Mervyn Susser, "Epidemiology in the United States after World War II: The Evolution of Technique," *Epidemiology Reviews* 7 (1985): 149–150.

Dissimilar to other industries in which technological advancements are generally associated with greater *output* and equal or lesser *input*, the wave of medical technological advances following WWII correlated with a steady increase in medical costs. It has been estimated that more than 50 percent of the total rise in real medical care costs may be attributable to technological advances.[142] Since the 1970s, the perceived excessive rate of growth of healthcare spending, attributed in part to technological investments, has been seen as a serious problem by the government, insurers, employers, and individuals.[143] A further look at postwar technological advances and the associated costs on healthcare delivery can be found in Chapter 5, "Technology."

1.3.4 Hill-Burton Act of 1946

Regulation of healthcare resources began after World War II, with the passage, in 1946, of the *Hospital Survey and Construction Act*, commonly known as the *Hill-Burton Act*.[144] The passage of the Hill-Burton Act marked the beginning of 40-plus years of federally funded health policy planning.[145] It was intended to encourage the development of hospitals in rural areas because of a perceived shortage of healthcare facilities following the *Great Depression* and World War II.[146] The act required states to institute health policy planning in order to receive federal funding for hospital construction.[147] In addition to producing a healthcare plan delineating their healthcare needs, states were required to inventory existing healthcare facilities and designate a single agency to be responsible for health policy planning.[148]

---

[142] A. Gelijns and N. Rosenberg, "The Dynamics of Technological Change in Medicine," *Health Affairs* 13, no. 3 (1994): 29; Joseph P. Newhouse, "Medical Care Costs: How Much Welfare Loss?" *Journal of Economic Perspectives* 6, no. 3 (1992).

[143] Jonathan Oberlander, "Unfinished Journey—a Century of Health Care Reform in the United States," *New England Journal of Medicine* 367, no. 7 (August 16, 2012): 585.

[144] Andrew B. Dunham, *Health and Politics: The Impact of Certificate of Need Regulation* (Chicago: National Center for Health Service Research, 1981), p. 141.

[145] Frank A. Sloan, et al., *Cost, Quality, and Access in Health Care: New Rolls for Health Planning in a Competitive Environment* (San Francisco: Jossey-Bass Publishers, 1988), p. 21.

[146] Andrew B. Dunham, *Health and Politics: The Impact of Certificate of Need Regulation* (Chicago: National Center for Health Service Research, 1981), p. 141.

[147] Frank A. Sloan, et al., *Cost, Quality, and Access in Health Care: New Rolls for Health Planning in a Competitive Environment* (San Francisco: Jossey-Bass Publishers, 1988), p. 30.

[148] Andrew B. Dunham, *Health and Politics: The Impact of Certificate of Need Regulation* (Chicago: National Center for Health Service Research, 1981), p. 141.

Within 30 years of its enactment, the Hill-Burton program provided financial assistance to more than 4,200 hospitals, nearly 60 percent of all U.S. hospitals.[149] In addition to financial assistance, the Hill-Burton Act also prohibited discrimination against the provision of hospital services based on race and religion, and it mandated hospitals to provide a *reasonable* amount of charitable care.[150]

1.3.5 The Creation of the Joint Commission

The first onsite inspections of hospitals were performed by the American College of Surgeons (ACS), founded in 1913, in an effort to further the goal of Ernest Codman, M.D., who proposed the "end result system of hospital standardization," in 1910. In 1926, the ACS published a guide of minimum standards to further the surveyance of hospitals under an approval system, and by 1950, more than 3,200 hospitals had gained ACS approval. The ACS, along with several other organizations, that is, the American College of Physicians (ACP), the American Hospital Association (AHA), the American Medical Association (AMA), and the Canadian Medical Association (CMA), came together in 1951 to form an independent, not-for-profit organization, the Joint Commission on Accreditation of Hospitals (JCAH), currently referred to as the *Joint Commission*, whose purpose was to further standardize hospital approval through voluntary accreditation.[151] ACS's approval system was transferred to JCAH in 1952, and the organization published its own standards book, *Standards for Hospital Accreditation*, in 1953. The significance of JCAH accreditation was bolstered in 1965, when Congress amended the SSA to note that JCAH accreditation indicated compliance with the *Medicare conditions of participation* for hospitals.[152] A time line of reforms for the period 1960–1990, is depicted in Exhibit 1.5.

---

[149]United States Office of Management and Budget, "Special Analyses: Budget of the United States Government: Fiscal Year 1978" (Washington, DC: Government Printing Office, 1978), p. 215.

[150]Kaiser Family Foundation, "Timeline: History of Health Reform in the U.S.," http://healthreform.kff.org/flash/health-reform-new.html (accessed August 20, 2012).

[151]In 1987, the Joint Commission on Accreditation of Hospitals renamed itself the Joint Commission on Accreditation of Healthcare Organizations (JCAHO) to address the expanding scope of entities accredited by the organization. The Joint Commission, "The Joint Commission History." February 2012, http://www.jointcommission.org/assets/1/6/Joint_Commission_History_2012.pdf (accessed August 20, 2012).

[152]The Joint Commission, "The Joint Commission History," February 2012, http://www.jointcommission.org/assets/1/6/Joint_Commission_History_2012.pdf (accessed August 20, 2012)."

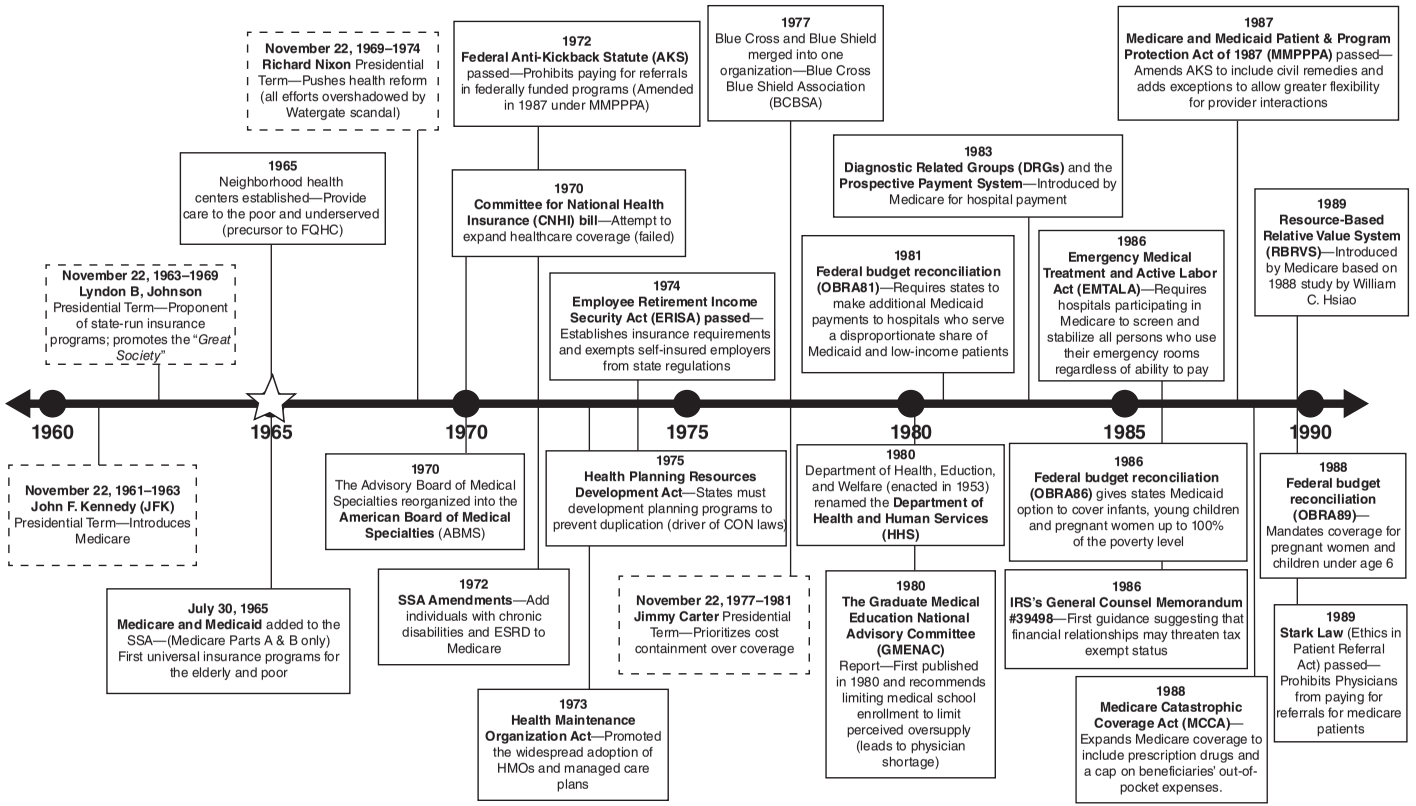


EXHIBIT 1.5 Healthcare Reform Historical Time Line: 1960–1990

1.4 1960s

1.4.1 Creation of Medicare

The groundwork for the enactment of Medicare and Medicaid began in the late 1950s and the early 1960s. As employer-based health coverage grew, private plans began to set premiums based on their experience with health costs, and the retired and disabled found it harder to get affordable coverage. Health reformers refocused their efforts toward the elderly. Introduced by U.S. president John F. Kennedy, Medicare is strictly managed by the federal government and targets the economic hardships of the elderly, who encounter rising medical costs in the face of dwindling income, frequently ending in a dire financial condition. In the aftermath of the assassination of President Kennedy and following legendary political debates, President Johnson guided the passage of Medicare and signed H.R. 6675 on July 30, 1965.[153] The bill amended the SSA and consisted of two major components, Medicare Parts A and B. Medicare Part A is "a hospital insurance plan providing protection against the costs of hospital and related care." Medicare Part B consists of "a supplementary medical insurance plan covering payments for physicians' services and other medical and health services to cover certain areas not covered by the hospital insurance plan."[154] Providing hospital insurance, Part A is financed through the Medicare Hospital Insurance (HI) Trust Fund, which is funded through payroll taxes paid by both employers and employees, enrollees who have not met the requisite requirements for automatic enrollment, government credits, interest on federal securities, and a Social Security benefits tax.[155] The Supplementary Medical Insurance (SMI) Trust Fund finances Medicare Part B and draws a majority of its resources from premiums paid by Medicare Part B enrollees, in addition to general revenue

[153] Social Security Administration, "History of SSA during the Johnson Administration 1963–1968: The Development of Medicare," http://www.ssa.gov/history/ssa/lbjmedicare1.html (accessed April 27, 2012).

[154] "History of SSA During the Johnson Administration 1963–1968, The Development of Medicare" Social Security Administration, http://www.ssa.gov/history/ssa/lbjmedicare1.html (accessed April 27, 2012)

[155] "Section 2—Medicare," U.S. House Ways and Means Committee, "WMCP 108-6—Background Material and Data on Programs Within the Jurisdiction of the Committee on Ways and Means (Green Book)" (Washington, DC: U.S. Government Printing Office, 2004), pp. 2–10.

Medicare and Medicaid

The Medicare and Medicaid Act, signed by President Johnson on July 30, 1965, was comprised of three layers: Part A, Part B, and Medicaid.

The Social Transformation of American Medicine: The Rise of a Sovereign Profession and the Making of a Vast Industry, *by Paul Starr (New York: Basic Books, 1982), p. 369.*

and payments from the disabled and enrollees with chronic renal disease.[156]

Medicare's passage was the result of longtime congressional interest in social health insurance for America's elderly, but discontent at the program's original suggestion ultimately prompted a central figure in the law's passage—Representative Wilbur Mills, a member of the House Ways and Means Committee—to combine the original proposal with two additional components.[157] The AMA pushed for more coverage of physician services under the program and even went as far to suggest an *Eldercare program*, its own version of what eventually became Medicare, but Representative Mills placated all parties involved by combining portions of each program into Medicare's final legislative package.[158] The original proposal (i.e., Part A),

Medicare Part A

"The Democratic plan for a compulsory hospital insurance program under Social Security."

The Social Transformation of American Medicine: The Rise of a Sovereign Profession and the Making of a Vast Industry, *by Paul Starr (New York: Basic Books, 1982), p. 369.*

---

[156] "Section 2—Medicare," U.S. House Ways and Means Committee, "WMCP 108-6—Background Material and Data on Programs Within the Jurisdiction of the Committee on Ways and Means (Green Book)" (Washington, DC: U.S. Government Printing Office, 2004), pp. 2–14.

[157] Paul Starr, *The Social Transformation of American Medicine: The Rise of a Sovereign Profession and the Making of a Vast Industry* (New York: Basic Books, 1982), pp. 368–371.

[158] Ibid.

Medicare Part B

"The revised Republican program of government-subsidized voluntary insurance to cover physicians' bills."

The Social Transformation of American Medicine: The Rise of a Sovereign Profession and the Making of a Vast Industry, *by Paul Starr (New York: Basic Books, 1982), p. 369*

coupled with the Republican suggestion of coverage for physician services, was eventually rounded out by an additional program, prompting some commentators to classify the legislation as a "three-layer cake" composed of Medicare Parts A and B and a social insurance for the healthcare of America's poor—Medicaid.[159] A further discussion of Medicare can be found in Section 2.4.1, "Medicare."

1.4.2 Creation of Medicaid

The amendment to the SSA passed in 1965, discussed earlier, also included the creation of the Medicaid program. Part of the Johnson administration's *Great Society* initiative, Medicaid provided healthcare insurance coverage for poor individuals who met requirements established by the individual states. Unlike *Medicare*, which is solely a federal initiative, *Medicaid* is a collaborative program between federal and state governments, with the individual states setting the criteria for eligible residents. Compared to Medicare, Medicaid was seen as a welfare program and did not enjoy the

Medicaid

"The expanded assistance to the states for medical care."

The Social Transformation of American Medicine: The Rise of a Sovereign Profession and the Making of a Vast Industry, *by Paul Starr (New York: Basic Books, 1982), p. 369*

[159] Ibid.

widespread acclaim and admiration as its oft-cited companion.[160] Medicaid is discussed further in Section 2.4.2, "Medicaid and CHIP."

1.5 1970s

With the creation of Medicare and Medicaid and the massive amount of federal funding flowing through the two programs, it quickly became apparent that regulation of fraud and abuse was needed. The first of these legislative acts was the anti-kickback statute.

1.5.1 Anti-Kickback Statute

The Medicare *Anti-Kickback Statute* (AKS) was enacted in 1972 and amended in §1128B[b] of SSA to provide felony criminal penalties (5 years/$25,000 fine) for knowingly and willfully offering, paying, soliciting, or receiving remuneration in order to induce business reimbursed under the Medicare or state healthcare programs. The statute also included several safe harbors (exceptions to the statute) to protect legitimate business arrangements. It was the intent of Congress that the rules evolve and be updated to reflect changes within the healthcare industry and in technologies affecting the industry.[161] As intended, the safe harbors have continuously developed and changed since their enactment.[162]

1.5.2 Rising Costs of Healthcare

Health expenditures have been rising steadily since the 1970s, following the advent of the Medicare and Medicaid programs and the federal funding necessary to sustain them. A visual depiction of the rising trend of national health expenditures is set forth in Exhibit 1.6.

---

[160] "Annual Statistical Supplement, 2011: Medicaid Program Description and Legislative History," U.S. Social Security Administration, Office of Retirement and Disability Policy, 2011, https://www.socialsecurity.gov/policy/docs/statcomps/supplement/2011/medicaid.html (accessed April 27, 2012).

[161] "Medicare and State Health Care Programs: Fraud and Abuse; Clarification of the Initial OIG Safe Harbor Provisions and Establishment of Additional Safe Harbor Provisions Under the Anti-Kickback Statute; Final Rule," *Federal Register* 64, no. 223 (November 19, 1999): 63518.

[162] "Exceptions," 42 CFR. § 1001.952 (March 18, 2002).

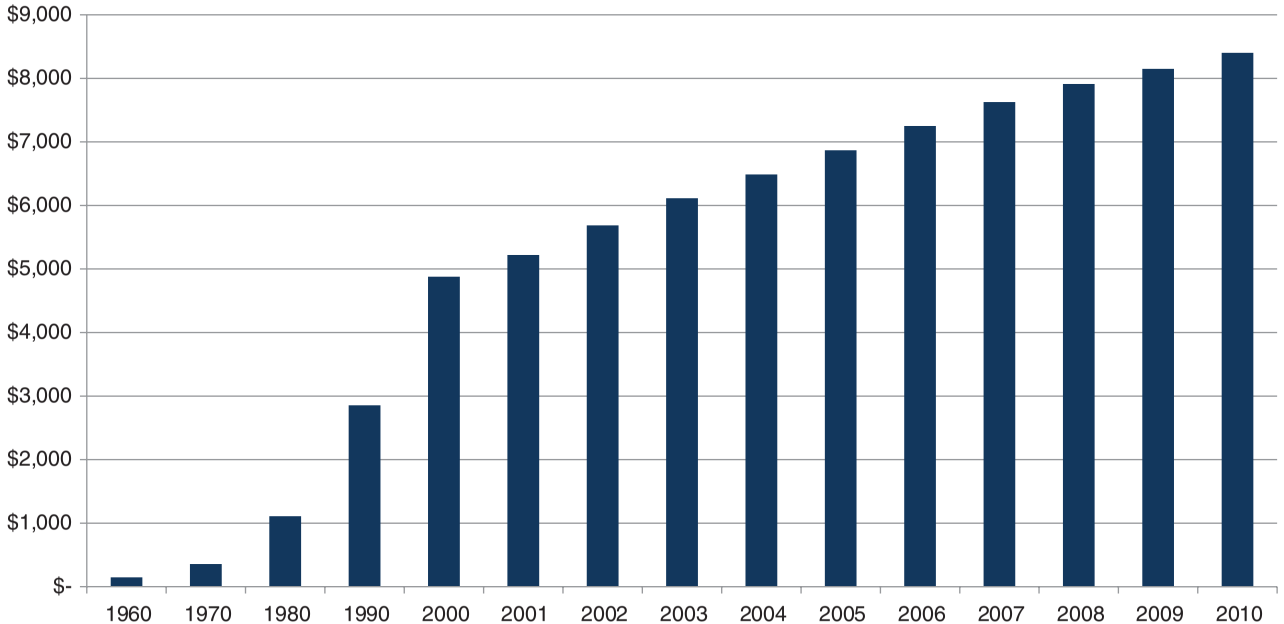


EXHIBIT 1.6 National Health Expenditures per Capita, 1960–2010

"National Health Expenditures Aggregate, Per Capita Amounts, Percent Distribution, and Average Annual Percent Change: Selected Calendar Years 1960–2010," Centers for Medicare and Medicaid Services, Office of the Actuary, National Health Statistics Group, https://www.cms.gov/NationalHealthExpendData/downloads/tables.pdf (accessed February 1, 2012).

Policy considerations addressing the rising cost of healthcare became a priority of the administration of President Jimmy Carter and presented barriers for national reform efforts.[163] Concerns regarding the cost of healthcare continue today. In the decade from 2000 to 2010, national health expenditures per capita have increased more than 72 percent.[164]

1.5.3 Attempted Healthcare Reform

In the 1970s, the *Committee for National Health Insurance* (CNHI) bill, cosponsored by Senator Edward Kennedy (D-MA), attempted to significantly expand healthcare coverage by transforming the U.S. health insurance system. At the time, the CNHI bill was competing with 13 other health insurance proposals, including proposals sponsored by the AMA and commercial insurance companies.[165] The CNHI bill, supported primarily through Washington lobbying efforts, rather than public support, lost momentum in the wake of increasing healthcare cost inflation and a resulting focus on cost containment.[166] It was not until the 1980s, when the number of uninsured individuals in the United States began to significantly rise, that this type of reform would be revisited.[167]

1.5.4 Health Maintenance Organization Act of 1973

In response to escalating healthcare costs, employers began relying more heavily on a new prepaid health insurance model, health maintenance organizations (HMOs), a name coined by Paul Ellwood Jr. (then an aide to President Richard Nixon) in 1970. Even with increased use, in 1971 fewer than four million Americans were enrolled in prepaid health plans.[168]

---

[163] Kaiser Family Foundation, "Timeline: History of Health Reform in the U.S.," http://healthreform.kff.org/flash/health-reform-new.html (accessed August 20, 2012).

[164] Centers for Medicare and Medicaid Services, "National Health Expenditures Aggregate, Per Capita Amounts, Percent Distribution, and Average Annual Percent Change: Selected Calendar Years 1960–2010," Office of the Actuary, National Health Statistics Group, https://www.cms.gov/NationalHealthExpendData/downloads/tables.pdf (accessed February 1, 2012).

[165] Beatrix Hoffman, "Health Care Reform and Social Movements in the United States," *American Journal of Public Health* 93, no. 1 (January 2003): 78.

[166] Ibid.

[167] Ibid.

[168] Janet Firshein and Lewis G. Sandy, "The Changing Approach to Managed Care," in Stephen L Isaacs and James R. Knickman, *To Improve Health and Health Care 2001: The Robert Wood Johnson Foundation Anthology* (San Francisco: Jossey-Bass, 2001), p. 78.

To fund the development and spread of HMOs, Congress passed the *Health Maintenance Organization Act of 1973*. HMOs are a prepaid health plan model that uses provider networks with a system of *primary care gatekeepers* and capitated provider reimbursement incentivizing decreases in utilization and increases in the efficiency of care for HMO members. The stated goals and the original promises of the HMO Act, lower costs and higher quality outcomes for patients (similar to the goals of modern accountable care organizations), were not met, nor were the projected increases in the number of HMO plans—from 30 in 1970 to 1,700 by 1976 and covering 90 percent of the population by 1980—achieved. Nonetheless, HMOs did increase, and other models of managed-care plans flourished throughout the 1970s and the 1980s, maintaining prominence into the 1990s. There were more than 600 HMOs in operation by 1996, with almost 65 million enrollees—almost one-fourth of the U.S. population at the time.[169] The significant shift to HMOs was not without controversy, and during the 1990s, a significant consumer backlash followed the rapid and widespread incursion of managed-care plans, as both providers and patients turned against the model.

Of note, there has been controversy related to HMOs nearly since their inception. Recently released taped discussions between President Nixon and *Assistant to the President for Domestic Affairs* John D. Ehrlichman, in 1971, revealed what some have claimed are the underlying reasons for the Nixon administration's sudden promotion of HMOs, which cast the model as seeking to reduce patient care in pursuit of profits. Ehrlichman briefed Nixon on a previous discussion with Edgar Kaiser, to wit:

President Nixon:	*"You know I'm not too keen on any of these damn medical programs."*
Ehrlichman:	*"This . . . is a . . . private enterprise one."*
President Nixon:	*"Well, that appeals to me."*
Ehrlichman:	*"Edgar Kaiser is running his Permanente deal for profit. And the reason that . . . he can do it . . . . All the incentives are toward less medical care, because . . . the less care they give them, the more money they make."*[170]

[169]Tufts Managed Care Institute, "A Brief History of Managed Care," 1998, http://www.thci.org/downloads/briefhist.pdf (accessed December 28, 2011).

[170]Edgar Kaiser, son of Henry J. Kaiser, along with his father and Sidney R. Garfield, helped found a model of prepaid medical care for Kaiser employees (specifically, shipyard workers) that would expand to become the Kaiser Foundation Health Plan and Hospital. Edgar became president of Kaiser Industries in 1956 and chairman of the board in 1959. Tom Debley, "Opening a Prepaid Health Plan to the Public 65 Years Ago This Month, Kaiser Permanente Begins Its Post–World War II Life,"

Health Maintenance Organization

Any organization that, through an organized system of healthcare, provides or ensures the delivery of an agreed-upon set of comprehensive health maintenance and treatment services for an enrolled group of persons commonly under a capitation or prepaid fixed sum arrangement.

"The InterStudy Competitive Edge: HMO Industry Report 13.2," Decision Resources (2003): xiii.

1.6 1980s

1.6.1 The Graduate Medical Education National Advisory Committee (GMENAC)

In the 13 years preceding 1980, the ratio of actively practicing doctors to patients increased by 50 percent.[171] This increased physician-to-patient ratio led to concerns over quality of care and cost-effectiveness, which in turn caused the creation of a government committee to evaluate physician distribution. The *Graduate Medical Education National Advisory Committee* (GMENAC) was first chartered in April 1976 and later extended through September 1980.[172] Its purpose was to "analyze the distribution among specialties of physicians and medical students and to evaluate alternative approaches to ensure an appropriate balance," as well as to "encourage bodies controlling the number, types, and geographic location of graduate training positions to provide leadership in achieving the recommended balance."[173]

[170] Footnote (*continued*)
Kaiser Permanente, A History of Total Health, July 22, 2010, http://www.kaiserpermanentehistory.org/latest/opening-a-prepaid-health-plan-to-the-public-65-years-ago-this-month-kaiser-permanente-begins-its-post-world-war-ii-life/ (accessed August 23, 2012); "Transcript between President Richard Nixon and John Ehrlichman," February 17, 1971, Conversation number 450-023, http://www.whitehousetapes.net/clips/1971_0217_hmos/ (accessed August 22, 2012).

[171] J. E. Harris, "How Many Doctors Are Enough?" *Health Affairs* 5, no. 4 (1986): 74.

[172] Graduate Medical Education National Advisory Committee, *Report of the Graduate Medical Education National Advisory Committee to the Secretary, Department of Health and Human Services—Volume VII*, (Washington, DC: U.S. Government Printing Office, 1981), pp. 5, 16.

[173] Ibid., p. 73.

GMENAC's efforts produced seven volumes of recommendations regarding physician manpower supply, through the development of several models by which to determine the number of future physicians that would be needed by different subspecialties to achieve "a better balance of physicians."[174] Using these models, GMENAC determined that there would be a significant surplus of 70,000 physicians by 1990 and an oversupply of 150,000 doctors by 2000.[175] In order to counter this growth, the U.S. government halted its past expansionary policies within the physician sector. Specifically, the *Summary Report of GMENAC to the Secretary, Department of Health and Human Services* (HHS) recommended that medical schools reduce the size of their entering classes by 17 percent and limit the rise in the number of nonphysician healthcare providers, such as nurse practitioners and physician assistants.[176]

The GMENAC report based its model on several key assumptions: that a surplus of physicians was an undesirable situation and that physicians would have the same workload and procedures in the future as they had at the time the report was written.[177] Moreover, the report's accuracy depended on the assumption that it was possible to create an accurate computer model of physician manpower.[178] Critics of the GMENAC report stated that the GMENAC modeling

Factoid

In November of 2008, the Association of American Medical Colleges (AAMC) projected a physician shortage of 159,000 physicians by the year 2025.

The Complexities of Physician Supply and Demand: Projections Through 2025, *by Michael J. Dill and Edward S. Salsberg (Washington, D.C.: Center for Workforce Studies, Association of American Medical Colleges, 2008), p. 6.*

[174] Ibid., pp. 5–6; D. R. McNutt, "GMENAC: Its Manpower Forecasting Framework," *American Journal of Public Health* 71, no. 10 (October 1981): 1119.

[175] B. C. Morgan, "Projecting Physician Requirements for Child Health Care—1990," *American Academy of Pediatrics* 69, no. 2 (2001): 156.

[176] *Report of the Graduate Medical Education National Advisory Committee to the Secretary, Department of Health and Human Services—Volume I*, Graduate Medical Education National Advisory Committee (Washington, DC: U.S. Government Printing Office, 1981), p. 115.

[177] California Post-Secondary Education Commission, "An Analysis of the Report of the Graduate Medical Education National Advisory Committee," 1982, p. 4.

[178] Ibid.

Factoid

The U.S. Department of Health and Human Services anticipates one million unfilled nursing positions by 2020.

"Nursing, Doctor Numbers Worsen," by Gregory Lopes, Washington Times, *July 27, 2007, http://www.newser.com/archive-science-health-news/1G1-166859372/nursing-doctor-numbers-worsenbusiness.html (accessed April 10, 2009).*

Factoid

There is a projected shortage of 1.6 to 2.5 million allied health professionals.

"Workforce Shortage Crisis," by George Lauer, Allied Health Professionals Week Highlights, *January 27, 2007, http://www.californiahealthline.org/Features/2009/Shortage-of-Allied-Health-Workers (accessed April 10, 2009).*

panel failed to predict the rise of improved standards of care due to new technology, and that the effect of unanticipated changes may be large enough that the entire model should be discounted as an inaccurate prediction.[179]

In response to the GMENAC model's recommendations, ignoring critics of the report, U.S. medical schools adjusted their enrollment of students, causing a significant shift in the supply of new physicians going into the twenty-first century. Additional information concerning the impact of the GMENAC report and the perceived current shortage in physician workforce can be found in Section 4.3.4, "The Physician-Workforce Shortage: Demand Outpaces Supply."

1.6.2 Passage of the Omnibus Budget Reconciliation Act (OBRA)

The first *Omnibus Budget Reconciliation Act* (OBRA) was passed in 1981, and, along with the *Economic Recovery Tax Act* of 1981, established the fiscal priorities of President Ronald Regan. These laws implemented tax cuts, reduced domestic discretionary spending, and increased military spending.

[179] J. E. Harris, "How Many Doctors Are Enough?" *Health Affairs* 5, no. 4 (1986): 77–78.

Although OBRA was intended to reduce the federal deficit, there was instead the sharpest increase in the deficit under any single presidency at that time. By 1986, the dramatic rise in the federal deficit, partially due to depleted tax revenues, from tax cuts under these two laws resulted in a negative federal revenue impact of $200 billion.[180]

1.6.3 Passage of Emergency Medical Treatment and Active Labor Act (EMTALA)

The *Emergency Medical Treatment and Labor Act* (*EMTALA*) was enacted in 1986 by the *Consolidated Omnibus Budget Reconciliation Act of 1985* (*COBRA '85*) and applies only to hospitals that participate in the Medicare program and have an emergency room.[181] EMTALA requires covered hospitals to provide a "medical screening" and stabilization for any patient coming to the hospital's emergency department.[182] EMTALA provides that anyone suffering harm as a "direct result" of a hospital's violation of EMTALA can bring a damages claim against the hospital, as well as a claim for civil penalties against the hospital for noncompliance.[183] Further information regarding EMTALA's effect on the regulatory environment can be found in Section 3.8.1.4, "Emergency Medical Treatment and Active Labor Act (EMTALA)."

1.6.4 Development of Diagnosis Related Group (DRG)

In 1980, New Jersey implemented a new reimbursement model for hospitals based on diagnostic related groups (DRGs). This reimbursement reform was intended to realign incentives within hospitals to affect efficiency and healthcare expenditures. Despite limited evaluation of the program, many states followed suit, and in 1983, the federal government, under the Reagan administration, adopted the DRG system into the Medicare program.[184]

---

[180] "Slaying the Dragon of Debt: Fiscal Politics & Policy from the 1970s to the Present," Regional Oral History Office of the Bancroft Library: Berkeley, CA, March 7, 2011, http://bancroft.berkeley.edu/ROHO/projects/debt/1981reconciliationact.html (accessed July 2, 2012).

[181] "The Public Health and Welfare," 42 U.S.C.A. §1395dd(e)(2).

[182] "The Public Health and Welfare," 42 U.S.C.A. §1395dd(a).

[183] "The Public Health and Welfare," 42 U.S.C.A. §1395dd (d)(2)(A); "The Public Health and Welfare," 42 U.S.C.A. §1395dd(d)(1)(A) and (B).

[184] W. C. Hsiao, et al., "Lessons of the New Jersey DRG Payment System," *Health Affairs 5*, no. 2 (1986): 33.

Diagnostic Related Groups

A classification system of patients by surgical procedure or diagnosis into major diagnostic categories for the purpose of Medicare reimbursement of hospitalization costs.

The Managed Health Care Handbook*, 3rd ed., by Peter R. Kongstvedt (Gaithersburg, MD: Aspen Publishers, 1996), p. 187.*

For reimbursement under Medicare Part A, hospitals are reimbursed using DRGs, which classify patients based on the average per discharge cost of caring for their diagnosis.[185] Each DRG is assigned a relative rate based on its average cost, which is then multiplied by the input-price level of each market to determine the payment rate for the DRG.[186] Federal reimbursement methodology will be further discussed in Chapter 2, "Reimbursement Environment."

1.6.5 Development of Prospective Payment Systems

Historically, Medicare and Medicaid paid for hospital services using a *cost plus* method of reimbursement, where hospitals received reimbursement in excess of all of their costs.[187] In 1982, the federal government introduced a *prospective payment system* (*PPS*) in an effort to remedy the rising healthcare costs.[188] Under this PPS, hospitals are reimbursed an average, qualified, and predetermined fee for every recognized DRG, discussed earlier.[189] The government has also developed a PPS for ambulatory surgery centers, home healthcare, hospital outpatient services, rehabilitation facilities, and skilled nursing facilities (SNFs).[190]

---

[185] "Hospital Acute Inpatient Services Payment System," *MedPAC Payment Basics*, October 2008, p. 1, http://www.medpac.gov/documents/MedPAC_Payment_Basics_08_hospital.pdf (accessed September 24, 2009).

[186] Ibid.

[187] Office of Inspector General, "Medicare Hospital Prospective Payment System: How DRG Rates Are Calculated and Updated," Office of Evaluation and Inspections, Region IX, OEI-09-00-00200, August 2001, p. 1.

[188] Ibid.

[189] Ibid.

[190] "Assessing Payment Adequacy and Updating Payment in Fee-for-Service Medicare," in *Report to the Congress: Medicare Payment Policy*, March 2005, pp. 27–32.

Prospective Payment System (PPS)

The federal medical system that reimburses hospitals for Part A Medicare services based on diagnosis related groups.

A Guide to Consulting Services for Emerging Healthcare Organizations, *by Robert James Cimasi (New York: John Wiley and Sons, 1999), pp. 24–25.*

Factoid

In 1983, the federal government introduced a prospective payment system (PPS) in an effort to remedy the rising healthcare costs.

"Assessing Payment Adequacy and Updating Payment in Fee-for-Service Medicare," in Report to the Congress: Medicare Payment Policy, *March 2005, pp. 29–32.*

Applying microeconomic theory, the PPS was proposed at the high point in the Regan administration's "revolution" of domestic policy. HHS viewed PPS as a self-maintaining system, and it was considered by some as "a critical step in the 'deregulation' of American hospitals," in order to enhance marketplace competition by using incentives versus legislative controls.[191]

1.6.6 Development of Resource-Based Relative Value System (RBRVS)

In 1989, the *Resource-Based Relative Value System* (*RBRVS*) was introduced as a mechanism to control the costs of physicians' services borne by the Medicare program, although the program was not implemented until January 1, 1992, along with the *Medicare Fee Schedule.*[192] In 1986, in

[191] Bruce C. Vladeck, "Medicare's Prospective Payment System at Age Eight: Mature Success or Midlife Crisis," *University of Puget Sound Law Review* 14, no. 3 (Spring 1991): 453.

[192] "Financing Healthcare," in Harry A. Sultz and Kristina M. Young, *Health Care USA: Understanding Its Organization and Delivery*, 6th ed. (Sadbury, MA: Jones and Bartlett, 2009), p. 261; William C. Hsiao, et al., "An Overview of the Development and Refinement of the Resource-Based Relative Value Scale: The Foundation for Reform of U.S. Physician Payment," *Medical Care* 30, no. 11, Supp. (November 1992): NS1–NS2.

response to the growth in Medicare spending and concerns regarding claims of inequity in reimbursement rates for procedural services over cognitive clinical, the *Physician Payment Review Commission* (PPRC), the predecessor to the *Medicare Payment Advisory Commission* (MedPAC), mandated that the new resource-based physician fee schedule be developed (see Section 1.7.8.3, "Medicare Payment Advisory Commission Established").[193] Derived from the results of a 1988 study, *A National Study of Resource-Based Relative Value Scales for Physician Services*, William C. Hsiao, Ph.D., a professor at the Harvard School of Public Health, was engaged to develop the RBRVS.[194]

The study was commissioned and funded by the *Health Care Financing Administration* (HCFA), currently known as CMS, and was supported by the AMA, various specialty groups, and the PPRC.[195] Based on earlier work in 1979 and 1985 by Hsiao and others that examined the inadequacies, inconsistencies, and ambiguities in the measurement of the relative value of physician work input and the coding system used, the 1988 study allocated physician services into distinct *fungible units* consisting of *work*, *practice cost*, and *malpractice cost* inputs known as Relative Value Units (RVUs).[196]

---

[193] Sarah E. Johnson and Warren P. Newton, "Resource-Based Relative Value Units: A Primer for Academic Family Physicians," *Family Medicine* (March 2002): 172.

[194] William C. Hsiao, et al., *A National Study of Resource-Based Relative Value Scales for Physician Services* (Cambridge, MA: American Medical Association, 1988), pp. 1–25; Sarah E. Johnson and Warren P. Newton, "Resource-Based Relative Value Units: A Primer for Academic Family Physicians," *Family Medicine* (March 2002): 172–173.

[195] HCFA was established in 1977 to manage the Medicare and Medicaid programs. The agency changed its name in 2001, prompting a widely distributed joke that the purpose of the change was to dissuade excessive reference to HCFA as "Hillary Can't Fix Anything," reference to the failed Clinton healthcare reform efforts of the 1990s, discussed below. "HCFA Becomes CMS: A Name to Live Up To," *American Medical News*, July 23, 2001, http://www.ama-assn.org/amednews/2001/07/23/edsa0723.htm (accessed August 23, 2012).

[196] William C. Hsiao and W. B. Stason, "Toward Developing a Relative Value Scale for Medical and Surgical Services," *Health Care Financing Review* (1979): 1–23; William C. Hsiao, et al., *Resource-Based Relative Values of Selected Medical and Surgical Procedures in Massachusetts: Final Report on Research Contract for Rate Setting Commission*, Commonwealth of Massachusetts (Boston, MA: Harvard School of Public Health, 1985); William C. Hsiao, et al., "An Overview of the Development and Refinement of the Resource-Based Relative Value Scale: The Foundation for Reform of U.S. Physician Payment," *Medical Care* 30, no. 11, Supp. (November 1992): NS1, 2, 3; William C. Hsiao, et al., *A National Study of Resource-Based Relative Value Scales for Physician Services* (Cambridge, MA: American Medical Association, 1988), pp. 1–25.

Phase I of the study examined more than 200 practicing physicians, performing more than 400 services, in 18 medical and surgical specialties, relying on the *Current Procedural Terminology* (CPT-4).[197] The process of allocating physician services into distinct fungible units of defined commodities (RVUs) embraced the concept that establishing equivalence per unit of care across physician services and specialties could enhance initiatives to ensure more equitable and reasonable reimbursement rates, while additionally providing an effective metric as a tool for cost containment.

The original 1989 legislative decision to include the RBRVS was passed on Phase I of the 1988 Hsiao study that was performed between 1986 and 1988. Following the acceptance of the RBRVS system, but prior to its 1992 implementation, Hsiao and his peers completed Phase II (1988–1990) and Phase III (1990–1992) of the study to further refine and expand the scope of the RBRVS system.[198]

The system was intended to bring payments for medical practice more in line with a prospective payment system, under which reimbursement is based on a predetermined, fixed amount and on estimates of resource costs incurred in an efficient medical practice, to replace the previous *Cost Plus*, *Customary*

REASON FOR AN RBRVS

Was intended to bring medical practice more in line with a prospective payment system where payments are made based on set fees for types of procedures or diagnosis. Medicare payments are based on the relative value assigned to each procedure's work, practice expense, and malpractice costs with payment adjusted by a geographic and a universal conversion factor. Every physician uses the same payment schedule under the Medicare program.

A Guide to Consulting Services for Emerging Healthcare Organizations, *by Robert James Cimasi (New York: John Wiley and Sons, 1999), pp. 24–25.*

[197] William C. Hsiao, et al., "An Overview of the Development and Refinement of the Resource-Based Relative Value Scale: The Foundation for Reform of U.S. Physician Payment," *Medical Care* 30, no. 11, Supp. (November 1992): NS1, 2, 3. See Chapter 2 of this volume, "Reimbursement Environment," for an explanation of CPT.

[198] Ibid., p. NS2.

Resource Based Relative Value System (RBRVS)

A relative value scale that is based on the necessary resources used to perform a medical service.

A Guide to Consulting Services for Emerging Healthcare Organizations, *by Robert James Cimasi (New York: John Wiley and Sons, 1999), pp. 24–25.*

Prevailing and Reasonable (*CPR*) charge system.[199] The implementation of RBRVS, as well as subsequent annual updates by CMS, affected the reimbursement levels of various specialties unevenly, with primary care physicians generally faring better under the new system.[200] Additional information regarding the RBRVS can be found in Section 2.4.1.3.2, "Physician Reimbursement and Billing: The Resource-Based Relative Value Scale (RBRVS)."

Customary Prevailing and Reasonable (CPR)

The historically implemented methodology that based Medicare-allowed amounts on past payments for the service.

"Impact of the Medicare Physician Fee Schedule," by David C. Colby, Health Affairs Data Watch, *Fall 2002, p. 216, http://content.healthaffairs.org/cgi/reprint/11/3/216.pdf (accessed September 17, 2009).*

Factoid

In 1989, the Resource-Based Relative Value System (RBRVS) was introduced as a mechanism to control the costs of physicians' services borne by the Medicare program.

A Guide to Consulting Services for Emerging Healthcare Organizations *by Robert James Cimasi (New York: John Wiley and Sons, 1999), pp. 24–25.*

[199] Harry A. Sultz and Kristina M. Young, *Health Care USA: Understanding Its Organizations and Delivery*, 6th ed. (Sudbury, MA: Jones and Bartlett, 2009), p. 261. See Chapter 2 of this volume, "Reimbursement Environment," for further information on cost plus and CPR.

[200] Jerry Cromwell, et al., "Missing Productivity Gains in Medicare Physician Fee Schedule: Where Are They?" *Medical Research and Review* (June 16, 2010): 2, 4.

1.6.7 General Counsel Memorandum #39498

Published in 1986, the IRS's *General Counsel Memorandum #39498* was the first issuance of an IRS memorandum regarding a tax exempt hospital's status being contingent on the development and maintenance of appropriate financial relationships with physicians. The IRS stated that hospital physician recruitment programs that offer subsidies to recruited physicians without any repayment requirements may "constitute direct private benefits" and will adversely affect the hospital's exempt status.[201] The memorandum reinforced the IRS's traditional presumption that all persons who provide services within an exempt hospital have a private interest in the hospital and therefore creating an inurement, which, under the memorandum's guidance, could, if not compliant, potentially have a negative impact on the hospital's tax-exempt status.[202]

1.6.8 Medicare and Medicaid Patient and Program Protection Act

The *Federal Anti-Kickback Statute of 1972* was amended in 1987 with the passage of the *Medicare and Medicaid Patient & Program Protection Act of 1987* (*MMPPPA*) to include an alternative civil remedy: exclusion from the Medicare program.[203] Civil penalties were believed to be a more effective way of enforcing the statute because the government need not prove the violation by the criminal standard of *beyond a reasonable doubt*. Instead, to impose a civil penalty, the government need only prove the violation by the lesser standard of *a preponderance of the evidence*.[204] The MMPPPA also directed HHS to develop several exceptions to the Anti-Kickback Statute, to allow greater flexibility for provider interactions.[205] Additional information

---

[201] Internal Revenue Service, "General Counsel Memorandum 39498," Internal Control Number EE-46-85, January 28, 1986.

[202] Ibid.

[203] Department of Health and Human Services, "Medicare and State Health Care Programs: Fraud and Abuse," OIG Anti-Kickback, 42 CFR Part 1001 (July 29, 1991).

[204] "Medicare and State Health Care Programs: Fraud and Abuse," Clarification of the Initial OIG Safe Harbor Provisions and Establishment of Additional Safe Harbor Provisions Under the Anti-Kickback Statute: Final Rule," *Federal Register* 64, no. 223 (November 19, 1999: 63518.

[205] Department of Health and Human Services, "Medicare and State Health Care Programs: Fraud and Abuse," OIG Anti-Kickback, 42 CFR Part 1001 (July 29, 1991).

concerning the Anti-Kickback Statute can be found in Chapter 3, "The Regulatory Environment."

1.6.9 Ethics in Patient Referral Act of 1989 (Stark Law)

More commonly known as the *Stark Law*, the *Ethics in Patient Referral Act of 1989* prohibited physicians from making referrals to clinical laboratories if the physician or an immediate family member of the physician had an ownership or an investment interest in the lab.[206] Furthermore, the lab was prohibited from billing for those services.[207] This act marked the beginning of the stream of numerous restrictive amendments to the *Stark Law*, which have significantly affected the ways in which physicians and healthcare enterprises interact. The physician self-referral prohibitions are named after the legislation's chief supporter, Congressman Fortney "Pete" Stark (D-CA). Congressman Stark supported the legislation based on studies indicating that despite the broad scope of the *Anti-Kickback Statute*, self-referrals were prevalent in the healthcare industry.[208] The Stark Law is discussed in detail in Section 3.3.2, "Stark Law." A time line of historical reforms for the period 1990–2010 is set forth in Exhibit 1.7.

Stark Law

Common name for the prohibition against physicians making referrals to clinical laboratories if the physician, or an immediate family member of the physician, had an ownership (first established in the Ethics in Patient Referral Act of 1989). Scope has been expanded in Stark II–IV.

"Medicare Program: Physician Financial Relationships with, and Referrals to, Health Care Entities That Furnish Clinical Laboratory Services and Financial Relationship Reporting Requirements: Final Rule with Comment Period," Federal Register *60, no. 156 (August 14, 1995): 41915.*

---

[206] "Medicare Program: Physician Financial Relationships with, and Referrals to, Health Care Entities That Furnish Clinical Laboratory Services and Financial Relationship Reporting Requirements: Final Rule with Comment Period," *Federal Register* 60, no. 156 (August 14, 1995): 41915.

[207] Ibid.

[208] Linda A. Baumann, ed., *Health Care Fraud and Abuse: Practical Perspectives* (Washington, DC: American Bar Association, 2002), p. 52.

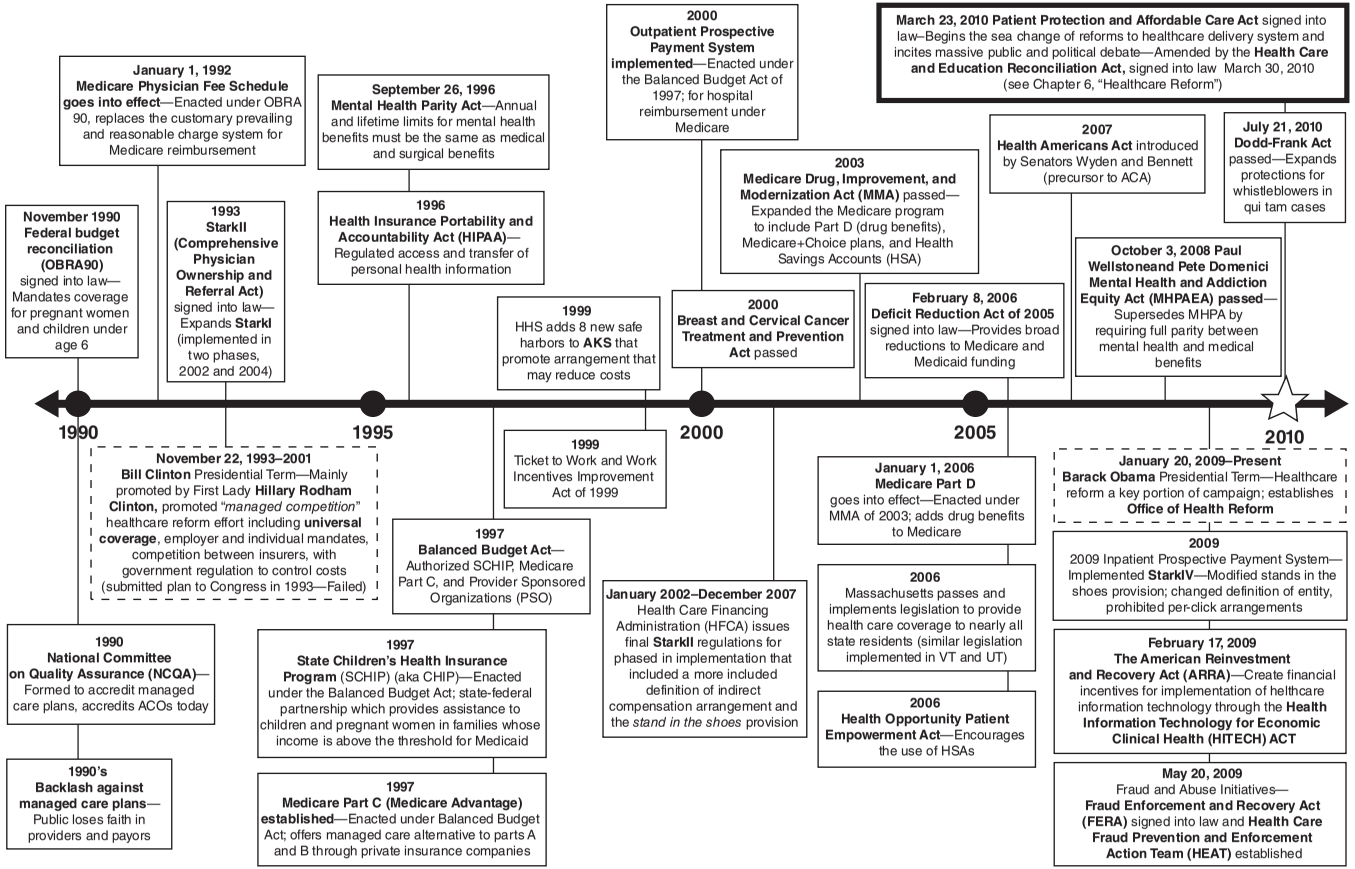


EXHIBIT 1.7 Healthcare Reform Historical Time Line: 1990–2010

1.7 1990s

1.7.1 Omnibus Budget Reconciliation Act of 1990

Signed into law in November 1990 by President George H. W. Bush, the *Omnibus Budget Reconciliation Act of 1990* (OBRA '90) aimed to reduce the federal budget deficit through a number of fiscal and tax changes.[209] While the act is primarily associated with an increase in income tax rates, it is also notable for establishing *pay-as-you-go* within the *Budget Enforcement Act of 1990* and giving states permission to create *Drug Utilization Review Boards*.[210] *Pay-as-you-go*, also known as PAYGO, requires that the *Office of Management and Budget* show the cumulative deficit impact of legislation.[211] *Drug Utilization Review Boards* ensure that prescriptions are appropriate, are medically necessary, and are not likely to result in adverse medical results.[212]

OBRA '90 implemented a new fixed fee schedule for Medicare services.[213] The *Medicare Physician Fee Schedule* (MPFS) became effective January 1, 1992, and replaced the previous customary prevailing and reasonable (CPR) charge system with the RBRVS system created by Hsiao and others and approved by Congress in 1989.[214] CPR payments were based on the similarity of a physician's charges to fees charged by other providers, by specialty, within the charging physician's market service area, whereas the RBRVS fee schedule is a prospective scheme that publishes predetermined

[209] Ibid.

[210] United States General Accounting Office, "Budget Issues: Compliance Report Required by the Budget Enforcement Act of 1990," Report to the President and the Congress, February 1996, p. 6; Brenda Jones Quick, "The Cost of the Omnibus Budget Reconciliation Act of 1990," *Journal of Pharmacy & Law* 2, no. 145: 145–146.

[211] United States General Accounting Office, "Budget Issues: Compliance Report Required By the Budget Enforcement Act of 1990," Report to the President and the Congress, February 1996, p. 6.

[212] Brenda Jones Quick, "The Cost of the Omnibus Budget Reconciliation Act of 1990," *Journal of Pharmacy & Law* 2, no. 145 (1993): 145–146; "Payment for Covered Outpatient Drugs," 42 USC 1396R-8(g), http://www.law.cornell.edu/uscode/text/42/1396r-8 (accessed May 82012).

[213] Michelle A. Green and JoAnn C. Rowell, *Understanding Health Insurance: A Guide to Billing and Reimbursement*, 9th ed. (Clifton, NY: Delmar Cengage Learning, 2008), p. 23.

[214] "Medicare Physician Fee Schedule (MPFS)," American College of Radiology, http://www.acr.org/Hidden/Economics/FeaturedCategories/mps/mpfs.aspx (accessed September 15, 2009); Michelle A. Green and JoAnn C. Rowell, *Understanding Health Insurance: A Guide to Billing and Reimbursement,* 9th ed. (Clifton, NY: Delmar Cengage Learning, 2008), p. 23.

Omnibus Budget Reconciliation Acts

Make change to taxes and other various payment systems, including fraud and abuse, that impact healthcare delivery.

"Agency History—Social Security Legislation and Related Events During the Administration of President George H. W. Bush," by the Historian's Office of the Social Security Administration, http://www.ssa.gov/history/ghwbushevent.html (accessed May 9, 2012).

payments for healthcare services provided to patients.[215] The RBRVS was intended to place greater emphasis on time spent with a patient when assessing health, diagnosing conditions, and listening to complaints, thereby distributing Medicare payments more heavily to primary care and diminishing the traditionally higher payments to specialists and surgeons.[216]

1.7.2 Backlash against HMOs and Managed-Care Plans

As mentioned earlier, the 1980s saw a boom in the number of new managed-care plans. The capitation form of payment used in many plans, originally hailed as a means for reducing health costs, instead caused physicians and hospitals to underprovide services for fear of surpassing their spending thresholds.[217] Patients accused HMO gatekeeper providers and insurers of being more focused on managing the cost of care for their own financial benefit, rather than on the interests of their patients.[218] By 1997, 52 percent of U.S. citizens were in favor of the government stepping in to regulate managed-care companies, even if it resulted in increased cost. Furthermore, 54 percent believed the continued use of capitated payment models and

[215] Michelle A. Green and JoAnn C. Rowell, *Understanding Health Insurance: A Guide to Billing and Reimbursement*, 9th ed. (Clifton, NY: Delmar Cengage Learning, 2008), p. 23.

[216] Paul L. Grimaldi, "RBRVS: How New Physician Fee Schedule Will Work—Resource-Based Relative Value Scale Payment System," *Healthcare Financial Management* (September 1991).

[217] For more information on capitated payment models, see Section 2.6.4, "Capitation."

[218] Kaiser Family Foundation, "The Public, Managed Care, and Consumer Protections," *Kaiser Public Opinion Spotlight* (January 2006): p. 1; Robert J. Blendon, et al., "Understanding the Managed Care Backlash," *Health Affairs* 17, no. 4 (July/August 1998): 87–88.

gate-keeping functions of managed-care plans would harm the quality of medical care.[219]

The public discontent with managed-care plans was heavily publicized, adding fuel to the eventual consumer backlash, despite surveys indicating overall satisfaction with the level of medical care received from HMO providers.[220] Since the 1990s, HMOs have continued to be used as a means of controlling costs; however, reports suggest that restrictions on provider preferences have been significantly relaxed.[221]

1.7.3 Clinton Attempted Healthcare Reforms

Healthcare reform was a key policy initiative from the beginning of the Clinton administration's campaign in 1992 and throughout his term, and the political environment during his first term seemed to support his efforts: Democrats controlled both the Senate and the House of Representatives, bipartisan concessions were offered, the public supported reform, and many influential industry organizations approved sweeping changes.[222] The bill was primarily championed by First Lady Hillary Rodham Clinton, chair of the *Task Force on National Health Care Reform*, established January 25, 1993, by President Clinton at the onset of his term.[223] The healthcare reform proposal, bill H.R.

---

[219] Robert J. Blendon, et al., "Understanding the Managed Care Backlash," *Health Affairs* 17, no. 4 (July/August 1998): 83–84.

[220] Ibid., pp. 90–91.

[221] Susan Marquis, et al., "The Managed Care Backlash: Did Consumers Vote with Their Feet?" *Inquiry* 41, no. 4 (Winter 2004/2005): 387.

[222] Paul Starr, "What Happened to Health Care Reform?" *American Prospect*, no. 20 (Winter 1995): 20–31; Jonathan Oberlander, "Learning from Failure in Health Care Reform," *New England Journal of Medicine* 357, no. 17 (October 25, 2007): 1677–1679.

[223] Hillary Clinton was a member of the Jackson Hole Group, a group of healthcare experts consisting of approximately 100 academics, insurance executives, hospital and pharmaceutical executives, physicians, and associated business and policy makers. Meeting at the home of Dr. Paul M. Ellwood (a main proponent of managed competition), in Jackson Hole, Wyoming, the group was one of the driving forces behind the formation of the Health Security Act, based on its publication, *The 21st Century American Health System—Managed Competition: A Proposal for Public and Private Health Care Reform*. Alan Enthoven (founder of the concept of managed competition) participated in the group, stating, "What was valuable is that we brought together people from many perspectives. We learned from each other." Robin Toner, "Hillary Clinton's Potent Brain Trust on Health Reform," *New York Times*, February 28, 1993; "President's Task Force on National Health Care Reform," *Federal Register Daily Journal*, https://www.federalregister.gov/agencies/president-s-task-force-on-national-health-care-reform (accessed August 23, 2012).

CLINTON ERA REFORM

The Clinton healthcare reform plan, submitted to Congress in 1993, attempted to institute universal coverage, regulate the private insurance market, change healthcare financing through an employer mandate, control costs to levels enforced by a national health board, and transform delivery systems through managed care.

3600, *The Health Security Act*, submitted to Congress on November 20, 1993, attempted to institute universal coverage, regulate the private insurance market, change healthcare financing through an employer mandate, control costs to levels enforced by a national health board, and transform delivery systems through managed care.[224] The plan combined the liberal *ends* of universal coverage with the conservative *means* of managed competition.[225]

1.7.4 Failure of Reform

Numerous factors had contributed to the sharp change in sentiment toward healthcare between 1993 and 1994, when the Clinton reform bill was being debated. President Clinton did not muster the political capital to finish his push for reform, expending much of his political clout on other issues, such as the federal budget and the *North American Free Trade Agreement* (NAFTA), as well as on the political fallout from the *Whitewater scandal*.[226] With the approaching midterm elections, Republicans stopped making concessions and instead positioned the bill's defeat as a means to humiliate the president.[227] Furthermore, the economy had started to improve, and as a result, many constituents were less concerned with reforming healthcare.[228] President Clinton reduced the scope of his envisioned reform, focusing on

[224] "The Health Security Act" H.R. 3600 (November 20, 1993); Jonathan Oberlander, "Learning from Failure in Health Care Reform," *New England Journal of Medicine* 357, no. 17 (October 25, 2007): 1677–1679.

[225] Paul Starr, "What Happened to Health Care Reform?" *American Prospect*, no. 20 (Winter 1995): 20–31; W. A. Zelman, "The Rationale behind the Clinton Health Care Reform Plan," *Health Affairs* 13, no. 1 (Spring 1994): 9–29.

[226] Paul Starr, "What Happened to Health Care Reform?" *American Prospect*, no. 20 (Winter 1995): 20–31.

[227] Ibid.

[228] Ibid.

universal coverage and threatening to veto any bill that did not include it.[229] In the end, no compromise was found, and the Clinton plan died in Congress.[230]

1.7.5 Comprehensive Physician Ownership and Referral Act of 1993 (Stark II)

Stark II expanded the prohibition against self-referrals. Under *Stark II*, the prohibition expanded beyond the restriction of referring to clinical laboratories established in *Stark I* and included restrictions on ten additional areas of designated health services (DHS).[231] *Stark II* was implemented in two phases, the first of which became effective on January 4, 2002.[232] The second phase of Stark II was published in 2004. The effects of Stark II are discussed in Section 3.3.2, "Stark Law."

1.7.6 Health Insurance Portability and Accountability Act of 1996 (HIPAA)

The *Health Insurance Portability and Accountability Act* (HIPAA) was signed into law on August 21, 1996, and encourages the development of health information systems, as well as regulating access to, and safeguarding the privacy of, individually identifiable health information.[233] Under HIPAA, the secretary of HHS is required to put forth standards for the electronic exchange of protected health information, which apply in all covered transactions and extend from providers to billing services and third-party contractors used by the providers.[234] Transactions falling under HIPAA include claims, benefit eligibility inquiries, referral authorization requests, and other transactions for which HHS has established particular standards.[235] A further discussion

---

[229] Ibid.

[230] Ibid.

[231] "Medicare Program: Physician Financial Relationships with, and Referrals to Health Care Entities That Furnish Clinical Laboratory Services and Financial Relationship Reporting Requirements," *Federal Register* 60, no. 156 (August 14, 1995): 41915.

[232] "Medicare Program: Physicians' Referrals to Health Care Entities with Which They Have Financial Relationships (Phase II)," *Federal Register* 69, no. 59 (March 26, 2004): 16055.

[233] "Health Insurance Portability and Accountability Act of 1996," *Pub. L.* 104-191 (August 21, 1996).

[234] Ibid.

[235] "Summary of the HIPAA Privacy Rule," United States Department of Health and Human Services, May 2003, http://www.hhs.gov/ocr/privacy/hipaa/understanding/summary/privacysummary.pdf (accessed May 9, 2012).

of HIPAA can be found in Section 3.5.1, "Health Insurance Portability and Accountability Act (HIPAA)."

1.7.7 Mental Health Parity Act of 1996

The *Mental Health Parity Act* (MHPA) was passed on September 26, 1996, to prevent group health plans from limiting annual or lifetime dollar limits for mental health care. Under the act, the limits applied to mental health benefits must be equal to or greater than any medical or surgical benefits offered under a given plan.[236] The MHPA was superseded by the *Paul Wellstone and Pete Domenici Mental Health and Addiction Equity Act* (MHPAEA) passed in October 2008 (as a rider to the *Emergency Economic Stabilization Act of 2008*), which required full parity for all benefits, not simply annual or lifetime dollar limits.[237]

1.7.8 Balanced Budget Act of 1997

The *Balanced Budget Act of 1997* established Medicare Part C, or *Medicare Advantage*, and the *State Children's Health Insurance Program* (SCHIP). In addition, the act set the civil monetary penalty for violations of the Anti-Kickback Statute at treble damages, or three times the illegal remuneration, plus $50,000 per violation.[238]

1.7.8.1 Medicare Part C (Medicare Advantage) Medicare Part C, also known as *Medicare Advantage*, offers a managed-care alternative to Medicare Parts A and B.[239] After its introduction in the *Balanced Budget Act of 1997*, Medicare-approved private insurance companies were allowed to offer Medicare Part C plans.[240] These plans include the hospital coverage of Medicare Part A and medical coverage of Medicare Part B without the need for Medigap (a privately purchased supplemental coverage to aid with

---

[236] Kaiser Family Foundation, "Timeline: History of Health Reform in the U.S." http://healthreform.kff.org/flash/health-reform-new.html (accessed August 20, 2012).

[237] "Emergency Economic Stabilization Act," *Pub. L.* 110-343, 122 Stat 3881 (October 3, 2008); Senator Paul David Wellstone (D-MN); Senator Pietro Vichi "Pete" Domenici (R-NM).

[238] "The Balanced Budget Act of 1997," *Pub. L.* 105-33, §4304 (August 5, 1997).

[239] "Part C—Medicare + Choice Program: Eligibility, Election, and Enrollment," Social Security Act, § 1851 (43 U.S.C. 1395s-21).

[240] Ibid.

expenses left uncovered under the aforementioned subparts of Medicare).[241] With *Medicare Advantage*, patients would not be liable for payments in addition to their mandatory coverage of all medically necessary services.[242]

1.7.8.2 Children's Health Insurance Program Enacted under the *Balanced Budget Act of 1997*, the *State Children's Health Insurance Program* (SCHIP) (currently known as the Children's Health Insurance Program [CHIP]) is a state-federal partnership that provides assistance to children and pregnant women in families whose income is above the threshold for Medicaid.[243] The CHIP program was reauthorized through the *Children's Health Insurance Program Reauthorization Act of 2009* (CHIPRA) through September 2013.[244] SCHIP CHIPRA extends previous SCHIP coverage to include dental benefits to children under the CHIP program and requires states offering coverage for mental health and substance abuse to have mental health parity.[245] Further information regarding the current CHIP can be found in Section 2.4.2.2, "Children's Health Insurance Program (CHIP, f/k/a SCHIP) Overview."

1.7.8.3 Medicare Payment Advisory Commission Established Under the Balanced Budget Act of 1997, the *Prospective Payment Assessment Commission* (ProPAC) and the *Physician Payment Review Commission* (PPRC), both established in 1986, merged into the *Medicare Payment Advisory Commission* (MedPAC).[246] Still operational today, *MedPAC* encompasses

---

[241] Centers for Medicare and Medicaid Services, "Medigap (Medicare Supplement Health Insurance)," March 26, 2012, http://www.cms.gov/Medicare/Health-Plans/Medigap/index.html?redirect=/Medigap/ (May 14, 2012).

[242] Michelle A. Green and JoAnn C. Rowell, *Understanding Health Insurance: A Guide to Billing and Reimbursement*, 9th ed. (Clifton, NY: Delmar Cengage Learning, 2008), p. 433.

[243] Centers for Medicare and Medicaid Services, "The Children's Health Insurance Program (CHIP): Overview," http://www.cms.hhs.gov/LowCostHealthInsFamChild/ (accessed October 6, 2009).

[244] Kaiser Commission on Medicaid and the Uninsured, "Children's Health Insurance Program Reauthorization Act of 2009 (CHIPRA): Key Facts," February 2009, http://www.kff.org/medicaid/upload/7863.pdf (accessed Oxtober 6, 2009); "Children's Health Insurance Program Reauthorization Act of 2009," H.R.2, §102, February 4, 2009.

[245] Kaiser Commission on Medicaid and the Uninsured, "Children's Health Insurance Program Reauthorization Act of 2009 (CHIPRA): Key Facts."February 2009, http://www.kff.org/medicaid/upload/7863.pdf (accessed October 6, 2009).

[246] Office of Inspector General, "Medicare Hospital Prospective Payment System: How DRG Rates Are Calculated and Updated," Office of Evaluation and Inspections, Region IX, OEI-09-00-00200, August 2001, p. 4.

the duties of both predecessor agencies and is tasked with advising Congress on issues that affect the Medicare program.[247]

1.7.8.4 The Sustainable Growth Rate Established The Medicare Physician Fee Schedule is updated annually by CMS based on a formula mandated in the *Balanced Budget Act of 1997*, which includes application of the *Sustainable Growth Rate* (SGR).[248] The SGR represents a spending target set for total annual expenditures under Medicare on Part B services and provides a calculation for annual adjustments to the Medicare Physician Fee Schedule based on whether actual spending came in above or below the target.[249] Since its inception and particularly since 2002, there has been an intense debate over the need and benefit of the SGR, which, since 2002, has required congressional intervention on an annual basis to prevent calculated decreases to physician payments. For more information on the SGR and the debates concerning its longevity, see Chapter 2, "Reimbursement Environment," and Chapter 6, "Healthcare Reform."

1.7.9 Anti-Kickback Safe Harbors of 1999

In 1999, HHS clarified the existing safe harbors and added eight additional categories to protect investments in areas such as healthcare entities located in underserved areas, ambulatory surgical centers, and group practices.[250] These safe harbors were intended to protect arrangements that "can significantly reduce the cost of Federal health care programs,

---

[247] Ibid., p. 4; Medicare Payment Advisory Commission, "About MedPAC," http://www.medpac.gov/about.cfm (accessed August 23, 2012).

[248] Centers for Medicare and Medicaid Services, "CMS Proposes Payment, Policy Changes for Physicians Services to Medicare Beneficiaries in 2010," Press Release, July 1, 2009, http://www.cms.hhs.gov/apps/media/press/release.asp?Counter=3469 (accessed October 9, 2009).

[249] Congressional Budget Office, "The Sustainable Growth Rate Formula for Setting Medicare's Physician Payment Rates," *Economic and Budget Issue Brief*, September 6, 2006, pp. 2, 4–5, http://www.cbo.gov/ftpdocs/75xx/doc7542/09-07-SGR-brief.pdf (accessed October 9, 2009).

[250] "Medicare and State Health Care Programs: Fraud and Abuse; Clarification of Initial OIG Safe Harbor Provisions and Establishment of Additional Safe Harbor Provisions Under the Anti-Kickback Statute; Final Rule," *Federal Register* 64, no. 223 (November 19, 1999): 63536; Office of Inspector General, "Fact Sheet: Federal Anti-Kickback Law and Regulatory Safe Harbors," HHS, November 1999.

while simultaneously benefiting patients."[251] For more information on the Anti-Kickback Statute and its various safe harbors, see Sections 1.5.1, "Anti-Kickback Statute," in this chapter, and 3.3.1.2.2, "Anti-Kickback Statute Safe Harbors," in Chapter 3, "Regulatory Environment."

1.8 2000–2010

1.8.1 Final HCFA Stark II Regulations

The *Health Care Financing Administration* (HFCA) issued the final *Stark II* regulations in three phases, taking effect in January 2002 through December 2007.[252] The Final Stark II regulations were notable for the changes made to the definition of an "indirect compensation arrangement," so that physicians members, employees, and contractors of the physician organization were now deemed to "stand in the shoes" of the physician organization.[253] Under the *stand in the shoes provisions*, physicians would be deemed to have the same direct compensation arrangement as the physician organization itself.[254] This meant that physician organizations were no longer intervening entities for the purpose of establishing an indirect compensation arrangement, and many designated health services (DHS) entities were forced to restructure to avoid Stark liability.[255] A further discussion of Stark II can be found in Section 3.3.2, "Stark Law."

---

[251] "Medicare and State Health Care Programs: Fraud and Abuse; Clarification of Initial OIG Safe Harbor Provisions and Establishment of Additional Safe Harbor Provisions Under the Anti-Kickback Statute; Final Rule," *Federal Register* 64, no. 223 (November 19, 1999): 63536.

[252] Sonnenschein, Nath, and Rosenthal, LLP, *The Stark Law: A User's Guild to Achieving Compliance* (Marblehead, MA: HCPro, 2009), p. 8.

[253] J. Kelly Barnes, et al., "Phase III Regulations Result in Dramatic Changes to Stark Law," *BNA Health Law Reporter* 16, no. 40 (October 11, 2007): 1220–1248.

[254] Centers for Medicare and Medicaid Services, "Medicare Program: Physicians' Referrals to Health Care Entities with Which They Have Financial Relationships (Phase III)," *Federal Register* 72, no. 171 (September 5, 2007): 51087; J. Kelly Barnes, et al., "Phase III Regulations Result in Dramatic Changes to Stark Law," *BNA Health Law Reporter* 16, no. 40 (October 11, 2007): 1220–1248.

[255] J. Kelly Barnes, et al., "Phase III Regulations Result in Dramatic Changes to Stark Law," *BNA Health Law Reporter* 16, no. 40 (October 11, 2007): 1220–1248; Centers for Medicare and Medicaid Services, "Medicare Program; Physicians' Referrals to Health Care Entities with Which They Have Financial Relationships (Phase III)," *Federal Register* 72, no. 171 (September 5, 2007): 51087.

1.8.2 Implementation of Medicare Hospital Outpatient Prospective Payment System

Section 1833(t) of the SSA, as amended by §4533 of the *Balanced Budget Act of 1997*, expanded CMS authority under Medicare.[256] These sections provide for the implementation of a prospective payment system to include hospital outpatient services, certain Part B services to hospital inpatients who lack Part A coverage, some hospitalization services provided by hospitals and community health centers, Hepatitis B vaccines to certain patients, and initial preventative physical exams.[257] This system was put into effect on August 1, 2000, and made significant changes to hospital reimbursement, including communication, billing, and coding, as well as the organization of patient records.[258]

1.8.3 The Medicare Prescription Drug, Improvement, and Modernization Act (MMA) of 2003

In response to changes in the utilization of, and demand for, U.S. healthcare services and products, the passage of the *Medicare Prescription Drug, Improvement, and Modernization Act* (MMA) of 2003 during the George W. Bush administration resulted in the most significant changes to the Medicare program in the 38 years since its enactment. The MMA introduced several expansions to the Medicare Program. Effective January 1, 2006, *Medicare Part D* created an entitlement benefit for prescription drugs, which had seen drastic increased utilization. Medicare Advantage altered the insurance practices for those private insurers that had previously offered Medicare+Choice plans, allowing insurers to offer Medicare Part D coverage and to restrict patient access and prescription drug choice. The MMA also created *health savings accounts* (HSA), replacing and expanding on medical savings accounts. The controversy of the MMA is that it was largely unfunded, which many say added to the federal deficit and debt. For more information on HSAs, see Section 2.5.2.4, "Health Savings Accounts (HSA)."

---

[256] American Hospital Association, "Outpatient Prospective Payment System," http://www.aha.org/advocacy-issues/medicare/opps/index.shtml (accessed on July 12, 2012).

[257] CMS, "Hospital Outpatient Prospective Payment System; Payment System Fact Sheet Series," February 2012, p. 2.

[258] Ibid.; American Hospital Association, "Outpatient Prospective Payment System." http://www.aha.org/advocacy-issues/medicare/opps/index.shtml (accessed on July 12, 2012).

1.8.4 Deficit Reduction Act of 2005

The *Deficit Reduction Act* (DRA) of 2005 was signed into law on February 8, 2006.[259] The DRA includes broad net reductions to Medicare and Medicaid, as well as a provision requiring proof of citizenship in order to apply for Medicaid and receive benefits.[260] The DRA required the creation of safeguards to assure financial accountability for *Medicare and Medicaid Programs* designed to combat fraud and abuse, in addition to controlling waste.[261] The Congressional Budget Office (CBO) estimated that the DRA would reduce federal Medicaid spending by $11.5 billion by 2010 and $43.2 billion by 2020. Half of the savings in the DRA are provisions concerning premiums and cost sharing, benefits, and asset transfers. These provisions were criticized as also having the potential for the greatest deleterious impact on beneficiaries, who may have more healthcare expenses and less access to care as a result.[262] The passage of the DRA in 2006 resulted in fraud and abuse initiatives, including the Medicaid Integrity Program, and outcome-based reimbursement models emphasizing value, including a mandate that the secretary of HHS develop a *value-based purchasing* program for hospitals, which was established under the ACA and subsequent CMS legislation, as the *Hospital Value-Based Purchasing Program*.[263] For more information on current value-based purchasing

Factoid

The Bureau of Health Professions predicted that, between 2000 and 2020, the U.S. population would increase by 18%. Also, the number of people aged 65 and older is anticipated to account for 13% of the total world population by 2030.

"Trend Watch," American Hospital Association, 2002, p. 62.

[259] "Deficit Reduction Act of 2005," *Pub. L.* 109-171 (February 8, 2006).

[260] Kaiser Commission on Medicaid and the Uninsured, "Deficit Reduction Act of 2005: Implications for Medicaid," February 2006, p. 1

[261] "Deficit Reduction Act of 2005," *Pub. L.* 109-171, 120 Stat 128 (February 8, 2006).

[262] Kaiser Commission on Medicaid and the Uninsured, "Deficit Reduction Act of 2005: Implications for Medicaid," February 2006, p. 1

[263] Frank Sheeder and Keri Tonn, "Deficit Reduction Act: Recent Developments and Implications for Providers," *New Perspectives, Association of Healthcare Internal Auditors* (May 2008): 20, 21; "Deficit Reduction Act of 2005," *Pub. L.* 109-171; Patricia H. Wirth, "Hospital Value-Based Purchasing Is Here—Performance Periods Commence July 1, 2011," *ABA Health eSource* 7, no. 12 (August 2011), http://www.americanbar.org/newsletter/publications/aba_health_esource_home/aba_health_law_esource_1108_wirth.html (accessed August 23, 2012).

and fraud and abuse initiatives, see sections 2.7.1.1.2, "Value-Based Purchasing," and 3.3, "Fraud and Abuse Regulations."

1.8.5 Health Opportunity Patient Empowerment Act of 2006

The *Health Opportunity Patient Empowerment Act of 2006* (H.R. 6134), submitted to Congress on September 21, 2006, amends the 1986 IRS Code to expand health coverage for the public through the provision of high deductible health plans and by encouraging the public to use *health savings accounts* (HSA).[264] Although H.R. 6134 died in Congress, the amendments suggested in the *Health Opportunity Patient Empowerment Act of 2006* were enacted on December 20, 2006, within the *Tax Relief and Health Care Act of 2006*.[265] See Section 2.5.2.4, "Health Savings Accounts (HSA)," for more information of HSAs.

1.8.6 Stark IV

Stark IV refers to the changes made to the Stark Law in the 2009 Inpatient Prospective Payment System.[266] Most notably, Stark IV modified the "stand in the shoes" provision of the Stark Law, changed the definition of "*entity*," and prohibited the per-click leasing arrangements that were previously under four of the exceptions to the Stark Law.[267] For more information on Stark Law, see Section 3.3.2.3 for a further discussion of the regulatory provisions of the Stark IV.

1.8.7 American Reinvestment and Recovery Act of 2009

The *American Recovery and Reinvestment Act* of 2009 (ARRA), signed into law February 17, 2009, amended HIPAA's health information privacy

---

[264] "Health Opportunity Patient Empowerment Act of 2006," H.R. 6134, 109th Congress (September 21, 2006).

[265] "Tax Relief and Health Care Act of 2006," *Pub. L.* 109-432, 120 Stat 2948, §301 (December 20, 2006).

[266] "Medicare Program; Changes to the Hospital Inpatient Prospective Payment Systems and Fiscal Year 2009 Rates; Payments for Graduate Medical Education in Certain Emergency Situations; Changes to Disclosure of Physician Ownership in Hospitals and Physician Self-Referral Rules; Updates to the Long-Term Care Prospective Payment System; Updates to Certain IPPS-Excluded Hospitals; and Collection of Information Regarding Financial Relationships between Hospitals; Final Rule," *Federal Register* 73, no. 161 (August 19, 2008): 48434.

[267] "American Recovery and Reinvestment Act of 2009," *Pub. L.* 111-5, 123 Stat 115 (February 17, 2009).

and security provisions and created funding incentives for the widespread implementation of healthcare information technology, specifically electronic health records (EHR) through the *Health Information Technology for Economic Clinical Health* (HITECH) Act, a portion of the ARRA.[268] These incentives totaled $19.2 billion and require providers to meet meaningful use standards before receiving funding for EHR technology.[269] The definition of *meaningful use* has been further described in several subsequent regulations, predominantly, the Medicare and Medicaid Programs and the *Electronic Health Record Incentive Program*.[270] Provisions in the HITECH Act also protect the privacy and security of personal health information (PHI) through amendments to HIPAA.[271] For further information on the impact of the ARRA and HITECH, see Sections 3.5.3, "Health Information Technology for Economic and Clinical Health (HITECH) Act," and 5.2.2.1, "Trends in EHR Utilization."

1.8.8 Fraud and Abuse Initiatives of 2009

Initiatives to prevent and punish fraud and abuse gained momentum in response to the continued growth in healthcare cost and spending in the late 2000s, resulting in the enactment, on May 20, 2012, of the *Fraud Enforcement and Recovery Act* (FERA), and the establishment of the *Health Care Fraud Prevention and Enforcement Action Team* (HEAT), announced on the same day.[272] Both actions expand the power of the government to examine Medicare claims with the purpose of identifying potential instances of Medicare fraud and ultimately lower the amount spent on the Medicare program (see Section 3.3.3.3, "Fraud Enforcement and Recovery Act [FERA]").

---

[268] Ibid.

[269] Robert Steinbrook, "Health Care and the American Recovery and Reinvestment Act," *New England Journal of Medicine* 360, no. 11 (March 12, 2009): 1, 3.

[270] Ibid.; "Medicare and Medicaid Programs; Electronic Health Record Incentive Program; Final Rule," *Federal Register* 75, no. 144 (July 28, 2010): 44321; "Medicare and Medicaid Programs; Electronic Health Record Incentive Program; Final Rule Correcting Amendment," *Federal Register* 75, no. 249 (December 29, 2010): 81887.

[271] "Health Information Technology for Economic and Clinical Health," found in "American Recovery and Reinvestment Act of 2009," *Pub. L.* 111-5, 123 Stat 260-265 (February 17, 2009).

[272] "Fraud Enforcement and Recovery Act," *Pub. L.* 111-21 (May 20, 2009); United States Department of Justice, "Attorney General Holder and HHS Secretary Sebelius Announce New Interagency Health Care Fraud Prevention & Enforcement Action Team," May 20, 2009, http://www.justice.gov/opa/pr/2009/May/09-ag-491.html (accessed August 21, 2012).

Similarly, the *Dodd-Frank Act*, signed into law on July 21, 2010, expanded protections for whistleblowers to incentivize qui tam actions and discourage fraud and abuse (see Section 3.3.3.5, "Dodd-Frank Act").[273]

1.8.9 Patient Protection and Affordable Care Act (ACA)

Following a period of factious political debate, one of the most significant transformations of U.S. healthcare delivery, the *Patient Protection and Affordable Care Act* (ACA), was signed into law by President Barack Obama on March 23, 2010. The ACA, along with its amendment, the *Health Care and Education Reconciliation Act* (see the next section), is commonly referred to as "healthcare reform" or "Obamacare." The regulation contains many provisions affecting the access, quality, and cost of healthcare (also referred to as the triple aim of healthcare reform), including ACA §3002, the first reference to the *Medicare Shared Savings Program* (MSSP) that governs federal Accountable Care Organizations (ACOs). The ACA is perhaps the most transformative legislation introduced to the healthcare industry since the passage of Medicare and Medicaid in 1965. Its provisions include the formation of *risk pools*, *increased transparency* through *publication of outcomes* and *fraud and abuse audits*, *expanded access* to *affordable insurance*, and expanded access to care (especially, preventative services and primary care providers). Despite the U.S. Supreme Court (SCOTUS) decision that upheld most of the provisions of the ACA, a great deal of confusion and uncertainty remain regarding the future structure of healthcare reform and its impact on the healthcare industry and markets. A detailed analysis of the ACA, the events leading up to its passage, and the SCOTUS decision can be found next and in Chapter 6, "Healthcare Reform."

1.8.10 Health Care and Education Reconciliation Act of 2010

The *Health Care and Education Reconciliation Act* of 2010 modifies several provisions of the ACA regarding Internal Revenue Service codes and employer provisions for health plans. The act includes healthcare provisions that modify individual and employer penalties for choosing not to purchase health insurance and extends parents' healthcare coverage to adult children up to age 26.[274]

---

[273] "Dodd-Frank Wall Street Reform and Consumer Protection Act," *Pub. L.* 111-203, 124 Stat 1854 (July 21, 2010).

[274] "Health Care and Education Reconciliation Act of 2010," *Pub. L.* 111-152 (March 30, 2012).

1.9 ACA CONSTITUTIONALITY CHALLENGED

On June, 28, 2012, SCOTUS handed down its highly anticipated decision upholding most of the 2010 healthcare reform. This opinion addressed two cases, *National Federation of Independent Business v. Sebelius* and *HHS v. Florida*. SCOTUS stunned healthcare industry commentators by relying on a narrow interpretation of federal taxing authority to support its decision. Touted as one of the most significant SCOTUS decisions of this century, the Court's 5 to 4 ruling to uphold the ACA will have repercussions throughout the U.S. healthcare delivery system and the professionals and businesses that operate therein.[275]

A national controversy was ignited on the passage of the ACA, and the "individual mandate" was challenged in court by certain states' attorneys general, who argued that Congress overstepped its bounds to violate both the supremacy and commerce clauses.[276] These states took legal action in *Florida v. HHS*, in which the 26 states disputed the constitutionality of the ACA's *individual mandate* provision and the constitutionality of the ACA itself.[277] Similarly, the *National Federation of Independent Business* filed a suit challenging the constitutionality of the ACA's Medicaid expansion provisions, which require states to expand their Medicaid coverage to 133 percent of the Federal Poverty Line (FPL) or face revocation of *all* federal Medicaid funding.[278] After a series of opposing circuit court decisions, writs of certiorari (the motion filed to argue a case in front of SCOTUS) were filed and approved, to be combined with one final SCOTUS opinion ruling for both of the underlying cases.[279]

---

[275] *National Federation of Independent Business v. Sebelius*, Certiorari to the United States Court of Appeals for the Eleventh Circuit, S.C. Slip Opinion No. 11-393, June 28, 2011.

[276] *National Federation of Independent Business, et al., v. Kathleen Sebelius, Secretary of Health and Human Services, et al.*, Writ of Certiorari, Motion No. 11-393, November 14, 2011; *Florida, et al., v. Department of Health and Human Services, et al.*, Writ of Certiorari, Motion No. 11-400, November 14, 2011; Rich Daly and Jessica Zigmond, "Showdown Gets a Head Start," posted on *Modern Healthcare*, March 26, 2012, http://www.modernhealthcare.com/article/20120324/MAGAZINE/303249947 (accessed August 17, 2012).

[277] *Florida, et al., v. Department of Health and Human Services, et al.*, Writ of Certiorari, Motion No. 11-400, November 14, 2011.

[278] *National Federation of Independent Business, et al., v. Kathleen Sebelius, Secretary of Health and Human Services, et al.*, Writ of Certiorari, Motion No. 11-393, November 14, 2011.

[279] *National Federation of Independent Business v. Sebelius*, Certiorari to the United States Court of Appeals for the Eleventh Circuit, S.C. Slip Opinion Nos. 11-393, 11-398 and, 11-400, 2012 BL 160004, 53 EBC 1513 (U.S. June 28, 2012).

In March 2012, two years after the passage of the ACA, the Court began hearing oral arguments to consider four key questions related to the ACA: (1) whether the individual mandate is a "tax" or a "penalty," thereby addressing the question of the "ripeness" necessary for a constitutional challenge; (2) whether the individual mandate is a violation of the *U.S. Constitution's commerce clause*; (3) whether the individual mandate provision is severable from the rest of the law; and (4) whether the federal requirement that Medicaid coverage be expanded is a violation of the *U.S. Constitution's supremacy clause*.[280]

Ultimately, the June 2012 SCOTUS ruling passed over issues of *ripeness* and, despite agreeing with the argument that the *individual mandate* violated the Constitution's commerce clause, chose to uphold the provision, and the ACA, as an exercise of the *federal taxing power.* SCOTUS held that the "penalty" mandated against those individuals who do not purchase insurance under the individual mandate was a *tax*, as it (1) is paid on filing annual income tax returns; (2) applies only to those individuals who pay federal income tax; (3) takes into account similar factors as taxes, such as number of dependents, joint filing status, and taxable income; and (4) is codified in the Internal Revenue Code and is enforced by the IRS.[281] Chief Justice Roberts stated in his opinion that "the Constitution permits such a tax, it is [therefore] not our role to forbid it, or to pass upon its wisdom or fairness."[282]

Although SCOTUS upheld the provision mandating the expansion of the Medicaid program, the Court did limit Congress's attempt to "pressure" states into participating, comparing the termination of all Medicaid funding to a "gun to the head."[283] SCOTUS found that Congress can offer new funding to entice Medicaid expansion by the states, but cannot withdraw existing funds. In addition, SCOTUS noted that nonparticipation by any number of the states does not invalidate the entire provision, thus upholding its constitutionality within the ACA.[284]

---

[280] Ibid.

[281] *Supreme Court Upholds Individual Mandate, Modifies Medicaid Expansion; ACA Implementation Continues*, Wolters Kluwer Law and Business Briefing, Special Report, June 2012, p. 2.

[282] *National Federation of Independent Business v. Sebelius*, Certiorari to the United States Court of Appeals for the Eleventh Circuit, S.C. Slip Opinion No. 11-393, June 28, 2011, p. 44.

[283] Ibid., p. 51.

[284] *Supreme Court Upholds Individual Mandate, Modifies Medicaid Expansion; ACA Implementation Continues*, Wolters Kluwer Law and Business Briefing, Special Report, June 2012, p. 3.

1.10 CONCLUSION

Many of the healthcare reforms discussed earlier attempt to revitalize the profession of medicine toward the ethical, financial, and productive ideals envisioned by an idealistic public. New movements toward evidence-based medicine, value-based purchasing, and lowering the growth in national health spending as a percentage of GDP are all reflected in many of the legislative efforts mentioned throughout this chapter.

The practice of medicine began as hypothetical thought rooted in religion and superstition and transformed over time into a scientific industry in growing demand. Ultimately, any system's "success" is a function of market control and profit. However, it is widely believed that market competition within the healthcare industry should ultimately also be driven by the ethical duties unique to the medical profession, notwithstanding that business objectives built around these ethical values may conflict with the entrepreneurial objectives that take priority in most other industries.[285] Furthermore, due to the community-based nature of many healthcare services, industry trends are largely driven by public opinion on matters related to health status.[286] As such, perceptions as to the healthcare professional's ethical duties have historically been deeply rooted in the concept of community benefit.[287]

This is not a novel concept or a new point of discussion. In a 1908 publication, *The Doctor's Duty to the State*, the AMA advanced the notion that

> *The doctor's highest duty is to be honest and to fight for honesty in his profession and the state.... He, as others, sees in history the same process exhibited in the remote effects of corporate and governmental vice.... To whom then shall the state look for preservation of its health, to whom shall the state call for help in time of trouble, in whom shall the state place its hope for deliverance.... The honest citizen; and the honest doctor is his best representative.*[288]

---

[285] K. D. O'Rourke and D. Brodeur, *Medical Ethics: Common Ground for Understanding* (St. Louis, MO: Catholic Health Association of the United States, 1986), pp. 38–39.

[286] S. D. Pearson, J. E. Sabin, and E. J. Emanuel, *No Margin, No Mission: Health-Care Organizations and the Quest for Ethical Excellence* (New York: Oxford University Press, 2003), pp. vii–viii.

[287] K. D. O'Rourke and D. Brodeur, *Medical Ethics: Common Ground for Understanding* (St. Louis, MO: Catholic Health Association of the United States, 1986), p. 41.

[288] John B. Roberts, *The Doctor's Duty to the State: Essays on the Public Relations of Physicians* (Chicago: American Medical Association Press, 1908), pp. 9, 31.

Unfortunately, the public's perception of healthcare providers has gradually eroded during the last decade, with patients becoming increasingly distrustful of hospitals, doctors, and drug companies. There is a growing perception that with the increased corporatization of healthcare, there has been a lapse in attention to the healthcare professional's highest ethical duty.[289] Perhaps, the first giant leap toward the *corporatization of medicine* began with the passage of Medicare and Medicaid in 1965; however, many hold that the fate of this transition was sealed in 1989 when Congress approved the use of Hsiao's RBRVS system of reimbursement based on the concept of physician services and units of productivity as a fungible commodity. A consequence of this commoditization was to further drive the *corporatization of medicine* and diminish the role of the physician as a learned professional and a patient advocate and relegate the physician to a role of either sharecropper or employee. Ultimately, the efficacy and wisdom of this new paradigm of the corporatization of medicine will be decided in future generations. Nevertheless, the understanding of this changing paradigm of corporatization is central to any analysis of healthcare industry markets, to the valuation analytical process, and in consideration of the *four pillars of healthcare valuation*.

1.11 KEY SOURCES

The Social Transformation of American Medicine

Paul Starr's work discussing the evolution of American Medicine.

The Social Transformation of American Medicine, by Paul Star, Basic Books, New York, 1982

Oath of Hippocrates

An oath taken by physicians that was originally written by Hippocrates but has been revised multiple times to date.

Original: *The Hippocratic Oath: Text, Translation, and Interpretation,* by Ludwig Edelstein, Johns Hopkins Press, Baltimore, 1943; Modern: *The Hippocratic Oath and the Ethics of Medicine,* by Steven H. Miles, Oxford University Press, New York, 2004

Original: http://guides.library.jhu.edu/content.php?pid=23699&sid=190555; Modern: http://guides.library.jhu.edu/content.php?pid=23699&sid=190964

[289] Russell C. Coile, *Futurescan: A Forecast of Healthcare Trends, 2003–2007* (Chicago: Health Administration Press, 2003), pp. 30, 33.

Centers for Medicare and Medicaid (CMS)

The U.S. federal agency that administers Medicare, Medicaid, and the Children's Health Insurance Program.

"Mission, Vision & Goals," Centers for Medicare and Medicaid, July 17, 2009, http://www.cms.hhs.gov/MissionVisionGoals/ (accessed September 9, 2009)

www.cms.hhs.gov/

The Doctor's Duty to the State

Roberts's work discussing the healthcare professional's state and federal responsibility to community benefit.

The Doctor's Duty to the State, by J. B. Roberts, American Medical Association, Chicago, 1908

American Association for the History of Medicine (AAHM)

Founded in 1925, AAHM is a professional association of historians, physicians, nurses, archivists, curators, and librarians that promotes the research, study, writing, and interest in the history of medicine and allied fields.

AAHM Home, American Association for the History of Medicine, http://www.histmed.org/index.html (accessed August 22, 2012)

http://www.histmed.org

1.12 ACRONYMS

Acronym	Full Title
SCOTUS	Supreme Court of the United States
ACA	Patient Protection and Affordable Care Act
AMA	American Medical Association
ASO	American School of Osteopathy
D.O.	Doctors of Osteopathy
ABMS	American Board of Medical Specialties
BCBSA	Blue Cross Blue Shield Association
AHA	American Hospital Association
ACS	American College of Surgeons
SSA	Social Security Act
SSDI	Social Security Disability Insurance
SGA	Substantial Gainful Activity
OASDI	Old-Age, Survivors, and Disability Insurance
ACP	American College of Physicians

CMA	Canadian Medical Association
JCAH	Joint Commission on Accreditation of Hospitals
HI	Hospital Insurance
SMI	Supplementary Medical Insurance
AKS	Anti-Kickback Statute
CNHI	Committee for National Health Insurance
HMO	Health Maintenance Organizations
GMENAC	Graduate Medical Education National Advisory Committee
OBRA	Omnibus Budget Reconciliation Act
EMTALA	Emergency Medical Treatment and Active Labor Act
COBRA	Consolidated Omnibus Budget Reconciliation Act
DRG	Diagnosis Related Group
PPS	Prospective Payment System
SNF	Skilled Nursing Facility
RBRVS	Resource Based Relative Value System
PPRC	Physician Payment Review Commission
HCFA	Health Care Financing Administration
RVU	Relative Value Unit
CPT	Current Procedural Terminology
CPR	Customary Prevailing and Reasonable
MMPPA	Medicare and Medicaid Patient & Program Protection Act
MPFS	Medicare Physician Fee Schedule
NAFTA	North American Free Trade Agreement
DHS	Designated Health Services
HIPPA	Health Insurance Portability and Accountability Act
MHPA	Mental Health Parity Act
MHPAEA	Mental Health Parity and Addiction Equity Act
SCHIP	State Children's Health Insurance Program
CHIPRA	Children's Health Insurance Program Reauthorization Act
MedPAC	Medicare Payment Advisory Commission
ProPAC	Prospective Payment Assessment Commission
PPRC	Physician Payment Review Commission
SGR	Sustainable Growth Rate
MMA	Medicare Prescription Drug, Improvement, and Modernization Act
HSA	Health Savings Accounts
DRA	Deficit Reduction Act
ARRA	American Recovery and Reinvestment Act
EHR	Electronic Health Records

HITECH	Health Information Technology for Economic Clinical Health
PHI	Personal Health Information
FERA	Fraud Enforcement and Recovery Act
HEAT	Health Care Fraud Prevention and Enforcement Action Team
ACO	Accountable Care Organization
FPL	Federal Poverty Line

CHAPTER 2

Reimbursement Environment

2.1 OVERVIEW

Healthcare reimbursement may be defined as the payment received by providers for the services they render to patients. Most providers will receive

REIMBURSEMENT

Reimbursement is payment for provider services made by patients and third-party payors. Unlike most businesses, healthcare providers may have hundreds of different contracts with payors, each with varying terms and rates for the same services.

"Reimbursements," in Medical Practice Management System, *by Linda Nadeau (Clifton Park, NY: Thomson Delmar Learning, 2007), p. 198; "Financial Environment of Health Care Organizations," in* Essentials of Health Care Finance, *6th ed.," by William O. Cleverley and Andrew E. Cameron (Sudbury, MA: Jones and Bartlett, 2007), pp. 36–37.*

reimbursements for their services from *commercial payors* and other third parties, including, but not limited to, *patients*, *employers*, *insurance companies*, and *government agencies*.[1] The reimbursement levels set by federal and state *government payors* often act as *benchmarks* for all reimbursement schemes. As the largest payor of healthcare in the United States, the *federal government* has a significant impact on the potential *expectation of future return on investment* through (1) stringent provider *reimbursement regulation*; (2) regulation of the very *existence of provider entities*; (3) how providers can be *organized* and *operated*; (4) the *products* and *services* that providers may offer; and (5) the types of *technology* and *supplies* that providers may use.[2]

U.S. healthcare expenditures have exceeded general inflation for the last 20 years and in 2011 totaled $2.7 trillion, or 17.9 percent of the *U.S. Gross Domestic Product* (GDP).[3] In an attempt to combat rising costs, private payors, the federal government, and the states have each implemented

[1] Linda Nadeau, *Medical Practice Management System* (Clifton Park, NY: Thomson Delmar Learning, 2007), p. 198.

[2] Stephen C. Schoenbaum, Anne-Marie J. Audet, and Karen Davis, "Obtaining Greater Value from Health Care: The Roles of the U.S. Government," *Health Affairs* 22, no. 6 (November/December 2003): 184–188.

[3] Neil Versel, "IT Investments for Naught Unless They Cut Healthcare Costs, Says Greenspan," Healthcareitnews.com, April 09, 2009, http://www.healthcareitnews.com/news/it-investments-naught-unless-they-cut-healthcare-costs-says-greenspan (accessed August 26, 2009); Centers for Medicare and Medicaid Services, "National Health Expenditure Projections 2011–2021," January 2012, http://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/NationalHealthExpendData/Downloads/Proj2011PDF.pdf (accessed July 6, 2012).

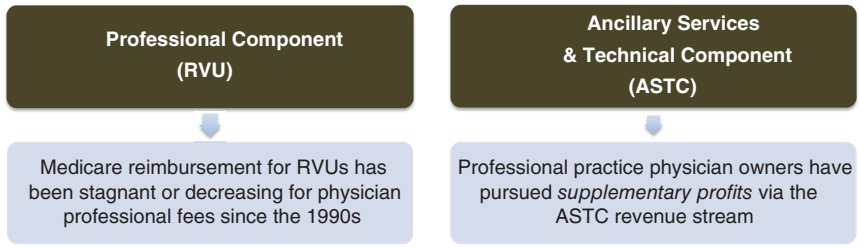


EXHIBIT 2.1 The Two Revenue Streams of Healthcare

(1) *prospective payment systems* (PPS), (2) *controlled fee schedules*, and (3) *selective contracting*, and (4) have pursued *managed care approaches* to *population health coverage*. However, to date, limited success in slowing this continued growth of costs has been achieved, and healthcare expenditures are projected to reach 24 percent of GDP by 2037.[4] Similarly, one of the aims of the 2010 *Patient Protection and Affordable Care Act* (ACA) is to reduce and control the rise in costs associated with healthcare, while improving health outcomes by (1) implementing and increasing the *coordination of care*; (2) *bundling* provider payments; (3) pursuing *value-based purchasing* initiatives; and (4) allowing providers to receive a *share* of the savings attributable to achieving specific cost-cutting efforts.

It should be noted that essentially, there are two *distinct types of revenue streams* for medical services in the healthcare industry, that is, a *professional services component* (work RVU) and an *ancillary services and technical component* (ASTC). These two types of revenue are illustrated in Exhibit 2.1.

For more information on these two distinct revenue streams, see Section 2.4.1.2, "Professional Component versus Ancillary Services and Technical Component."

2.2 HEALTHCARE REVENUE CYCLE

In healthcare, the term *revenue cycle* describes the process by which providers:

1. *Schedule patients*;
2. *Diagnose*, *code*, and *document* patient clinical conditions presented;

[4] Alma Koch, *Introduction to Health Services* (Clifton Park, NY: Thomson Delmar Learning, 2008), p. 106; Congressional Budget Office, "The 2012 Long-Term Budget Outlook," Pub. No. 4507, June 2012, p. 3.

Revenue Cycle

The revenue cycle is the process by which a provider practice schedules patients, diagnoses conditions, documents diagnoses, bills payors, and collects billable charges from the payor and the patient to recover revenue for the services provided.

"The Revenue Cycle," in Financial Management of the Medical Practice, *2nd ed., by Max Reiboldt, CPA, and the Coker Group (Roswell, GA: American Medical Association, 2002), pp. 12–14.*

3. Bill both *primary and secondary payors*;
4. Complete *claims resolutions*; and
5. Pursue the *collection of revenue* from billable charges for goods and services rendered from both third-party payors and patients.[5]

An illustration of the *revenue cycle in healthcare* is set forth in Exhibit 2.2.

2.2.1 Step 1: Scheduling and Registration

In healthcare, the *revenue cycle* typically begins when a *patient schedules* his or her *appointment*, the importance of which should not be underestimated, as the *provider-patient relationship* and a healthy *revenue cycle* depend on it.[6] A key element of the *revenue cycle* is an effective *registration system* that accurately *collects patient information* to avoid *erroneous* or *omitted* information, which could delay reimbursement.[7] To ensure *revenue maximization*, the patient's *demographic information*, *eligibility status*, and *preauthorization requirements* should be verified at every *patient encounter* and before the patient receives services in order to avoid the potential denial of a claim.[8] Appropriate *scheduling software*

[5] Max Reiboldt and the Coker Group, *Financial Management of the Medical Practice*, 2nd ed. (Chicago: American Medical Association, 2002), pp. 12–14.

[6] Linda Nadeau, *Medical Practice Management System* (Clifton Park, NY: Thomson Delmar Learning, 2007), p. 96.

[7] Max Reiboldt and the Coker Group, *Financial Management of the Medical Practice*, 2nd ed. (Chicago: American Medical Association, 2002), p. 12.

[8] Ibid.

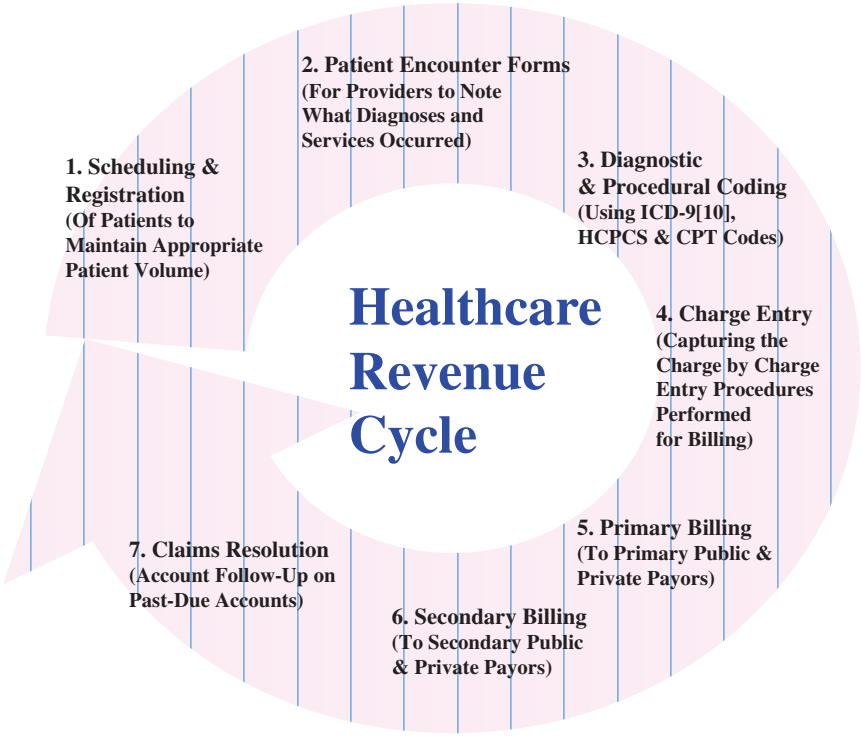


EXHIBIT 2.2 The Healthcare Revenue Cycle

is designed to assist with appointment *volume management* and *patient throughput* to enhance *provider productivity*, which is critical to any successful enterprise.[9]

2.2.2 Step 2: Patient Encounter Forms

Before services are *coded* for the *billing process*, providers must note the *principal* and *related diagnoses* and must document, with specificity, the *nature* and *scope* of services rendered during a patient encounter.[10]

[9] Linda Nadeau, *Medical Practice Management System* (Clifton Park, NY: Thomson Delmar Learning, 2007), p. 96.

[10] Cynthia Newby, *From Patient to Payment: Insurance Procedures for the Medical Office*, 3rd ed. (Columbus, OH: Glencoe/McGraw-Hill, 2002), p. 28.

Superbills and Charge Tickets

Another name for a patient encounter form.

From Patient to Payment: Insurance Procedures for the Medical Office, *3rd ed., by Cynthia Newby (Columbus, OH: Glencoe/McGraw-Hill, 2002), p. 31.*

Providers document *patient history* and *responses*, *diagnoses*, *procedures performed*, and *follow-up information* on either a paper or an electronic form, known as a *patient encounter form*, *superbill,* or *charge ticket*. This information may be incorporated into a patient's *electronic medical record* (EMR).[11]

2.2.3 Step 3: Diagnostic and Procedural Coding

Reimbursement amounts are often determined through *coding* the treatment information contained in a patient's medical record.[12] The *Health Insurance Portability and Accountability Act of 1996* (HIPAA) requires providers to *classify* both *diagnoses* and *clinical procedures*, choosing between several *coding systems*.[13] For more information on HIPAA and the law's impact on healthcare delivery, see Section 3.5.1, "Health Insurance Portability and Accountability Act (HIPAA)," in Chapter 3, "Regulatory Environment."

Factoid

The most commonly implemented coding systems include ICD-9, HCPCS, ICD-10, CPT-4, CDT, and the NDC.

"Overview: Transaction Code Sets Standards," by Centers for Medicare and Medicaid, April 26, 2009, http://www.cms.hhs.gov/TransactionCodeSetsStands/ (accessed September 15, 2009).

[11] Ibid., p. 31.

[12] William O. Cleverley and Andrew E. Cameron, *Essentials of Health Care Finance*, 6th ed. (Sudbury, MA: Jones and Bartlett Publishers, 2007), p. 17.

[13] Centers for Medicare and Medicaid, "Overview: Transaction Code Sets Standards," April 26, 2009, http://www.cms.hhs.gov/TransactionCodeSetsStands/ (accessed September 15, 2009).

Factoid

Providers typically bill for a professional component (PC), technical component (TC), or the global diagnostic code (PC + TC) when billing for diagnostic services.

"Medicare Program; Payment Policies Under the Physician Fee Schedule and Other Revisions to Part B for CY 2010; Proposed Rule," 74 Federal Register *(July 13, 2009): 33526.*

REIMBURSEMENT CODES

Numerical codes specified the type of procedure or diagnosis (different codes for each). Common code systems include CPT, ICD, and HCPCS.

"Overview: Transaction Code Sets Standards," by Centers for Medicare and Medicaid, April 26, 2009, http://www.cms.hhs.gov/TransactionCodeSetsStands/ (accessed September 15, 2009).

2.2.3.1 Diagnostic Coding *Diagnostic codes* are a numerical representation of the provider's *observations* and *conclusions* as to what health problem(s) or primary diagnoses the patient presents during a particular *patient encounter.* If a patient is treated for more than one condition, there may be both *primary* and *secondary* diagnoses, although if the secondary condition would affect the *treatment* or the *recovery* of the *primary diagnosis*, it is classified as a *coexisting condition* and must be coded as such under the *primary*

DIAGNOSIS RELATED GROUP (DRG)

Diagnosis related groups (DRGs) categorize patients in hospitals based on the relative intensity of services related to that diagnosis. Patients are typically classified based on their admitting diagnosis, which are grouped with other diagnoses into a DRG so that the hospital can identify groups of patients that require roughly the same amount of resources.

Health Law: Cases Materials and Problems, *3rd ed., by Barry R. Furrow, et al. (St. Paul, MN: West Publishing, 1997), pp. 845–846.*

International Classification of Diseases, Ninth Revision (ICD-9)

The ICD-9 system has codes that supply the payor with information regarding both the patient diagnosis and the procedures performed in treating the diagnosis. HIPAA requires all healthcare providers to use the ICD-9 codes when reporting diagnosis information to payors. In addition, HIPAA requires that hospitals use the ICD-9 procedural codes when reporting information to payors detailing the treatment of hospital inpatients.

"Billing and Coding for Health Services," in Essentials of Health Care Finance, *6th ed., by William O. Cleverley and Andrew E. Cameron (Sudbury, MA: Jones and Bartlett, 2007), p. 17.*

International Classification of Diseases, Tenth Revision (ICD-10)

In early 2009, the United States Department of Health and Human Services (HHS) announced a final rule that called for the replacement of the current ICD-9 code set used to report healthcare diagnoses and procedures with the ICD-10 code set by October 1, 2013. The adoption of the new system offers several benefits, including the facilitation of quality data reporting, support for pay for performance payment methodologies, improved billing accuracy, and allowances for international comparison of the incidence and spread of disease.

"Health Insurance Reform: Modifications to the Health Insurance Portability and Accountability Act (HIPAA); Final Rule," by the Department of Health and Human Services, Federal Register, *45 CFR Part 162, vol. 74, no. 11 (January 16, 2009): 3328; "Switching to ICD-10: The Impact on Physicians," by Lindsay Law and Mary Ann Porucznik, American Academy of Orthopaedic Surgeons/American Association of Orthopaedic Surgeons, AAOS.org, February 2009, http://www.aaos.org/news/aaosnow/feb09/reimbursement1.asp (accessed August 9, 2009); "News Release: HHS Issues Final ICD-10 Code Sets and Updated Electronic Transaction Standards Rules," by CMS Office of Public Affairs, HHS.gov, January 15, 2009, http://www.hhs.gov/news/press/2009pres/01/20090115f.html (accessed August 9, 2009).*

diagnosis.[14] *Diagnostic codes* are established within the *International Classification of Diseases and Related Health Problems*, *9th Revision* (ICD-9), soon to be replaced by the ICD-10.

The ICD was developed in 1893 to track *mortality statistics*. The ICD system is used worldwide for (1) *mortality and morbidity statistics*; (2) *reimbursement systems*; and (3) *automated decision support*.[15] The current ICD-9 system, in place since 1979, uses a *five-digit numeric coding system*, with 4,000 *diagnostic codes* and 14,000 *change codes* (modifiers).[16] The *International Classification of Diseases, Clinical Modification* (*ICD-9-CM*), uses the mortality statistics published in the ICD and creates codes for *inpatient* and *outpatient* healthcare settings.[17]

2.2.3.1.1 Shift from ICD-9 to ICD-10 Coding In early 2009, the *U.S. Department of Health and Human Services* (HHS) published a Final Rule that called for the replacement of the current *ICD-9 code* set with the *ICD-10 code*, with a deadline for full implementation of October 1, 2014.[18] The adoption of the new ICD-10 system offers several benefits, including (1) the facilitation of *quality data reporting*; (2) support for *pay-for-performance* payment methodologies; (3) improved *billing accuracy*; and (4) allowances for *international comparison* of the incidence and spread of disease.[19]

---

[14] Cynthia Newby, *From Patient to Payment: Insurance Procedures for the Medical Office*, 3rd ed. (Columbus, OH: Glencoe/McGraw-Hill, 2002), p. 52.

[15] World Health Organization, "History of the Development of the ICD" http://www.who.int/classifications/icd/en/ HistoryOfICD.pdf (accessed December 2, 2011).

[16] Marianne Aiello, "ICD-10: Mandate and Opportunity," HealthLeaders Media, November 2011, http://www.healthleadersmedia.com/print/QUA-272629/ICD10-Mandate (accessed December 2, 2011).

[17] Centers for Disease Control and Prevention, "Classification of Diseases, Functioning, and Disability," August 27, 2012, http://www.cdc.gov/nchs/icd.htm (accessed September 20, 2012).

[18] Department of Health and Human Services, "Health Insurance Reform: Modifications to the Health Insurance Portability and Accountability Act (HIPAA); Final Rule," *Federal Register*, 45 CFR Part 162, vol. 74, no. 11 (January 16, 2009): 3328; "Administrative Simplification: Adoption of a Standard for a Unique Health Plan Identifier; Addition to the National Provider Identifier Requirements; and a Change to the Compliance Date for the International Classification of Diseases, 10th Edition (ICD-10-CM and ICD-10-PCS) Medical Data Code Sets: Final Rule," 45 CFR Part 162 (Pre-*Federal Register* Publication), August 24, 2012.

[19] Centers for Medicare and Medicaid Services, "HHS Issues Final ICD-10 Code Sets and Updated Electronic Transaction Standards Rules," News Release (January 15, 2009), http://www.hhs.gov/news/press/2009pres/01/20090115f.html (accessed August 9, 2009).

Factoid

CMS estimates that the total costs associated with the ICD-10 conversion may reach $640 million in 2013 alone.

"HIMSS: Hospitals Will Have to Shell Out Millions for ICD Conversion," by Kaitlyn Dmyterko, CMIO, October 12, 1011, http://www.cmio.net/index.php?option=com_articles&article=29 929 (accessed November 29, 2011).

Despite the perceived benefits of *the ICD-10 system*, the *conversion* may present challenges for many providers, since it will require compete *electronic health records* (EHR) implementation and, most likely, significant *capital spending*. For more information on *electronic health records* and the transition to the *ICD-10 system*, see Section 5.2.2, "Electronic Health Records," in Chapter 5, "Technology."

2.2.3.2 Procedural Coding Procedure codes are used to *identify* and *classify* medical services, including *surgical procedures* and *diagnostic tests*, as well as *evaluation and management* (E/M) codes for patient visits and examinations.[20] While ICD-9 is universally used for classifying *diagnoses* in healthcare service settings, *procedural* reporting is not as straightforward. *Procedural coding* depends on (1) whether the designated provider is a *physician* or a *facility*; and (2) in the circumstance of a facility provider, whether the service was performed within an *inpatient* or an *outpatient* setting. Services submitted for payment on a claim must be *linked*, by way of an appropriate *procedure code* that corresponds to the *diagnostic reasoning* behind the claim.[21] This *code linkage* is used by payors to evaluate the *medical necessity* of the reported charges.[22] The most commonly implemented *procedural coding systems* include (1) the *Healthcare Common Procedure Coding System* (HCPCS), for classifying *ancillary services and procedures*; (2) the *Current Procedural Terminology* (CPT), for physician procedures in both *inpatient* and *outpatient* settings; (3) the *ICD-9 Procedure Coding System* (*ICD-9-PCS*), for procedure reporting in hospital inpatient settings; (4) the

[20] Cynthia Newby, *From Patient to Payment: Insurance Procedures for the Medical Office*, 3rd ed. (Columbus, OH: Glencoe/McGraw-Hill, 2002), p. 48.

[21] William O. Cleverley and Andrew E. Cameron, *Essentials of Health Care Finance*, 6th ed. (Sudbury, MA: Jones and Bartlett, 2007), p. 17.

[22] Cynthia Newby, *From Patient to Payment: Insurance Procedures for the Medical Office*, 3rd ed. (Columbus, OH: Glencoe/McGraw-Hill, 2002), p. 48.

HEALTHCARE COMMON PROCEDURE CODING SYSTEM (HCPCS)

The HCPCS coding system provides the payor with information in regard to the procedures performed in the treatment of patients. The system does not relay diagnosis information. HCPCS codes are used by hospitals to report information on procedures performed for outpatient services and by physicians to report information in connection with the performance of procedures in both inpatient and outpatient settings. There are two HCPCS levels: Level I codes are referred to as Current Procedural Terminology (CPT) codes, and Level II codes are temporary codes used to represent services, supplies, and procedures for which CPT codes do not yet exist.

"Billing and Coding for Health Services," in Essentials of Health Care Finance, *6th ed., by William O. Cleverley and Andrew E. Cameron (Sudbury, MA: Jones and Bartlett, 2007), p. 18.*

National Drug Codes (NDC), which provides a list of all pharmaceuticals; and (5) the *Current Dental Terminology* (CDT), for dental procedures.[23]

2.2.3.2.1 Current Procedural Terminology (CPT) *Current Procedural Terminology* (*CPT*) is a system developed and published by the *American Medical Association* (AMA) in 1966 that is used by providers to report information to payors about the services and procedures provided to patients.[24] In 1983, in its fourth edition (published in 1977), CPT codes were added to the *Health Care Financing Administration*'s (HCFA)—currently, the *Centers for Medicare and Medicaid Services* (CMS)—HCPCS coding

[23]U.S. Food and Drug Administration, "National Drug Code Directory," September 10, 2012, http://www.fda.gov/Drugs/InformationOnDrugs/ucm142438.htm (accessed September 20, 2012); Centers for Medicare and Medicaid, "Overview: Transaction Code Sets Standards," April 26, 2009, http://www.cms.hhs.gov/TransactionCodeSetsStands/ (accessed September 15, 2009).

[24]Centers for Medicare and Medicaid Services, "CPT Process—How a Code Becomes a Code: How Was CPT Developed?" http://www.ama-assn.org/ama/pub/physician-resources/solutions-managing-your-practice/coding-billing-insurance/cpt/cpt-process-faq/code-becomes-cpt.page (accessed August 27, 2012); Denise L. Knaus, *Medicare Rules & Regulations: A Survival Guide to Policies, Procedures and Payment Reform* (Los Angeles: PMIC, 1998), pp. 4, 106.

CURRENT PROCEDURAL TERMINOLOGY (CPT)

Current Procedural Terminology (CPT) is a system developed by the AMA that is used by providers to report information to patients and insurers about services and procedures provided to patients.

"CPT Coding," in Understanding Health Insurance: A Guide to Billing and Reimbursement, *9th ed., by Michelle A. Green and JoAnn C. Rowell (Clifton, NY: Delmar Cengage Learning, 2008), p. 191.*

system and required to be used for all *Medicare billing*. Similarly, in 1986, state Medicaid agencies were required to use the HCPCS coding system and therefore CPT codes.[25] In response to the *Medicare Prescription Drug, Improvement, and Modernization Act of 2003* (MMA), CMS adopted regulations that require that "new, revised, and deleted CPT codes be implemented," on the first day of January each year.[26]

The current CPT system divides the established codes among six sections that differentiate between various *types of procedures*, including (1) *evaluation and management* (E/M); (2) *anesthesiology*; (3) *surgery*; (4) *radiology*, including *nuclear medicine* and *diagnostic ultrasound*; (5) *pathology* and *laboratory*; and (6) *medicine*, excluding anesthesiology.[27] E/M codes are used to classify patient visits where providers *assess* and *manage patients' health*. To provide structure to this vague definition, E/M codes are subdivided by (1) *type of service*; (2) *place of service*; (3) and *patient's status*.[28] The divisions used to distinguish various E/M codes are illustrated in Exhibit 2.3.

Office visits include *patient encounters* at *physician offices* and *outpatient* or *ambulatory facilities*.[29] The distinction between *new* and *established* patients is determined by whether a patient has received a *professional service*,

[25] Centers for Medicare and Medicaid Services, "CPT Process—How a Code Becomes a Code: How Was CPT Developed?" http://www.ama-assn.org/ama/pub/physician-resources/solutions-managing-your-practice/coding-billing-insurance/cpt/cpt-process-faq/code-becomes-cpt.page (accessed August 27, 2012).

[26] Centers for Medicare and Medicaid Services, "Fee Schedule Administration and Coding Requirements: Deleted HCPCS Codes/Modifiers," *Medicare Claims Processing Manual*, chapter 23, Section 20.4, February 6, 2004.

[27] Michelle Abraham, et al., *Current Procedural Terminology: Professional Edition 2012*, 4th ed, rev. (Chicago: American Medical Association, 2011), p. x.

[28] Ibid., p. 4.

[29] Ibid., p. 11.

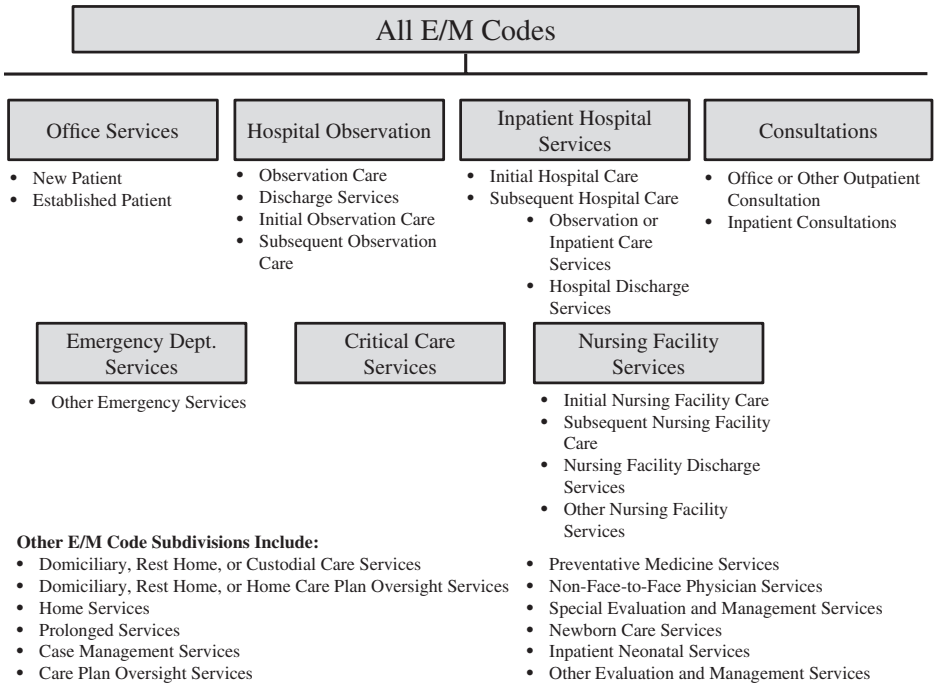


EXHIBIT 2.3 E/M Code Subdivisions
Current Procedural Terminology: Professional Edition 2012, 4th ed., revised, by Michelle Abraham, et al. (Chicago: American Medical Association, 2011), pp. 11–41.

that is, a *face-to-face patient encounter* that was billed for by the provider, from a provider, or from another provider of the *same specialty* belonging to the *same group practice*, within the last three years. For services rendered outside of an *office*, a *domiciliary rest home*, or a *home health setting*, patients are still labeled *new* or *established*; however, the code used is unaffected, except in an *emergency department*, where no distinction is required.[30] Of note, *consultations* are applicable only to those E/M services performed at the request of another provider.[31] In determining the current coding for each E/M service, providers must determine the *level of complexity*—that is, *straightforward*, *low complexity*, *moderate complexity*, or *high complexity*—required for establishing a *diagnosis* or selecting a *care management option*. Determinants of *complexity* include (1) the number of *options available*; (2) the *amount of*, and the *complexity of*, the *patient's medical record/history*; and (3) the *risk of complications*, morbidity, mortality, and/or comorbidities with the patient's

[30] Ibid., p. 21.

[31] Ibid., p. 18.

TABLE 2.1 Assignment of a Complexity Level for E/M Services

Level of Complexity	Number of Options Available	Amount of, and Complexity of, the Data to Be Reviewed	Risks Associated with a Particular Case
Straightforward	Minimal	None—Minimal	Minimal
Low Complexity	Limited	Limited	Low
Moderate Complexity	Multiple	Moderate	Moderate
High Complexity	Extensive	Extensive	High

Current Procedural Terminology: Professional Edition 2012, 4th ed., revised, by Michelle Abraham, et al. (Chicago: American Medical Association, 2011), p. 10.

current condition, the diagnosis, or the selected care management option. Each *level of complexity* for a given service is associated with its own CPT code, as well as being associated with the typical amount of time the provider must spend with the patient.[32] Of note, *complexity* determinations are not *modifiers* (discussed later); rather, they are determinants of individual E/M codes. The assignment of a *complexity level*, based on various circumstances for a given procedure, is set forth in Table 2.1.

The remaining five of the six categories of CPT codes are divided by the *location* on the patient's body where the procedure is performed and/or the *type of procedure* being performed.[33] In 2010, E/M codes accounted for approximately $33.5 billion of *Medicare Part B* Payments. Due, in part, to the vague nature of E/M services, in comparison to other procedure codes, and the addition of provider determinations of complexity, E/M billing is associated with a higher incidence of *fraud and abuse*, making claims for E/M services a target for billing audits.[34]

The procedures included under these six sections and their associated codes are referred to as *Category I* codes. *Category II and III* codes are *supplementary*, that is, they are used in addition to the appropriate main *Category I* code. *Category II* codes are optional and account for *performance assessment* and *quality improvement* activities with a four-digit numerical code, as well as describing *patient characteristics* with an alphabetic fifth character. *Category III* codes are *temporary* and are assigned to *emerging medical technologies*, *services*, and *procedures*. In addition to these optional codes, providers must also bill using appropriate *modifiers*.

[32] Ibid., p. 10.

[33] Ibid., pp. 43, 57–58, 357–359, 399, 453–555.

[34] Office of the Inspector General, "Coding Trends of Medicare Evaluation and Management Services," OEI-04-10-00180, May 2012, p. 13.

In addition to the base procedure codes, the CPT system includes *modifiers*, which are two-digit codes added to the five-digit CPT codes to further clarify the services and procedures performed.[35] Modifiers may be added to CPT codes for several reasons, including that the procedure was (1) performed more than once; (2) performed by more than one physician; (3) performed exclusively for a professional service; and/or (4) discontinued due to threats to the patient's health.[36] Both the AMA and the CMS update the list of modifiers on a continual basis.[37] For more information of the coding update process, see the unnumbered subhead "AMA/Specialty Society Relative Value Scale Update Committee," listed under Section 2.4.1.3.2.6, "Physician Reimbursement and Billing: The Resource-Based Relative Value Scale (RBRVS)."

There are often multiple combinations of HCPCS and CPT codes for a particular procedure.[38] Providers are not allowed to separate, or "unbundle," codes for different components of a comprehensive procedure if there is a code for the entire procedure.[39] The practice by providers of *unbundling* CPT codes in an effort to receive higher reimbursement payments led CMS to develop the *National Correct Coding Initiative* (*NCCI*) in 1994, administered by AdminaStar Federal, the Indiana Medicare carrier that was

Modifier

A code that is added to a base code (for example, DRG or CPT) to take into account a circumstance that may affect the cost of care.

Decoding the Codes: A Comprehensive Guide to ICD, CPT and HCPCS Coding Systems, *by Alex Toth (New York: McGraw-Hill, 1998), p. 52.*

[35] Alex Toth, *Decoding the Codes: A Comprehensive Guide to ICD, CPT and HCPCS Coding Systems*, (New York: McGraw-Hill, 1998), p. 52.

[36] Denise L. Knaus, *Medicare Rules & Regulations: A Survival Guide to Policies, Procedures and Payment Reform* (Los Angeles: PMIC, 1998), pp. 135–144.

[37] Michelle A. Green and JoAnn C. Rowell, *Understanding Health Insurance: A Guide to Billing and Reimbursement*, 9th ed. (Clifton, NY: Delmar Cengage Learning, 2008), p. 202.

[38] Centers for Medicare and Medicaid Services, "National Correct Coding Initiative Policy Manual for Medicare Services," 2012, http://www.cms.gov/Medicare/Coding/NationalCorrectCodInitEd/Downloads/NCCI_Policy_Manual.zip (accessed August 20, 2012), p. I-1.

[39] Centers for Medicare and Medicaid Services, "Introduction," in *National Correct Coding Initiative Policy Manual for Medicare Services*, 2008, p. xii.

awarded the HCFA contract to standardize national coding procedures as a step in addressing improper coding.[40] The edits that AdminaStar completed are now nationally recognized and were included in the *National Correct Coding Initiative Coding Policy Manual for Medicare Services*.[41] NCCI denies claims where (1) a pair of codes are reported together, despite one of the two codes representing a component procedure that is captured under the other code; or (2) the two described procedures cannot possibly be performed together.[42] The *NCCI Policy Manual* lists those HCPCS/CPT codes that cannot be reported together, unless a NCCI-associated modifier is available in a clinically appropriate manner.[43]

Diagnostic services that are necessary to establish a patient diagnosis, for example, blood tests and imaging, are captured within the *procedural coding system* and often include both a *professional fee component* and a *technical component* (see Section 2.4.1.2, "Professional Component versus Ancillary Services and Technical Component," further on). Providers may bill separately for each component, or for both, under a bundled *global diagnostic code*, which is a combination of both the *professional fee* and *technical components*.[44] If reporting is done with a *global diagnostic code*, reimbursement may or may not be equal to the sum of the *professional* and *technical* components that could have been billed separately for the services.[45]

Several recent *federal*, *state*, and *commercial payor* reimbursement initiatives require *bundling* of those procedures that are generally performed during one *episode of care*. *Bundling* can include either (1) the submission of *all related codes* for an *episode of care* for *one reimbursement payment*, or (2) the submission of *one code* encompassing all of the *related procedures for one reimbursement payment*. A further discussion of *bundling* is provided in Section 2.7.1.1.1, "Bundled Payments."

---

[40] Ibid., p. x.

[41] Blue Cross Blue Shield of Alabama, "National Correct Coding Initiative (NCCI)," July 1, 2010, http://www.bcbsal.org/providers/newPaymentMethodology/nationalCorrectCodingInitiative.pdf (accessed August 27, 2012).

[42] Centers for Medicare and Medicaid Services, "National Correct Coding Initiative Policy Manual for Medicare Services," 2011, http://www.cms.gov/Medicare/Coding/NationalCorrectCodInitEd/Downloads/NCCI_Policy_Manual.zip (accessed August 20, 2012), pp. I-1–I-2.

[43] Ibid.

[44] "Medicare Program; Payment Policies Under the Physician Fee Schedule and Other Revisions to Part B for CY 2010; Proposed Rule," *Federal Register* 74, no. 132 (July 13, 2009): 33526.

[45] Ibid.

TABLE 2.2 HIPAA Designated Coding

	Inpatient		Outpatient	
	Diagnosis	**Procedure**	**Diagnosis**	**Procedure**
Physician	ICD-9-CM	CPT	ICD-9-CM	CPT
Facility	ICD-9-CM	ICD-9-CM	ICE-9-CM	HCPCS (CPT & HCPCS Level II)

Essentials of Health Care Finance, 6th ed., by William O. Cleverley and Andrew E. Cameron (Sudbury, MA: Jones and Bartlett Publishers, 2007), p. 18.

2.2.3.3 The Link between Diagnostic and Procedural Coding As mentioned earlier, billed charges must be *medically necessary* to survive scrutiny by payors. Therefore, providers must select the *appropriate procedure* for a *given diagnosis* and submit the *appropriate codes* for each diagnostic and procedural service. The coding systems typically used for services provided by a specific *provider type* within a specific *provider setting* are illustrated in Table 2.2.

2.2.4 Step 4: Charge Entry

On completion of the *coding* and *documentation* process, "the revenue cycle moves from the clinical side to the business side."[46] *Capturing the charge* entails the transfer of the provider's coding and documentation to an actual bill or claim.[47]

To improve *charge capture* and *revenue generation*, more technologically advanced providers have begun using *personal digital assistants* (PDAs) to *capture charges*. The *electronic capture systems* are then tied into the enterprise's *practice management system*, a computer system designed to (1) collect *registration* and *insurance information*, (2) *facilitate billing* and *collections*, (3) and perform other operational functions so that charges can be downloaded and posted electronically. These systems help reduce errors that may occur in the *charge capture process* and reduce the *time* between *service* and *charge entry.*[48]

[46] Max Reiboldt and the Coker Group, *Financial Management of the Medical Practice*, 2nd ed. (Chicago: American Medical Association, 2002), p.13.

[47] Max Reiboldt and the Coker Group, "The Revenue Cycle," in *Financial Management of the Medical Practice*, 2nd ed. (Chicago: American Medical Association, 2002), p. 13.

[48] Deborah L. Walker, Sara M. Larch, and Elizabeth W. Woodcock, *The Physician Billing Process: Avoiding Potholes in the Road to Getting Paid* (Englewood, CO: Medical Group Management Association, 2004), pp. 51, 170.

Charge Capture

Charge capture entails the transfer of the provider's coding and documentation to the actual bill. Providers are tasked with recording the appropriate procedure and diagnosis codes on an encounter form, and the business staff is responsible for ensuring that the encounter form is accurate and then using it to bill patients and third-party insurers.

"The Revenue Cycle," in Financial Management of the Medical Practice, *2nd ed., by Max Reiboldt and the Coker Group (Roswell, GA: American Medical Association, 2002), p. 13; "Pothole 3: The Charge Capture and Charge Entry Process," in* The Physician Billing Process: Avoiding Potholes in the Road to Getting Paid, *by Deborah L. Walker, Sara M. Larch, and Elizabeth W. Woodcock (Englewood, CO: Medical Group Management Association, 2004), p. 57.*

PRACTICE MANAGEMENT SYSTEM

A computer system designed to collect registration and insurance information, facilitate billing and collections, and perform other operational functions so that charges can be downloaded and posted electronically.

The Physician Billing Process: Avoiding Potholes in the Road to Getting Paid, *by Deborah L. Walker, Sara M. Larch, and Elizabeth W. Woodcock (Englewood, CO: Medical Group Management Association, 2004), pp. 51, 170.*

If a provider has *not* adopted a *computerized provider charge entry* (CPCE) system, as described earlier, the provider may rely on the older method of *charge capture*, which requires the provider to actually note every consult or procedure that is performed on a *paper form*. Other methods involve hiring staff to review hospital charts onsite and retrospectively capture *coding* and *charge entry* information into the billing system.[49] Hospitals and larger physician groups use *central billing departments* to organize and submit *captured information*.[50] *Charge capture* systems may also be

[49] Ibid., p. 51.

[50] Susan FitzGerald, "Capturing Charges on the Go: Billing Software Saves Money When It Complements Hospitalists' Workflow," ACP Hospitalist.org, May 2009, http://www.acphospitalist.org/archives/2009/05/software.htm (accessed August 26, 2009).

included in a provider's *CPOE system*, streamlining the process between a *patient encounter* and the *charge capture*. The *standardized documentation process* available through *CPOE systems* has been shown to increase provider *revenues* through *greater charge collection*.[51]

2.2.5 Step 5: Primary Insurance Billing

Once all applicable charges are *captured* by the provider or the provider's *central billing department*, they are submitted, almost always electronically, to the payor. These submissions are known as a *bill of exchange*, in other words, a written document drafted by a party ordering payment from a third party. In many instances, bills are uploaded to a *clearinghouse*, or an *electronic data interchange* (EDI), which assesses each claim for *errors* and *securely forwards* the bill to the correct payor. In addition, *clearinghouses* may also provide services to transform *paper claims* into an appropriate and efficient *electronic format*.[52] For any one patient there can be several payors, including the patient him- or herself. Providers first submit charges to the patient's *primary payor*, often an insurance company. Since October 1, 2005, mandated by the HIPAA, Medicare has refused to accept *paper claims* (accept in cases of physician practice with fewer than 10 FTEs or institutions with fewer than 25 FTEs), accepting only compliant (as defined by HIPAA) *electronic claims*.[53]

To ensure the *effectiveness* of the *billing process*, many providers (1) implement *computerized management systems* to process claims electronically; (2) work to *maintain relationships* with payors; (3) develop *internal information system processes*; and (4) require *continued staff education and*

Clearinghouses

Companies that assesses provider claims for errors and securely forward the bill to the correct payor.

"Say Goodbye to Paper: Noncompliant Medicare Claims Oct. 1," by Joyce Frieden, Family Practice News, *September 1, 2005, p. 6.*

[51]Karyn L. Butler, et al., "Optimizing Advanced Practitioner Charge Capture in High-Acuity Surgical Intensive Care Units," *Archives of Surgery* 146, no. 5 (May 2011): 552.

[52]Joyce Frieden, "Say Goodbye to Paper: Noncompliant Medicare Claims Oct. 1," *Family Practice News*, September 1, 2005, p. 6.

[53]Ibid.

training.[54] Without an *effective billing process*, many claims for reimbursement may be *incorrect* or *insufficient*, resulting in either (1) the denial of the claim, or (2) lost potential revenue for the provider. More drastically, incorrect billing may trigger *fraud and abuse* audits, because intent is *not* a necessary *element* to prove fraud for a given claim.

2.2.6 Step 6: Secondary Insurance Billing

Once *primary payors* have been billed, and *copayments* and *deductibles* have been paid by the patient, any remaining amount can be billed to a *secondary payor.* Secondary insurance may be available from either (1) the benefit plan held by a *spouse* or a *parent*, (2) an *alternative public payor* for which the patient is eligible, or (3) *supplemental insurance* that was purchased to cover gaps left from *primary insurance coverage*. The billing procedure and the time line for *secondary insurance* differ, based on the type and scope of coverage/benefits.

2.2.7 Step 7: Patient Responsibility

Any *copayment,* or any portion of the charge, that is not paid at the patient encounter or paid by a *primary* or *secondary insurer* may be sent to the *patient* in the form of a bill. Of note, providers are prohibited under the *Social Security Act* from billing *qualified Medicare beneficiaries* (Medicare beneficiaries under 100 percent of the *Federal Poverty Guidelines*) for Medicare *cost-sharing*, including *deductibles*, *coinsurance*, or *copayments*. In addition, several payors prohibit providers from *balanced billing*, where the provider *bills the patient* for the amount between the *provider's charge* and the payor's *allowable fee rate*.[55] Although Medicare *participating* providers cannot bill Medicare patients above the *allowable charge* established by Medicare, these patients are responsible for 20 percent of the bill, with the remaining 80 percent reimbursed through the Medicare program.[56] The procedure for billing Medicare is discussed further in Section 2.4.1.4, "Medicare Allowable Charge: Participation versus Nonparticipation."

---

[54] Max Reiboldt and the Coker Group, "The Revenue Cycle," in *Financial Management of the Medical Practice*, 2nd ed. (Chicago: American Medical Association, 2002), p. 13.

[55] Centers for Medicare and Medicaid Services, "Prohibition on Balance Billing Qualified Medicare Beneficiaries (QMBs)," MLN Matters® Number: SE1128, Revised, July 25, 2012, p. 2.

[56] Cynthia Newby, *From Patient to Payment: Insurance Procedures for the Medical Office*, 3rd ed. (Columbus, OH: Glencoe/McGraw-Hill, 2002), p. 140.

BALANCED BILLING

When a provider bills a patient some amount to close the gap between the provider's charge and the payor's allowable fee. This is not allowed for patients covered by a participating public payor.

"Prohibition on Balance Billing Qualified Medicare Beneficiaries (QMBs)," Centers for Medicare and Medicaid Services, MLN Matters® Number: SE1128, Revised, July 25, 2012, p. 2.

2.2.8 Step 8: Claims Resolution

The submission of claims to third-party payors (both *primary* and *secondary*) and the subsequent billing of patients for their portion of the payment responsibility require a process of *consistent* and *persistent* attention to *resolve the claim*. However, even *correct coding*, *timely billing,* and *aggressive claims resolution* efforts are not always sufficient to ensure *timely payment*. Those cases resulting in *overdue accounts* often require follow-up activities to *encourage payment* or to *correct billing errors*.[57]

2.2.9 Step 9: Collections

In addition to an established procedure for *submitting claims to payors*, providers must also maintain a process for *tracking payments received*. Efficient *claims resolution* and *collections systems* facilitate efficient provider *cash flow management*. Regardless of the effort a provider puts into the *collection process*, some *account balances* may never be resolved. In these instances, providers will likely write off the "balance [of] the accounts receivable as bad debt."[58] *Bad debt* accounts can also be outsourced to a *collection agency* that will attempt to recover the balance for a fee.[59]

---

[57] Max Reiboldt and the Coker Group, "The Revenue Cycle," in *Financial Management of the Medical Practice*, 2nd ed. (Chicago: American Medical Association, 2002), p. 14.

[58] Deborah L. Walker, Sara M. Larch, and Elizabeth W. Woodcock, *The Physician Billing Process: Avoiding Potholes in the Road to Getting Paid* (Englewood, CO: Medical Group Management Association, 2004), p. 137.

[59] Ibid.

BAD DEBT

The amount of providing care that is written off by the provider from patients who do not pay, that is, the uninsured, the underinsured, and charity care. Bad debt can be deducted from a provider's income tax.

"Business Bad Debts," in Business Expenses, *Internal Revenue Service, Publication 550, 2011, http://www.irs.gov/publications/p535/index.html (accessed September 19, 2012).*

Lockboxes

Instead of handling the collection and processing of payments themselves, providers may decide to use a lockbox service. For a fee, lockbox services open a provider's mail, collect payments, and deposit the money into the provider's account.

"Pothole 5: The Payment Posting Process," in The Physician Billing Process: Avoiding Potholes in the Road to Getting Paid, *by Deborah L. Walker, Sara M. Larch, and Elizabeth W. Woodcock (Englewood, CO: Medical Group Management Association, 2004), p. 80.*

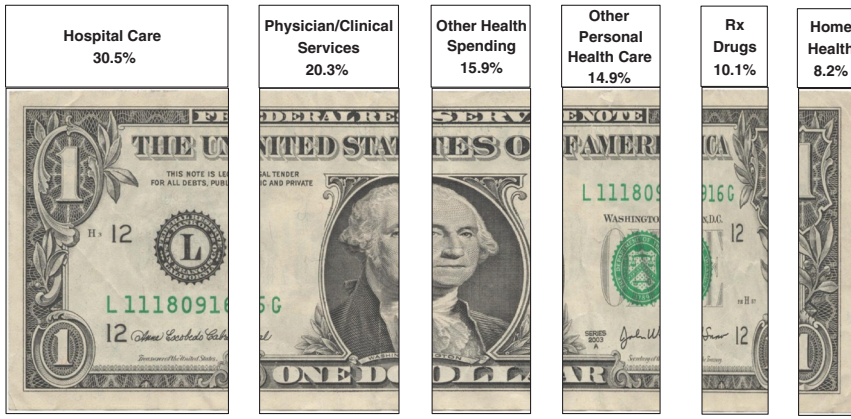
A recent inquiry against three large insurers in Massachusetts alleged that some insurance companies were participating in *anticompetitive behavior*, in what amounts were charged to specific patients. The *Department of Justice* (DOJ) inquiry, related to *Partners Healthcare System Inc.* (Partners), *Blue Cross Blue Shield of Massachusetts*, and *Tufts Health Plan and Harvard Pilgrim Health Care*, followed the release of a March 16, 2010, report published by Massachusetts Attorney General Martha Coakley, indicating that *health insurance premium costs* increased mainly due to increases in the prices negotiated between payors and healthcare providers for services, where the *highest-paid practices and hospitals* were paid approximately *twice* as much as the *lowest-paid providers* for the same services. The report further found that *price variations* for healthcare services in Massachusetts are correlated to the *relative market leverage* a provider has within a specified *geographic region.*[60]

[60] Office of Attorney General Martha Coakley, *Examination of Health Care Cost Trends and Cost Drivers*, Report for Annual Public Hearing, March 16, 2010, http://www.mass.gov/Cago/docs/healthcare/final_report_w_cover_appendices_glossary.pdf (accessed May 3, 2010).

2.3 CURRENT REIMBURSEMENT ENVIRONMENT

The U.S. healthcare delivery system includes an *elaborate set of relationships* between *providers* and *payors* that composes the infrastructure of the *healthcare reimbursement environment*. The nature of any specific relationship is characterized by (1) the *type* of service being provided, (2) the *location* where that service is provided, (3) the *type of payor* for the service, and (4) the *type of reimbursement model* being utilized. The current breakdown of healthcare expenditures by *type of service* is illustrated in Exhibit 2.4 and Exhibit 2.5.

As illustrated earlier, most healthcare expenditures are spent on *hospital care* ($814 billion in 2010) and *physician and clinical services* ($688.6 billion in 2010), which consist of *physician offices*, *freestanding ambulatory surgery centers* (ASC), and any other physician operated *specialty clinics* (e.g., *oncology clinics* or *dialysis centers*).[61] Current healthcare reimbursement



*Note: Other Personal Health Care includes, for example, dental and other professional health services, durable medical equipment, etc. Other Health Spending includes, for example, administration and net cost of private health insurance, public health activity, research, and structures and equipment, etc.

EXHIBIT 2.4 Breakdown of the Healthcare Expenditures by Type of Service—the Almighty Dollar

Source: Kaiser Family Foundation calculations using NHE data from Centers for Medicare and Medicaid Services, Office of the Actuary, National Health Statistics Group, at http://www.cms.hhs.gov/NationalHealthExpendData/ (see Historical; National Health Expenditures by type of service and source of funds, CY 1960–2009; file nhe2009.zip).

[61] Centers for Medicare and Medicaid Services, "Table 2: 2 National Health Expenditure Amounts, and Annual Percent Change by Type of Expenditure: Calendar Years 2006–2021," in *National Health Expenditures Projections 2011–2021*, 2012.

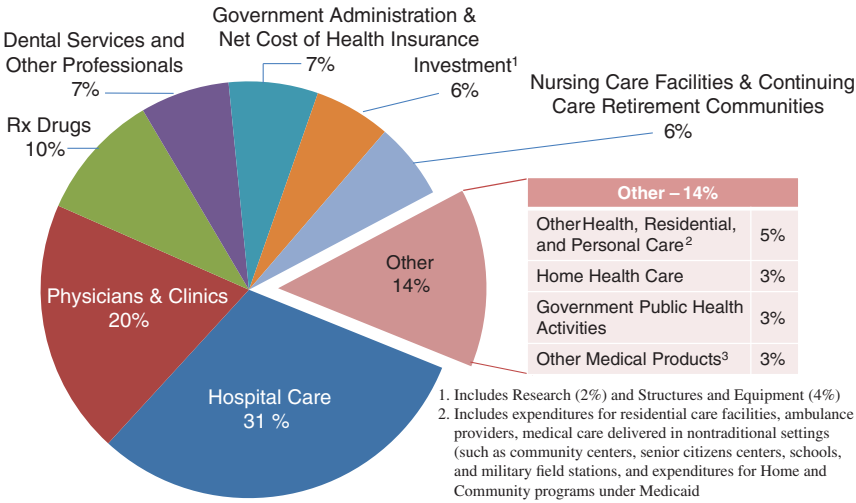


EXHIBIT 2.5 Breakdown of the Healthcare Expenditures by Type of Service—Other
Source: Centers for Medicare and Medicaid Services, Office of the Actuary, National Health Statistics Group.

initiatives target hospital and physician clinical settings, as the *sites of service* that use the highest percentage of healthcare expenditures, to achieve the greatest impact on *cost reduction* and *quality improvement* possible. For more information on current initiatives to reform the healthcare reimbursement environment, see Section 2.7, "Emerging Reimbursement Trends and the Impact of Healthcare Reform."

Public payors represent those programs operated by both *federal* and *state governments*, while *private payors* include *for-profit* and *not-for-profit* insurance companies, as well as *self-funded* insurance options. An illustration of the typical payors operating in the current reimbursement environment is set forth in Exhibit 2.6.

Factoid

Most healthcare expenditures are spent on hospital care ($814 billion in 2010) and physician and clinical services ($688.6 billion in 2010).

"Table 2: 2 National Health Expenditure Amounts, and Annual Percent Change by Type of Expenditure: Calendar Years 2006–2021," in National Health Expenditures Projections 2011–2021, *Centers for Medicare and Medicaid Services, 2012.*

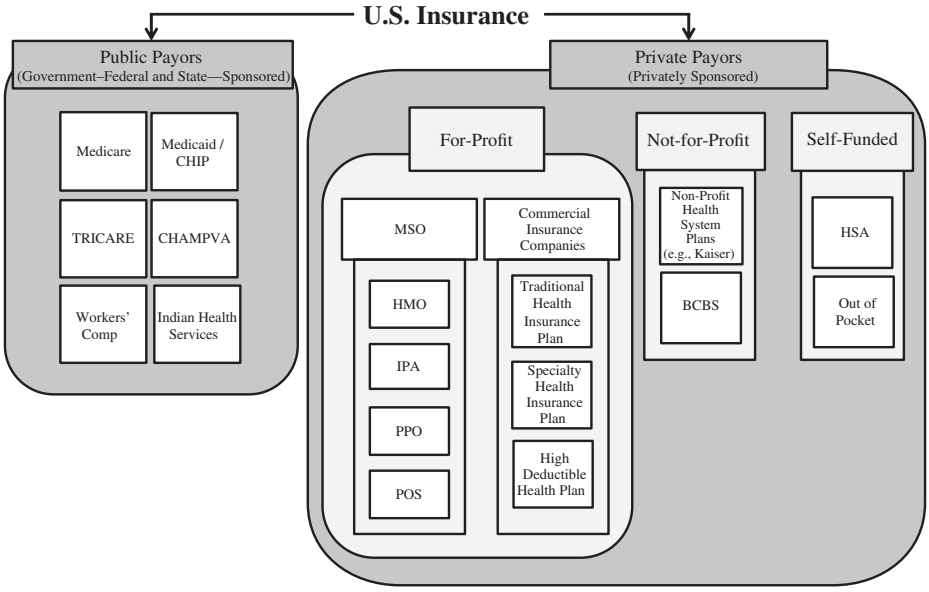


EXHIBIT 2.6 U.S. Health Insurance Providers and Plans

Note that this illustration does *not* include several new models of reimbursement, for example, *accountable care organizations* and *medical home concepts*.

The *complexity* and *competition* associated with healthcare insurance create a "multi-tiered and unequal" market for insured individuals.[62] Each payor and each plan differ in the *scope of coverage* and the *benefits* available to enrollees, as well as in the *allowable fees* reimbursed to providers for a given service. In the United States, the only *right to coverage* an individual possesses is to *emergency medical services*; however, the ACA attempts to extend *shared responsibility* between *providers*, *payors*, and *beneficiaries*, such as *value-based purchasing* programs and *state insurance exchanges*, for a broader range of *coverage*.[63] Although these initiatives are not designed to remove the so-called *actuarial fairness* that is supposed to drive the U.S. healthcare system, they may *flatten* the current *tiered system*, transforming the reimbursement environment.[64] For more information on the ACA and *state health exchanges*, see Chapter 6, "Healthcare Reform."

[62] Paul Starr, *Remedy and Reaction: The Peculiar American Struggle over Health Care Reform* (New Haven, CT: Yale University Press, 2011), pp. 242–243.

[63] "The Emergency Medical Treatment and Labor Act," 42 U.S.C.A. §1395dd(e)(2).

[64] Paul Starr, *Remedy and Reaction: The Peculiar American Struggle over Health Care Reform* (New Haven, CT: Yale University Press, 2011), pp. 242–243.

2.4 PUBLIC PAYORS

As indicated earlier, public payors are operated by *federal or state governments* and are often funded by a mixture of *specific designated taxes*, as well as *general fund support*. The most influential public payors are *Medicare* and *Medicaid*, regulated and monitored by CMS. In 2010, these two payors accounted for $524.6 billion and $401.4 billion, respectively, nearly 49.5 percent of *total national health insurance expenditures*.[65] The prevalence of these public payors, particularly Medicare, in the healthcare marketplace often results in their reimbursement rates being used as a *benchmark* for *private reimbursement rates*.[66] Other *public payors* include (1) the *Children's Health Insurance Program* (CHIP), (2) TRICARE, (3) *Civilian Health and Medical Program of the Department of Veteran Affairs* (CHAMPVA), (4) *workers' compensation,* and (5) *Indian Health Services* (IHS), as will be discussed later.

2.4.1 Medicare

2.4.1.1 Overview *Medicare* was created in 1965 as Title XVIII of the *Social Security Act* (see Section 1.4.1, "Creation of Medicare").[67] The program, originally known as the *Health Insurance for the Aged and Disabled Act*, is primarily an *entitlement program* that provides *health insurance benefits* to individuals *over the age of 65*.[68] During the 1970s, benefits were extended to

[65] Center for Medicare and Medicaid Services, "Table 3: National Health Expenditures; Aggregate and per Capital Amounts, Percent Distribution and Annual Percent Change by Source of Funds: Calendar Years 2006–2021," in *National Health Expenditure Projections 2011–2021*, January 2012, http://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/NationalHealthExpendData/Downloads/Proj2011PDF.pdf (accessed July 6, 2012).

[66] Anna Wilde Mathews and Tom Mcginty, "Physician Panel Prescribes the Fees Paid by Medicare," *Wall Street Journal*, October 26, 2010, http://online.wsj.com/article/SB10001424052748704657304575540440173772102.html (accessed August 24, 2012).

[67] Centers for Medicare and Medicaid Programs, "Key Milestones in CMS Programs," http://www.cms.gov/About-CMS/Agency-Information/History/downloads/CMSProgramKeyMilestones.pdf (accessed November 02, 2009).

[68] "Title XVIII, Social Security Act," Sections 1811, 1831, 1851, 1860D, 2009, http://www.ssa.gov/OP_Home/ssact/title18/1800.htm (accessed June 19, 2009); Centers for Medicare and Medicaid Programs, "Key Milestones in CMS Programs," http://www.cms.gov/About-CMS/Agency-Information/History/downloads/CMSProgramKeyMilestones.pdf (accessed November 2, 2009).

TABLE 2.3 The Four Parts of Medicare

Part	Description of Benefits
Part A	Covers inpatient hospital care
Part B	Covers outpatient visits
Part C	Allows beneficiaries to choose as a managed care replacement of Parts A and B, known as Medicare Advantage
Part D	Created under the Medicare Modernization Act (MMA) and implemented in 2006, covers prescription drug benefits

CCH Medicare Explained: §100, ed. Pamela K. Carron and Nicole T. Stone (Chicago: CCH, 2012), p. 17.

Superbills and Charge Tickets

Another name for a patient encounter form.

From Patient to Payment: Insurance Procedures for the Medical Office, *3rd ed., by Cynthia Newby (Columbus, OH: Glencoe/McGraw-Hill, 2002), p. 31.*

include the *disabled* and individuals with *end stage renal disease* (ESRD).[69] Medicare is divided into four parts, described in Table 2.3.

Individuals who are not *automatically eligible* may enroll in coverage for Medicare Parts A and B, for which they would either (1) pay a *premium* for *Medicare Part B*, or (2) elect to enroll in a *Medicare Advantage* (MA) (also known as *Medicare Part C*) managed care plan that covers both *inpatient* and *outpatient* services.[70] Individuals may or may not decide to enroll in *Medicare Part D*, which provides *prescription drug coverage.*[71]

Medicare reimburses providers using a combination of (1) *fee-for-service* (FFS) payments, (2) *managed care arrangements*, and (3) payments from *health savings accounts* (HSA) (see Section 2.6, "Methods of Reimbursement"). Medicare does *not process* or *pay claims directly* but, rather,

[69] Paul W. Eggers, "Medicare's End Stage Renal Disease Program," *Health Care Financing Review* 22, no. 1 (Fall 2000): 55.

[70] Pamela K. Carron and Nicole T. Stone, eds., *CCH Medicare Explained: §100* (Chicago: CCH, 2012), p. 17.

[71] "Title XVIII, Social Security Act," Sections 1811, 1831, 1851, 1860D, 2009, http://www.ssa.gov/OP_Home/ssact/title18/1800.htm (accessed June 19, 2009); Social Security Administration, "Medicare Electronic Booklet," ssa.gov (accessed November 2, 2009).

contracts with *insurance companies* (i.e., *fiscal intermediaries and carriers)* to perform these services. *Fiscal intermediaries* are insurance companies that *process Medicare claims* for (1) *hospitals*, (2) *skilled nursing facilities*, (3) *intermediate care facilities*, (4) *long-term care facilities*, and (5) *home health agencies*. In contrast, *carriers* process claims for (1) *physicians*, (2) *providers*, and (3) *suppliers*.[72] In addition, private companies may provide *medical packages* and *hospital coverage* to Medicare beneficiaries enrolled in *Medicare Advantage plans*.[73]

Medicare uses several *provider identification numbers* to *expedite* and *efficiently process claims*. To enroll in the Medicare program, providers must be assigned a specific *National Provider Identifier* (NPI), provided by the *National Plan and Provider Enumeration System* (NPPES). Physicians enter into Medicare *participating provider* (*PAR*) agreements, with CMS, under their NPI through a CMS-855 *provider enrollment application* that is sent to their region's *Medicare Administrative Contractor*'s (MAC) enrollment department.[74]

Factoid

Medicare claims for physician services must be submitted using the CMS-1500 claim form, whereas ambulance companies, ambulatory surgery centers, home healthcare agencies, hospice organizations, hospitals, psychiatric drug/alcohol treatment facilities, skilled nursing facilities, sub-acute facilities, stand-alone clinical/laboratory facilities, and walk-in clinics must submit the UB-04 claim form. Medicare claims must be filed before December 31 of the year in which the services were provided, except in instances in which the service was provided between October 1 and December 31. These claims receive an extension and must be filed before December 31 of the following year.

Understanding Health Insurance: A Guide to Billing and Reimbursement, *9th ed., by Michelle A. Green and JoAnn C. Rowell (Clifton, NY: Delmar Cengage Learning, 2008), pp. 305, 449.*

[72] Cynthia Newby, *From Patient to Payment: Insurance Procedures for the Medical Office*, 3rd ed. (Columbus, OH: Glencoe/McGraw-Hill, 2002), p. 140.

[73] Pamela K. Carron and Nicole T. Stone, eds., *CCH Medicare Explained: ¶400* (Chicago: CCH, 2012), p. 161.

[74] "Difference between the Medicare Provider Numbers," WPS Medicare J5 MAC Part B, August 16, 2012, http://www.wpsmedicare.com/j5macpartb/resources/new_providers/providernumber.shtml (accessed September 3, 2012).

Originally, all providers seeking reimbursement under Medicare were given a *Unique Physician Identification Number* (UPIN). The UPIN was *discontinued* for its original purpose as of June 2007 and replaced by the NPI to meet the *Administrative Simplification Standard* required under HIPAA.[75] The NPI is a 10-digit *unique identification number* required for *all covered healthcare providers* seeking reimbursement under *Medicare*, *Medicaid*, or any *federal health program*.[76] NPIs contain the *entity type code*, *one*, which is used for individual practitioners, for example, (1) *physicians*, (2) *dentists*, (3) *nurses*, (4) *chiropractors*, (5) *pharmacists*, and (6) *physical therapists*, and the *entity type code, two*, which is used for healthcare provider organizations, such as (1) *hospitals*, (2) *group practices*, (3) *ambulance companies*, and (4) *medical suppliers. Mid-level providers* who "furnish healthcare but do not necessarily conduct covered transactions" are also eligible for an NPI.[77] The use of NPIs is intended to improve "the effectiveness and efficiency of the health care industry in general, by simplifying . . . administration . . . and enabling the efficient electronic transmission of certain health information."[78]

Once accepted as a Medicare provider, the MAC enrollment department issues the provider a *Provider Transaction Access Number* (PTAN) and the *National Unique Provider Identification Number Registry* issues the provider a UPIN. A description of each Medicare identification number and its purpose within the Medicare system is provided in Table 2.4.

Since 2003, CMS has used the *Provider Enrollment, Chain, and Ownership System* (PECOS) for *physician Medicare enrollment*. In December 2008, CMS launched the Internet-based PECOS, an online *provider-enrollment system* that allows (1) *physicians*, (2) *non-physician practitioners* and *providers*, and (3) *supplier organizations* to enroll in Medicare, as well as view and make any necessary changes to their enrollment.[79] Starting in October 2009, CMS contractors sent out *nonpayment warnings* to physicians *not* registered in the PECOS database. CMS has extended the date it would

---

[75] "HIPAA Administrative Simplification Standard Unique Health Identifier for Health Care Providers; Final Rule," *Federal Register* 69, no. 15 (January 23, 2004): 3434.

[76] Ibid., p. 3442.

[77] Ibid., p. 3440.

[78] Ibid., p. 3434.

[79] Centers for Medicare and Medicaid Services, "Internet-Based PECOS," May 27, 2011, https://www.cms.gov/MedicareProviderSupEnroll/04_InternetbasedPECOS.asp#TopOfPage (accessed August 3, 2011); Chris Silva, "Physicians Seek More Medicare PECOS Relief," *American Medical News*, July 19, 2010, http://www.ama-assn.org/amednews/2010/07/19/gvsa0719.htm (accessed August 3, 2011).

TABLE 2.4 Medicare Provider Identification Numbers

Identification Number	Issuing Agency	Assignment Process	Description
National Provider Identifier (NPI)	National Plan and Provider Enumeration System (NPPES)	Provider Application—assigned per provider (Type 1 providers: physicians and mid-level providers; or Type 2 providers: enterprises) for a lifetime	Identifies providers for HIPAA standards processes and claims submission; required prior to Medicare program enrollment
Provider Transaction Access Number (PTAN)	Regional Medicare Administrative Contractor's (MAC) Enrollment Department	Request from MAC; assigned to provider based on employer entity[80]	Used by claims processing system and for provider to access information
Unique Provider Identification Number (UPIN)	National Unique Provider Identification Number Registry	Assigned	Used for ordering (tests and services) and referrals

"Difference between the Medicare Provider Numbers," WPS Medicare J5 MAC Part B, August 16, 2012, http://www.wpsmedicare.com/j5macpartb/resources/new_providers/providernumber.shtml (accessed September 3, 2012).

begin rejecting claims due to *physician nonregistration* several times and ultimately set the deadline to July 6, 2011.[81]

Since its inception, CMS has pointed out several *advantages* and *efficiencies* provided by an *online enrollment process*. Compared to the previously used *paper enrollment*, the online PECOS form is *provider-specific* and requires only responses relevant to a *single provider's specific enrollment*.

[80] Since the PTAN is specific to where a provider works, providers must make sure their PTAN is updated when they switch employment, or their claims may be denied. This is particularly important when a provider transitions to the PECOS system, discussed below.

[81] "Medicare and Medicaid Programs; Changes in Provider and Supplier Enrollment, Ordering and Referring, and Documentation Requirements; and Changes in Provider Agreements—Interim Final Rule with Comment Period," *Federal Register* 75, no. 86 (May 5, 2010): 24437; Chris Silva, "Physicians Seek More Medicare PECOS Relief," *American Medical News*, July 19, 2010, http://www.ama-assn.org/amednews/2010/07/19/gvsa0719.htm (accessed August 3, 2011).

The PECOS system is designed to make physician enrollment easier to *complete* and *update*, while requiring less staff time and administrative costs.[82] CMS has asserted that under the PECOS system, the agency averages roughly *45 days to fully process a provider's enrollment*, as compared to the *60-day processing time* typically experienced under the paper form.[83]

Participating Medicare providers agree to accept the reimbursement amount (i.e., *allowable fee*) set by the *Medicare Physician Fee Schedule* (MPFS), published annually by CMS, as payment in full for every Medicare claim.[84] The physician may collect from the patient his or her *coinsurance* and *deductible*, but the physician is *not* permitted to *balance bill* the patient, that is, to attempt to collect the difference between the physician's *usual charge* and Medicare's lower *allowed charge*.[85] Of note, under federal law, all providers and suppliers of Medicare covered services may *not* collect *directly* from the patient and must submit electronic claims to Medicare.[86] Like any other third-party payor system, Medicare beneficiaries may be

Fee Schedule

A fee schedule is a payment system under which the fees for procedures are explicitly laid out and the physician agrees to accept those fees as full payment, unless the discounted charges are less than the fee schedule, in which case the plan pays the lesser of the two.

The Managed Health Care Handbook*, 3rd ed., by Peter R. Kongstvedt (Gaithersburg, MD: Aspen Publishers, 1996), p. 140–141.*

---

[82] Centers for Medicare and Medicaid Services, "Internet-Based PECOS," May 27, 2011, https://www.cms.gov/MedicareProviderSupEnroll/04_InternetbasedPECOS.asp#TopOfPage (accessed August 3, 2011).

[83] Ibid.

[84] Centers for Medicare and Medicaid Services, "Medicare Enrollment for Physicians, Non-Physician Practitioners and Other Health Care Suppliers," Pub. No. CMS-11048, January 2009, p. 2; Cynthia Newby, *From Patient to Payment: Insurance Procedures for the Medical Office*, 3rd ed. (Columbus, OH: Glencoe/McGraw-Hill, 2002), p. 142. For more information on the distinctions between Medicare participating providers, nonparticipating providers, and private contractors, see Section 2.4.1.4, "Medicare Allowable Charge: Participation versus Nonparticipation."

[85] Denise L. Knaus, *Medicare Rules & Regulations: A Survival Guide to Policies, Procedures and Payment Reform* (Los Angeles: PMIC, 1998), p. 3.

[86] Pamela K. Carron and Nicole T. Stone, eds., *CCH Medicare Explained: ¶900* (Chicago: CCH, 2012), p. 444.

subject to *premiums*, *deductibles*, and *coinsurance*, which vary according to their *coverage level*, their *income*, and the s*ervices sought*.[87]

Unlike *Medicare Parts A and B*, *Medicare Part C*, also called *Medicare Advantage*, is administered through private insurance companies. Federal regulation mandates that *Medicare Advantage organizations* must pay 95 percent of *clean claims* submitted by *nonparticipating providers* within 30 days and pay interest on those *clean claims* that are not paid prior to this deadline.[88] In addition, *Medicare Advantage organizations* must include a prompt payment provision in their contracts with *participating providers*, although the organization and the *participating provider* may negotiate as to the contract's terms.[89]

Medicare Advantage plans have increased in popularity in recent years, as enrollment rose from 5.6 million in 2005 to 11.8 million in 2011.[90] Under the ACA, government subsidies to insurance companies for the administration of *Medicare Advantage plans* will be reduced, leading some to conjecture that there might be an uncertain future for this popular Medicare option.[91] In contrast to forecasts of possible declining enrollments and reduced revenues for *Medicare Advantage Plans*, some industry experts suggest that the changing patient characteristics of the *aging baby boomer population* may lead to the increased popularity of the *Medicare Part C option*. Resulting, in part, from the impact of the *Great Recession*, baby boomers are likely to be *cost sensitive* and more comfortable with *managed care arrangements*, making it more likely for them to select a *Medicare Advantage plan* than to opt for traditional *Medicare Part A and B coverage*.[92]

Medicare Advantage subsidies are calculated by taking the difference between (1) the *private insurance plan predicted cost of care*, demonstrated through a bid submitted to the CMS; and (2) the *maximum*

---

[87] Denise L. Knaus, *Medicare Rules & Regulations: A Survival Guide to Policies, Procedures and Payment Reform* (Los Angeles: PMIC, 1998), p. 17.

[88] Clean claims are those that have been reviewed and show no indication of fraud and abuse; 42 CFR. § 422.520.

[89] 42 CFR. § 422.520.

[90] Marsha Gold, et al., "Medicare Advantage 2011 Data Spotlight: Plan Availability and Premiums," Henry J. Kaiser Family Foundation, October 2010, p. 1; Marsha Gold, et al., "Medicare Advantage 2010 Data Spotlight: Plan Enrollment Patterns and Trends," Henry J. Kaiser Family Foundation, June 2010, p. 1.

[91] Marsha Gold, et al., "Medicare Advantage 2011 Data Spotlight: Plan Availability and Premiums," Henry J. Kaiser Family Foundation, October 2010, pp. 2, 10.

[92] Jeff Goldsmith, "Will the Baby Boom Be a Boon to Hospitals? Don't Count on It," *Futurescan 2012: Healthcare Trends and Implications 2012–2017*, 2012, p. 23.

Medicare Parts A and B payment for traditional Medicare benefits in a geographic area, referred to as the *benchmark*.[93] If the bid is *below the benchmark*, which is generally the case, the private plan receives a *rebate* (savings) equal to *75 percent of the difference*. This rebate must be used to (1) provide *additional benefits*, (2) reduce member *cost sharing*, or (3) reduce *member premiums*.[94] If the bid is *above the benchmark*, Medicare beneficiaries are *charged a premium* to cover the overage. To encourage *plan participation*, Congress has historically increased benchmark amounts, which currently range from 100 to 150 percent of the CMS established *allowable charge*.[95] As a result, it is estimated that CMS spends approximately 14 percent, or $1,000, more per enrollee on *Medicare Advantage* programs than *traditional Medicare* options.[96] Furthermore, it is currently projected that in 2012, $3.1 billion ($281 per enrollee) will be distributed in bonus payments to 91 percent of *Medicare Advantage plans*.[97]

Several ACA provisions are designed to lower the additional costs that *Medicare Advantage* plans add to the federal budget, by (1) *freezing benchmark amounts*, and (2) *reducing benchmarks over a two- to six-year phase-in period,* beginning in 2010, to be determined by CMS rankings of FFS costs in each county.[98] Once ranked, the counties in the *highest quartile* will have their *benchmark amounts* lowered to 95 percent of local FFS costs. Similarly, the *75th percent quartile* will have their *benchmark amounts* lowered to 100 percent. To promote low expenditure amounts, the lower two quartiles will have their benchmark amounts increased by 7.5 percent for the *50th percent quartile* and 15 percent for the *lowest quartile*.[99] Nationally, *benchmark amounts* in 2017 should average 101 percent of *FFS*

---

[93] Patrick J. Dunks, et al., "Payment Reform Will Impact Medicare Advantage," Milliman Healthcare Reform Briefing Paper, February 2011, p. 1.

[94] Ibid.

[95] Patricia A. Davis, et al., "Medicare Provisions in PPACA." *Pub. L.* 111-148, Congressional Research Service, April 21, 2010, p. 10.

[96] Medicare Payment Advisory Commission, *The Medicare Advantage Program*, Report to the Congress: Medicare Payment Policy, 2009, Washington, DC, March 2009, p. 252.

[97] Gretchen Jacobson, et al., "Medicare Advantage Plan Star Ratings and Bonus Payments in 2012," Kaiser Family Foundation, Data Brief, November 2011, p. 2.

[98] "Patient Protection and Affordable Care Act," *Pub. L.* 111-148, Section 3201 (March 23, 2010), p. 442.

[99] Patrick J. Dunks, et al., "Payment Reform Will Impact Medicare Advantage," Milliman Healthcare reform Briefing Paper, February 2011, p. 1.

costs, as compared to 112 percent in 2010.[100] Based on *star quality* ratings,[101] some *Medicare Advantage* plans will receive even lower *rebates* than those established by the ACA, with *all subsidies* being lowered to between 50 and 70 percent of *current payment rates* by 2014.[102]

2.4.1.2 Professional Component versus Ancillary Services and Technical Component

The MPFS differentiates between two distinct revenue streams for diagnostic services: the *professional services component* and the *Ancillary Services and Technical Component* (*ASTC*).[103] A provider performs the *technical component* when, for example, it executes diagnostic and testing functions in taking an *x-ray* or administering an *electrocardiogram* (EKG).[104] Providers then perform the *professional component* when they interpret (*read*) the results of those tests or write reports.[105] As of 2012, *independent laboratories* providing *pathology services* to both inpatient and outpatient hospitals may also be reimbursed under the MPFS for the *technical component* for services performed after December 31, 2011.[106]

Providers must use the appropriate *procedure code modifiers* on submitted claims to distinguish between the services they performed and

---

[100] Scott Harrison, "The Medicare Advantage Program: Status Report," MedPac Presentation, November 4, 2010, p. 9.

[101] Star Quality Ratings are posted by CMS to provide Medicare beneficiaries with a means to compare Medicare Advantage plans offered in their area. Medicare Advantage plans receive one to five stars (one representing poor performance, three representing average performance, and five representing excellent performance) based on 53 performance metrics. Data for these metrics is compiled from three surveys and various administrative data. Gretchen Jacobson, et al., "Medicare Advantage Plan Star Ratings and Bonus Payments in 2012," Kaiser Family Foundation, Data Brief, November 2011, p. 1.

[102] Patrick J. Dunks, et al., "Payment Reform Will Impact Medicare Advantage," Milliman Healthcare Reform Briefing Paper, February 2011, p. 3.

[103] Pamela K. Carron and Nicole T. Stone, eds., *CCH Medicare Explained: §860* (Chicago: CCH, 2012), p. 410.

[104] Ibid.

[105] Donna Tyler, "Professional and Technical Component Modifiers," American College of Obstetricians and Gynecologists, 2009, http://www.acog.org/departments/dept_notice.cfm?recno=6&bulletin=4672 (accessed August 31, 2009); Pamela K. Carron and Nicole T. Stone, eds., *CCH Medicare Explained* (Chicago: CCH, 2012), p. 410.

[106] Pamela K. Carron and Nicole T. Stone, eds., *CCH Medicare Explained: §860* (Chicago: CCH, 2012), p. 410.

those performed by others, such as the hospital, technicians, or other staff.[107] Employers of technicians may still receive Medicare reimbursement for the services performed; however, CMS monitors these claims to ensure against fraud and abuse (see the discussion later regarding the *CMS Anti-Markup Rule*).

2.4.1.3 Reimbursement and Billing

2.4.1.3.1 Facility-Based Reimbursement Rates Medicare reimburses providers at different rates, depending on whether charges are submitted under Part A (*inpatient*) or Part B (*outpatient*), and reimburses *outpatient procedures* under Medicare Part B at different rates based on the *site of service*, for example, *physician office-based* or *hospital-based*. Medicare and Medicaid *originally* paid for *hospital services* under a *cost plus* reimbursement scenario, whereby hospitals were paid for *all of their costs*, as well as a *margin*. The rising costs associated with this system led to the introduction, by the federal government, of a *prospective pricing system* for Medicare Part A *inpatient hospital* (including specialty and surgical hospital) *payments*, whereby hospitals are reimbursed an *average*, *qualified, predetermined amount* in advance, that is, *prospectively*, for each patient treated with a *similar diagnosis* specified by a *Diagnostic Related Group* (DRG).[108]

The federal government, over the ensuing years, also developed a PPS system for (1) *ambulatory surgery centers*, (2) *home healthcare*, (3) *hospital outpatient services*, (4) *rehabilitation facilities*, and (5) *skilled nursing facilities*.[109] For example, *hospital outpatient departments* (HOPD), *ambulatory*

---

[107] Pam Carron and Nicole T. Stone, *2009 Master Medicare Guide* (Chicago: CCH, 2009), p. 917; "Coding and Ancillary Policies," 42 CFR. § 414.40(b)(2).

[108] DRGs were developed in 1975 at the Yale School of Management by Robert B Fetter, PhD, and John D. Thompson, MPH, and originally consisted of 383 groups; however, this first version of DRGs was never released. Version 2 was released in 1982 by CMS, although modified to include 467 groups (with the 467th defined as "ungroupable"). A new version of the DRG groups is released annually on October 1, with the current number of groups totaling 503 (including one catch-all and one invalid DRG). "Appendix B—A Brief Review of the Development of DRGs," Princeton, http://www.princeton.edu/~ota/disk3/1983/8306/830610.PDF (accessed August 27, 2012).

[109] Patricia A. Davis, "Medicare Primer," Congressional Research Service, July 1, 2010, http://aging.senate.gov/crs/medicare1.pdf (accessed August 23, 2012), pp. 7–13.

surgery centers (ASC), and *physician offices* are all reimbursed under distinct payment systems under Medicare Part B.[110] When physicians provide services and perform procedures in their *offices*, they are reimbursed under the MPFS for their *professional services*. When procedures are provided in *hospitals* or *ASCs*, however, they are reimbursed under both the MPFS (for the *physician services*) and the hospital *Outpatient Prospective Payment System* (*OPPS*), which reimburses for the *cost* of (1) *facilities*, (2) *equipment*, (3) *supplies*, and (4) *hospital staff* for services provided in a HOPD or an ASC.[111]

2.4.1.3.1.1 Hospital Inpatient Reimbursement For reimbursement under *Medicare Part A*, hospitals are reimbursed under the *Inpatient Prospective Payment System* (*IPPS*) using *DRGs*, which classify patients based on the average *per discharge cost of caring* for their particular diagnosis.[112] Each DRG is assigned a *relative rate* based on its *average cost*, which is then multiplied by the *input-price level* of each *geographic market* to determine the payment rate for the DRG.[113] Medicare payments for *acute inpatient services* are based on a *hospital inpatient PPS*, which reimburses hospitals at *per-discharge rates* based on two factors: (1) the *patient's condition* and the related *treatment* strategy, and (2) *market conditions* in the facility's location.[114] The formulas and methods detailing how *hospital inpatient reimbursement* is determined are set forth in Exhibit 2.7.

As set forth above, in certain cases, payments to *hospitals* for *inpatient care* are *increased* (1) for hospitals with *academic medical centers*, or (2) for hospitals that serve a *disproportionate amount of low-income patients*. Of note, specific payments may also be reduced to account for a patient being *transferred* to another facility. Finally, additional reimbursement may be paid for patients who represent particularly *expensive outliers*, due to

[110] Barbara O. Wynn, et al., "Medicare Payment Differentials across Ambulatory Settings," RAND Health Working Paper, July 2008, http://www.rand.org/pubs/working_papers/2008/RAND_WR602.sum.pdf (accessed September 24, 2009).

[111] Medicare Payment Advisory Commission, "Ambulatory Surgical Centers Payment System," *MedPAC Payment Basics*, October 2011, p. 1.

[112] Medicare Payment Advisory Commission, "Hospital Acute Inpatient Services Payment System," *MedPAC Payment Basics*, October 2008, p. 1, http://www.medpac.gov/documents/MedPAC_Payment_Basics_08_hospital.pdf (accessed September 24, 2009).

[113] Ibid.

[114] Medicare Payment Advisory Commission, *How Medicare Pays for Services: An Overview*, Report to the Congress: Medicare Payment Policy, 2002, Washington, DC, March 2002, p. 10.

Key

DRG = Diagnosis Related Groups

MSA = Metropolitan Statistical Area

IME = Indirect Medical Education Add-On (for approved teaching hospitals)

DSH = Disproportionate Share Hospital Adjustment (for hospitals that treat a large portion of low-income patients)

Federal Rate for Operating Costs:

Payment = DRG Relative Weight × [(*Labor Related Large Urban Standardized Amount* × Geographic MSA Wage Index) + *Nonlabor Related National Large Urban Standardized Amoun*t] × (1 + IME + DSH)

Federal Rate for Capital Costs:

Payment = DRG Relative Weight × *Federal Capital Rate* × *Large Urban Add-On* × *Geographic Cost Adjustment Factor* × (1 + IME + DSH)

EXHIBIT 2.7 Inpatient PPS Calculations

"Medicare: Acute Inpatient PPS," Centers for Medicare and Medicaid, August 1, 2012, http://www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/AcuteInpatientPPS/index.html (accessed August 16, 2012).

either (1) the *acuity* of their *illness or condition*, or (2) the existence of *comorbidity* factors.[115]

To qualify for an outlier payment, a hospital's specific operating and capital costs for a given patient must exceed a fixed loss outlier threshold set by CMS. Total costs for a given patient are calculated by "multiplying the total covered charges by the operating and capital cost-to-charge ratios."[116] If a hospital's patient exceeds the outlier threshold, it is provided with an additional payment at 80 percent of the cost above the threshold. The threshold is updated annually by CMS and is published as part of the IPPS Final Rule.[117]

[115] "Hospital Acute Inpatient Services Payment System," *MedPAC Payment Basics*, October 2008, p. 1, http://www.medpac.gov/documents/MedPAC_Payment_Basics_08_hospital.pdf (accessed September 24, 2009).

[116] Centers for Medicare and Medicaid Services, "Outlier Payments," August 1, 2012, http://www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/AcuteInpatientPPS/outlier.html (accessed August 7, 2012).

[117] Ibid.; "Medicare Program; Change in Methodology for Determining Payment for Extraordinarily High-Cost Cases (Cost Outliers) Under the Acute Care Hospital Inpatient and Long-Term Care Hospital Prospective Payment Systems," *Federal Register* 68, no. 110 (June 9, 2003): 34494–34515.

TABLE 2.5 Determining the Prospective Payment

Patient's Condition	Market Condition
Medicare organizes patients with similar clinical problems, requiring similar treatments, and medical resources, into groups called DRGs.	**A national average base payment rate (the amount that would be paid for an average patient in a facility located in an average market) determines the price level of the local market.**
Criteria used for determining DRG classification: (1) principal diagnosis, (2) up to 8 additional diagnoses, (3) type of procedure (up to 6 procedures performed during the stay), (4) age, (5) sex, and (6) discharge status of the patient.	This standardized base payment rate falls into two categories: (1) labor-related share: "*. . . adjusted by the wage index applicable to the area*"; and (2) nonlabor share: the nonlabor share for hospitals in Alaska or Hawaii is adjusted by a cost of living adjustment factor.
A patient is categorized by the Major Diagnostic Category (MDC).	This input-price is then multiplied with the DRG relative weight (this accounts for differences in the mix of patients treated across hospitals).
MDCs are usually grouped by organ system that is affected, although there are some exceptions. Patients are assigned according to their principle diagnosis, with distinctions for (1) surgical (differentiated based on a hierarchy that orders individual procedures or groups of procedures by resource intensity) or medical (grouped on the basis of diagnosis and age); (2) with or without an operating room; and (3) presence of comorbidities (conditions present at admission) or complications (conditions developed during the stay).	In addition, the following market factors will also influence the payment rates: (1) disproportionate share of low-income patients (DSH): "If the hospital is recognized as serving a disproportionate share of low-income patients, it receives a percentage add-on for each case paid through the PPS. This percentage varies depending on several factors, including the percentage of low-income patients served. It is applied to the DRG-adjusted base payment rate, plus any outlier payments received." And (2) teaching hospitals: "If the hospital is an approved teaching hospital it receives a percentage add-on payment for each case paid through the PPS. This percentage varies depending on the ratio of residents-to-beds."
Distinction between surgical (differentiated based on a hierarchy that orders individual procedures or groups of procedures by resource intensity) or medical (grouped on the basis of diagnosis and age).	Outliers: "*additional payment is designated to protect the hospital from large financial losses due to unusually expensive cases. Any outlier payment is added onto the DRG-adjusted base payment rate*"

TABLE 2.5 (*Continued*)

Patient's Condition	Market Condition
DRGs are assigned weights that indicate the relative costliness of a patient in the group to an average Medicare patients (i.e., above-average costs will yield higher weights).	

"Steps in Determining a PPS Payment," U.S. Health Care Financing Administration, http://hcfa/gov/medicare/ippsover.htm (accessed August 12, 2005).

2.4.1.3.1.2 Hospital Outpatient Reimbursement Medicare payments for outpatient services are based on the *Hospital Outpatient Prospective Payment System* (HOPPS). Originally, hospitals were paid for outpatient services based on the *allowable incurred costs*, set by CMS; however, §4523 of the *Balanced Budget Act of 1997* allowed CMS, then known as the HCFA, in August 2000, to implement an *outpatient prospective payment system* (OPPS) under Medicare for hospital outpatient services. Payments are based on several elements, including (1) a set of *relative weights*, (2) a *conversion factor*, and (3) an *adjustment for geographic differences* in input prices. The OPPS also includes an outlier adjustment for extraordinarily high-cost services and *pass-through* payments for new technologies.[118] CMS grouped outpatient procedures that were clinically similar and uses comparable resources in approximately 750 *Ambulatory Payment Classifications* (APC). Services provided are assigned CPT codes, discussed earlier, which are then

[118]A pass-through payment is associated with the cost of inputting a new technology (limited to medical devices, drugs, and biologicals) that does not yet have an associated code for billing into an existing service. This cost is tied to the use of the technology itself and does not consider productivity improvement or other indirect cost savings or expenses. Therefore, pass-through payments add to the payment a hospital would receive for a given service, even if the cost of care actually fell as a result of the applied technology. Pass-through payments are capped at 2.5 percent of the total OPPS payment. Medicare Payment Advisory Commission, *Report to Congress: Medicare Payment Policy*, March 2003, pp. 183, 184; "Office of the Inspector General; Medicare Program; Prospective Payment System for Hospital Outpatient Services: Final Rule with Comment Period," Centers for Medicare and Medicaid, *Federal Register* 65, no. 68 (April 7, 2000): 18476; Medicare Payment Advisory Commission, *How Medicare Pays for Services: An Overview*, Report to the Congress: Medicare Payment Policy, 2002, Washington, DC, March 2002, p. 18.

Key

APC = Ambulatory Payment Classification

PPS = Prospective Payment System

MSA = Metropolitan Statistical Area

Payment = ***Federal Rate for Operating Costs = APC Relative Weight × [(Labor Related Large Urban Standardized Amount × Inpatient PPS Geographic MSA Wage Index) + NonLabor Related National Large Urban Standardized Amount]***

EXHIBIT 2.8 Outpatient PPS Calculation

APC Desk Reference, Ingenix, St. Anthony Publishing/Medicode, January 2004, pp. 4-40–4-43.

classified into APCs, each being assigned a specific payment rate.[119] Each classification group of the APC is *bundled*, meaning it includes the integral services and items used within the primary service being provided. Hospitals may bill for various services provided to an individual on a single day; however, if there are multiple surgical procedures performed on a single day, the APC payment is subject to a discounting.[120]

The payment reimbursed to the hospital, is intended to cover the hospital's operating and capital costs, which is determined by multiplying the *relative weight* for a given APC by a designated *conversion factor.*[121] The calculation for outpatient hospital reimbursement is set forth in Exhibit 2.9.

The APC groups and their relative weights are reviewed annually, with CMS updating the conversion factor for inflation using the *hospital inpatient market basket index*.[122]

2.4.1.3.1.3 Ambulatory Surgery Center Reimbursement—HOPD v. Freestanding Medicare distinguishes between those services provided at *hospital ASCs* (i.e., a HOPD), reimbursed under the HOPPS (see earlier section), and *freestanding ASCs* operated and controlled by physicians, in part, because of differences in patient demographics. The patient breakdown for ASCs and HOPDs is illustrated in Table 2.6.

[119] *APC Desk Reference*, Ingenix, St. Anthony Publishing/Medicode, January 2004, pp. 4–40.

[120] Ibid.

[121] Medicare Payment Advisory Commission, *How Medicare Pays for Services: An Overview*, Report to the Congress: Medicare Payment Policy, 2002, Washington, D.C., March 2002, p. 19.

[122] Ibid., p. 20.

TABLE 2.6 Medicare Patient Profile for ASCs and HOPDs for 2010

	Characteristic	ASC	HOPD
Payor	Medicare	34.20%	32.90%
	Medicaid	4.50%	11.80%
	Other	8.20%	9.70%
	Commercial	53.10%	45.60%
Race	White	88.10%	84.20%
	African American	6.80%	10.40%
	Other	5.10%	5.40%
Age	Under 65	14.00%	21.40%
	65–84	78.60%	67.70%
	85 or Older	7.40%	10.90%
Gender	Male	42.10%	43.50%
	Female	57.90%	56.50%

Medicare Payment Policies, Medicare Payment Advisory Commission, Report to the Congress, 2010, Washington, DC, March 2010, pp. 121–122.

Since 1982, Medicare has made payments for surgical procedures provided in freestanding ASCs, with physicians receiving separate payments for their professional services.[123] Medicare's ASC payment system underwent substantial modifications in 2008,[124] which included basing ASC payment rates on the APC *relative weights* for similar services, extending payment to more surgical services offered by ASCs, and aligning ASC reimbursement rates at a percentage of the OPPS rates.[125] Since 2008,

[123] Prior to 1982, free standing ASCs were not eligible for Medicare payments. Medicare Payment Advisory Commission, *Medicare Payment Policies*, Report to the Congress, 2010, Washington, D.C., March 2010, pp. 121–122.

[124] From 1982 to 2008, ASCs were still reimbursed under Medicare Part B as a standard overhead payment rate based on an estimated fair fee and the costs incurred by the ASC, but for limited surgical (no ancillary) procedures that did not exceed 90 minutes or require more than four hours of recovery time. Centers for Medicare and Medicaid Services, "Chapter 14—Ambulatory Surgical Centers," in *Medicare Claims Processing Manual*, August 6, 2010, http://www.cms.gov/Regulations-and-Guidance/Guidance/Manuals/downloads/clm104c14.pdf (accessed September 4, 2012).

[125] Centers for Medicare and Medicaid Services, "Fact Sheets: Final 2009 Policy, Payment Changes for Hospital Outpatient Departments and Ambulatory Surgery Centers," October 30, 2008, http://www.cms.hhs.gov/apps/media/fact_sheets.asp (accessed May 21, 2010).

CMS has significantly expanded the scope of procedures performed at ASCs that are eligible for Medicare reimbursement to include most procedures that do not pose a significant safety risk and do not require longer than a 24-hour stay.[126]

To receive Medicare payments, a freestanding ASC must meet Medicare's *conditions of coverage standards* that specify minimum guidelines for administration of *anesthesia*, *quality* evaluation, *operating and recovery rooms*, *medical staff*, *nursing services*, and other areas. In addition to surgical procedures, Medicare also accepts separate billings for certain nonsurgical ancillary services provided by an ASC, such as *radiology services*, *brachytherapy*, and pass-through and non-pass-through *drugs*.[127] In contrast to most procedures (discussed later), Medicare reimburses HOPD and freestanding ASCs at the same rate for *brachytherapy* and *pass-through drugs*.[128]

Overall, Medicare reimbursement for freestanding ASCs is set at a percentage of the OPPS for HOPD, with annual adjustments based on inflation (i.e., *annual conversion factor*). Freestanding ASCs are reimbursed at the lower of (1) the *ASC rate*, or (2) the *actual charge*.[129] The ASC rate is calculated as the product of the conversion factor and the ASC *relative payment weight* for a given service or procedure, which mimics the relative weight assigned to the service or procedure under the OPPS. Therefore, the conversion factor is the main distinguishing component between freestanding ASC payments and payments for services provided at HOPDs.[130] Of note is that physician professional services are reimbursed directly to the physician, while the costs of *ancillary and technical component* (ASTC) charges are reimbursed to the facility.[131]

---

[126] Ibid.

[127] Medicare Payment Advisory Commission, *Medicare Payment Policies*, Report to the Congress, 2010, Washington, D.C., March 2010, p. 97.

[128] Centers for Medicare and Medicaid Services, "Chapter 14—Ambulatory Surgical Centers," in *Medicare Claims Processing Manual*, August 6, 2010, http://www.cms.gov/Regulations-and-Guidance/Guidance/Manuals/downloads/clm104c14.pdf (accessed September 4, 2012).

[129] Centers for Medicare and Medicaid Services, "Ambulatory Surgical Centers Fee Schedule," Payment System Fact Sheet Series, December 2011, p. 5.

[130] Ibid.

[131] Centers for Medicare and Medicaid Services, "Chapter 14—Ambulatory Surgical Centers," in *Medicare Claims Processing Manual* August 6, 2010, http://www.cms.gov/Regulations-and-Guidance/Guidance/Manuals/downloads/clm104c14.pdf (accessed September 4, 2012).

Beginning in 2008, *new, office-based procedures* performed in ASCs are covered by Medicare Part B but are not reimbursed at the OPPS percentage.[132] Instead, these services are reimbursed at whichever rate is lower: (1) the *ASC rate* (i.e., the percentage of the OPPS rate), or (2) the *practice expense portion* of the *MPFS payment rate* that would have applied if the procedure had been performed in a physician's office.[133] This alternative reimbursement calculation was implemented by CMS in an effort to discourage physicians from moving their practices out of their offices and into ASCs. Similarly, as a disincentive to physicians shifting procedures to ASCs, CMS also excludes from the revised ASC payment rates reimbursement for separately payable radiology services and drugs, instead applying the OPPS rate to those charges.[134]

As of 2011, *freestanding ASCs* received approximately 57 percent of the reimbursement given to a *hospital-based outpatient department* for an identical service, a significant decrease from the 86 percent ASCs received for identical services in 2004. This growing gap in reimbursement amounts has caused ASC advocacy groups to encourage CMS to realign payments to ASCs. The divergence between ASC and HOPD payments arises from the conversion factor for each facility being established from different indexes (*consumer price index for all urban consumers* [CPI-U] for freestanding ASCs and the *hospital market basket* for HOPDs). Of note is that freestanding ASCs are the only healthcare entity where the conversion factor is dictated by the CPI-U, which is based on prices for energy and housing, in contrast to the *hospital market basket*, which is driven by goods and services purchased by healthcare facilities.[135] The growing reimbursement gap has resulted in many joint ownership arrangements between freestanding ASCs and hospitals. As long as the

---

[132] New, office-based procedures are those procedures traditionally performed in a physician's office, for example, separately billed radiology services, separately payable drugs, and device-intensive procedures. Approximately 50 percent of the services performed at an ASC fall into this category. Medicare Payment Advisory Commission, "Ambulatory Surgical Centers Payment System," *MedPAC Payment Basics*, October 2011, p. 2.

[133] Medicare Payment Advisory Commission, "Ambulatory Surgical Centers Payment System," *MedPAC Payment Basics*, October 2011, p. 2.

[134] Ibid.

[135] "H.R. 4700, the Transparency in All Health Care Pricing Act of 2010; H.R. 2249, the Health Care Price Transparency Promotion Act of 2009; and H.R. 4803, the Patients' Right to Know Act," Testimony of Ambulatory Surgery Center Advocacy Committee before the U.S. House of Representatives Committee on Energy and Commerce Subcommittee on Health, May 6, 2010.

hospital holds a majority of the ASC's equity, most payors will reimburse the ASC as an affiliate of the hospital, allowing for more beneficial reimbursement rates.[136]

2.4.1.3.1.4 Skilled Nursing Facility Reimbursement Although Medicare covers only about 22 percent of all nursing home expenditures, Medicare paid about $26.4 billion to skilled nursing facilities in 2010.[137] Neither Medicare Part A nor Part B covers custodial care, that is, care that helps residents with daily activities.[138] Furthermore, Medicare Part A (the primary payor for covered skilled nursing services) will pay for daily skilled nursing or rehabilitation services only under the following scenario: (1) the patient had a prior stay in a general acute care hospital (for three consecutive days), (2) admission to a skilled nursing facility was within a short time period after hospital discharge, (3) the patient is receiving treatment for the same condition that was being treated in the hospital, and (4) a medical professional certified the need for daily skilled nursing or rehabilitative care.[139]

Skilled nursing days covered by Medicare Part A are limited to 100 days per *benefit period*, with the first 20 days covered at 100 percent, and a copayment of $144.50 per day required for days 21 through 100.[140] After the Medicare Part A 100-day benefit is exhausted, Medicare Part B benefits continue to reimburse for physician services and other Part B–covered services; however, the patient is liable for all other costs.[141] These incurred costs can be prohibitive for many patients, because the median annual cost

---

[136] Roger Strode, "Ambulatory Care Facilities and Clinics: An Interesting Year for Surgical Facilities? Time Will Tell," *Bloomberg Law Reports* 1, no. 1 (2010).

[137] Medicare Payment Advisory Commission, "Health Care Spending and the Medicare Program," Data Book, June 2012, p. 6; MedPAC, "Skilled Nursing Facility Services Payment System," October 2011, http://www.medpac.gov/documents/MedPAC_Payment_Basics_11_SNF_v2.pdf (accessed August 17, 2012).

[138] Pamela K. Carron and Nicole T. Stone, eds., *CCH Medicare Explained: §244* (Chicago: CCH, 2012), p. 60.

[139] Pamela K. Carron and Nicole T. Stone, eds., *CCH Medicare Explained: §230, §625* (Chicago: CCH, 2012), pp. 50–52, 301.

[140] Centers for Medicare and Medicaid Services, "Medicare & You 2012," 2012, http://www.medicare.gov/publications/pubs/pdf/10050.pdf (accessed August 21, 2012), p. 35.

[141] Ibid.; U.S. Office of the Inspector General, *Medicare Beneficiary Access to Skilled Nursing Facilities, 2001*, Report OEI-02-01-00160, July 2001, p. 1; MedPAC, "Prospective Payment for Post-Acute Care: Current Issues and Long-Term Agenda," *Report to the Congress: Medicare Payment Policy*, March 2001, p. 91.

of nursing home care ranges from $39,600 to $81,030.[142] Of note, with such high costs associated with care, less than 30 percent of nursing home patients are private pay patients, meaning they are not receiving benefits from Medicare or Medicaid.[143]

Prior to the July 1, 1998, implementation of the PPS, Medicare reimbursed skilled nursing facility services under a *cost-based payment system.* Under the PPS, skilled nursing facilities are reimbursed through:

> *prospective, case-mix adjusted per diem payments that cover routine, ancillary, and capital-related costs, including most items and services for which payment was previously made under Medicare Part B. The per diem payment is based on Fiscal Year 1995 Part A & B costs adjusted using the [skilled nursing facility] market basket index, the case mix from resident assessments, and geographical wage variations.*[144]

The *market basket index* is an adjustment factor made for inflation, while the *case-mix index* accounts for the different levels of care required by individual patients.[145] To determine the appropriate *case-mix*, skilled nursing facilities assign patients into 1 of 66 *Resource Utilization Groups* (RUGs), which are then divided into the following six major categories: (1) *special rehabilitation*, (2) *extensive services*, (3) *special care*, (4) *clinically complex*, (5) *impaired cognition*, and (6) *reduced physical function.*[146]

---

[142] Genworth Financial, LLC, and National Eldercare Referral Systems, LLC, "Genworth 2012 Cost of Care Survey: Home Care Providers, Adult Day Health Care Facilities, Assisted Living Facilities and Nursing Homes," 2012, p. 9.

[143] Jim Moore, *Assisted Living Strategies for Changing Markets* (Fort Worth, TX: Westridge Publishing, 2001), p. 72.

[144] U.S. Office of Inspector General, *Medicare Beneficiary Access to Skilled Nursing Facilities, 2001*, Report OEI-02-01-00160, July 2001, p. 2; Medicare Payment Advisory Commission, "Prospective Payment for Post-Acute Care: Current Issues and Long-Term Agenda," *Report to the Congress: Medicare Payment Policy, 2001*, Washington, D.C., March 2010, pp. 90–92.

[145] U.S. Office of Inspector General, *Medicare Beneficiary Access to Skilled Nursing Facilities, 2001*, Report OEI-02-01-00160, July 2001, p. 2.

[146] Resource Utilization Groups are based on patient characteristics, including services used, that estimate what resources particular patients with similar characteristics may use. RUGs are used to adjust the daily rate for skilled nursing payments. Medicare Payment Advisory Commission, "Skilled Nursing Facility Services Payment System," *MedPAC Payment Basics*, October 2011, pp. 1–2.

In response to concerns that the implementation of the PPS for skilled nursing services had led to a reduction in payments, on November 29, 1999, Congress enacted the *Balanced Budget Refinement Act* (BBRA), which implemented, on April 1, 2001, a 4 percent *across-the-board* increase in payments to skilled nursing facilities for Fiscal Years 2001 and 2002, with a temporary 20 percent increase in payments for 15 RUGs that represented medically complex conditions.[147] In 2000, Congress further increased reimbursement rates to skilled nursing facilities under the *Benefits Improvement and Protection Act of 2000* (BIPA), which increased the inflation update to the *full market basket* in Fiscal Year 2001 and increased the nursing component of the RUGs by 16.6 percent.[148] In addition, under the BIPA, the 20 percent increase in payment for 3 of the 15 RUGs (those for rehabilitation), mandated by the BBRA, was instead allocated across 14 additional rehabilitation RUGs as a 6.7 percent increase.[149]

2.4.1.3.1.5 Home Health Reimbursement Section 1861 of the *Social Security Act* authorizes Medicare Part A payments for home health services. If a beneficiary does not have Medicare Part A coverage, home health services may also be reimbursed from available Medicare Part B benefits.[150] Medicare Part A will reimburse for home healthcare for a patient only when (1) a physician has certified that home healthcare is necessary, (2) the beneficiary has been confined to his or her home, and (3) the beneficiary requires services covered by Medicare, specifically, physical and occupational therapy, speech language pathology services, medical social services, and home health aide services for personal care related to the treatment of the beneficiary's illness or injury. Medicare Part B also covers the cost of medical supplies and durable medical equipment (DME).[151] More information regarding reimbursement for DME is provided in a later section.

---

[147] "Balanced Budget Refinement Act of 1999," *Pub. L.* 106-113, 113 Stat 1501 (November 29, 1999).

[148] "Medicare Program; Provisions of the Benefits Improvement and Protection Act of 2000; Inpatient Payments and Rates and Costs of Graduate Medical Education: Interim Final Rule with Comment Period," *Federal Register* 66, no. 144 (June 13, 2001): 32175.

[149] U.S. Office of Inspector General, *Medicare Beneficiary Access to Skilled Nursing Facilities, 2001*, Report OEI-02-01-00160, July 2001, p. 3.

[150] Office of Inspector General, "Variation among Home Health Agencies in Medicare Payments for Home Health Services," Department of Health and Human Services (July 1995), p. 1.

[151] "Requirements for Home Health Services," 42 CFR CH. IV §424.22 (October 1, 2004), p. 996.

Similar to reimbursement for skilled nursing services, the *Social Security Act* specifically denies coverage for *custodial care* and *personal comfort items*. Congressional intent for these exclusions is to provide care related only to the *skilled* treatment of a specific illness or injury.[152]

Originally, Medicare Part A benefits were limited to 100 home healthcare visits, for Medicare beneficiaries discharged from the hospital following a minimum three-day stay. Subsequent to Medicare Part A being exhausted, then Medicare Part B covers 100 home healthcare visits during a calendar year with a required deductible. The *Omnibus Budget Reconciliation Act of 1980* eliminated the three-day prior hospitalization requirement under Part A, the 100-visit limits for both Part A and Part B, and the deductible for home health services under Part B, effectively transforming Medicare home health benefits into an *unlimited benefit* serving both *chronic needs* of patients and short-term *recuperative care* after a hospital stay.[153]

Implementation of the Medicare PPS for inpatient hospital services in 1983 resulted in a large-scale shift of the provision of healthcare services from *inpatient* to *outpatient* settings. During the 1980s, the percentage of Medicare patients discharged to home health facilities increased from 9.1 percent in 1981 to 17.9 percent in 1985.[154] Furthermore, federal governmental cost control initiatives for hospital reimbursement led to a surge in home healthcare spending. As a result, the *Balanced Budget Act* of 1997 required the implementation of a PPS for home healthcare services covered under Medicare, as well as aggregate, *per patient cost caps* on the amount that agencies were reimbursed for home healthcare patients.[155]

The PPS for home healthcare was implemented on October 1, 2000, under which home healthcare agencies are paid a *predetermined pay rate* for each 60-day episode of care, based on several elements, including patients'

---

[152] "Testimony on the Balanced Budget Act Home Health Provisions by Nancy-Ann Min DeParle," Assistant Secretary for Legislation Department of Health and Human Services, March 31, 1998.

[153] Tom Dowdal, "Medicare from the Start to Today," National Bipartisan Commission on the Future of Medicare, http://rs9.loc.gov/medicare/history.htm (accessed August 29, 2012).

[154] National Association for Home Care and Hospice, "Basic Statistics about Home Care," November 2001, www.nahc.org/Consumer/hcstats.html (accessed June 5, 2003), p. 6.

[155] GAO Report to the Chairman, *Medicare Home Health Care: Prospective Payment System Could Reverse Recent Declines in Spending*, Subcommittee on Health, Committee on Ways and Means, House of Representatives, September 2000, http://www.gao.gov/new.items/he00176.pdf (accessed July 13, 2007), p. 23.

conditions and service usage, geographic area, case mix, and number of visits.[156] If fewer than five visits occur within the 60-day episode of care period, the home healthcare agency was paid by the *type of visit*.[157] These elements are categorized as *labor* and *nonlabor portions*. The *labor portion* is adjusted to account for geographic differences in labor input to home health services, and the remaining are *nonlabor portions*.[158] In addition to CMS-established payment rates, the ACA provided for an additional payment of 3 percent for episodes of care in rural areas from April 2010 to 2015.[159]

2.4.1.3.1.6 Independent Diagnostic Testing Facilities (IDTF) Reimbursement *Independent Diagnostic Testing Facilities* (IDTF), otherwise known as *Freestanding Diagnostic Imaging Facilities*, offer diagnostic services independently of physician offices or hospitals. Medicare Part B reimburses IDTFs according the MPFS. Significantly, the *Deficit Reduction Act of 2005* (DRA), signed into law on February 8, 2006, capped the *technical component* (including the technical component of the global fee, that is, when the technical and professional components are reimbursed as one amount—"*globally*") for certain imaging services provided in physician offices and IDTFs, which could also be provided in a hospital outpatient setting, at the OPPS rate for identical services.[160] The DRA-established cap applies to imaging services provided on or after January 1, 2007, including *x-ray*, *ultrasound*, *nuclear medicine*, *magnetic resonance imaging* (MRI), *computed tomography* (CT), and *fluoroscopy*. Excluded from the DRA-established cap are diagnostic and screening *mammographies*.[161]

---

[156] Centers for Medicare and Medicaid Services, "Home Health Prospective Payment System," Payment System Fact Sheet Series, ICN 006816, February 2012, p. 2.

[157] Type of visit is characterized as skilled nursing care; physical, occupational, and speech therapy; medical social work; or home health aide services. Medicare Payment Advisory Commission, "Home Health Care Services Payment System," October 2011, *MedPAC Payment Basics*, p. 1.

[158] "Balanced Budget Act," *Pub. L.* 105-33, 111Stat 467, §4603 (August 5, 1997); "Home Health Care Services Payment System," *MedPAC Payment Basics*, October 2011, p. 1.

[159] "Home Health Care Services Payment System," *MedPAC Payment Basics*, October 2011, http://medpac.gov/documents/MedPAC_Payment_Basics_11_HHA.pdf (accessed August 9, 2012), p. 3.

[160] "Deficit Reduction Act of 2005," *Pub. L.* 109-171, 120 Stat 39, §5052 (February 8, 2006).

[161] Ibid.

Historically, reimbursement to IDTFs has been perceived by some health policy regulators as more vulnerable to a higher level of abuse than other services. A 2012 Office of the Inspector General (OIG) study found that in 2009, the 20 highest *Core Based Statistical Areas* (CBSA), based on IDTF service utilization, accounted for 10.5 percent of Medicare Part B payments to IDTF, four times the average amount received by the remaining CBSAs. Despite accounting for only 2.2 percent of the Medicare beneficiaries receiving IDTF services, 9 percent of the IDTFs in the 20 highest CBSAs provided 90.1 percent of all IDTF services. Furthermore, these 20 CBSAs are alleged to have submitted twice as many claims to Medicare that were noted as having at least two *questionable characteristics*.[162] The OIG broached its concerns regarding possible abuse of IDTF reimbursement with CMS, which concurred with the OIG recommendations to increase monitoring of IDTF billing, but postponed judgment regarding the imposition of a temporary moratorium on new IDTF Medicare enrollment.[163]

2.4.1.3.1.7 ESRD Reimbursement Since 1983, Medicare has reimbursed providers of *dialysis* services for *end stage renal disease* (ESRD) based on a *predetermined prospective payment* for each dialysis treatment they conduct, known as a *composite rate* (CR).[164] The CR covers the costs associated with a single dialysis treatment, including nursing, diet counseling, and other clinical services; social services; supplies; equipment; and certain laboratory tests and drugs.[165] Similar to other reimbursement payment models, the CR is adjusted to account for geographic differences in prices and case-mix.[166] In addition, Medicare pays separately for *drugs* and *tests* that have become a *routine part of care* since 1983, such as *erythropoietin* (EPO), *iron sucrose*, and *vitamin D*.[167]

---

[162] Timothy S. Brady, et al., "Questionable Billing for Medicare Independent Diagnostic Testing Facility Services" Office of the Inspector General, OEI-09-09-00380, March 2012, pp. 9–11.

[163] Ibid., p. 14.

[164] Medicare Payment Advisory Commission, "Outpatient Dialysis Services," *Report to the Congress: Medicare Payment Policy, 2006*, Washington, DC, March 2006, p. 121.

[165] Ibid., pp. 105–129.

[166] Medicare Payment Advisory Commission, "Outpatient Dialysis Services Payment System," *MedPAC Payment Basics*, October 2009, p. 2.

[167] Medicare Payment Advisory Commission, "Outpatient Dialysis Services," *Report to the Congress: Medicare Payment Policy, 2006*, Washington, DC, March 2006, pp. 105–129.

Beginning on January 1, 2011, §153(b) of the *Medicare Improvements for Patients and Providers Act* (MIPPA) replaced the basic *composite payment system* with a bundled ESRD *prospective payment system* (ESRD PPS) for Medicare outpatient ESRD facilities.[168] The new reimbursement model was implemented during a four-year transition period, with full implementation beginning January 1, 2014.[169] Providers were given the choice to either (1) fully implement the new reimbursement system on January 1, 2011, or (2) transition to the new reimbursement system under the four-year transition model.[170] Under the four-year transition model, a blended payment rate of the initial *case-mixed adjusted composite payment rate* and the new ESRD PPS payment was to be used, unless existing ESRD facilities opted out of the ESRD PPS transition by November 1, 2010.[171]

The ESRD PPS bundled payment system consists of services included in the CR as of 2010, that is, *injectable biologicals* used to treat anemia, *erythropoiesis stimulating* agents and any oral form of such agents, other *injectable medications* that are furnished to ESRD beneficiaries and separately paid for under Medicare Part B, and *laboratory tests* and other items and services provided to beneficiaries for ESRD treatment.[172] The bundled payment rate includes adjustments for *patient case-mix*, *high-cost patients*, and *low-volume* facilities.[173] A description of the various factors that adjust the ESRD PPS base rate is set forth in Table 2.7.

Under MIPPA, a pay-for-performance program was also implemented into the payment bundle system.[174]

---

[168] Medicare Payment Advisory Commission, "Outpatient Dialysis Services Payment System," *MedPAC Payment Basics*, October 2009, p. 3.

[169] Centers for Medicare and Medicaid Services, "Medicare: ESRD Payment," March 23, 2012, http://www.cms.gov/ESRDPayment (accessed February 18, 2010).

[170] This option was not available to providers that began offering dialysis services on or after January 1, 2011; instead these providers were reimbursed at 100 percent of the ESRD PPS. Centers for Medicare and Medicaid Services, "Medicare Program; End-Stage Renal Disease Prospective Payment System; Final Rule and Proposed Rule," *Federal Register* 75, no. 155 (August 12, 2010): 49033–49034; Centers for Medicare and Medicaid Services, "End-Stage Renal Disease Prospective Payment System," June 25, 2008.

[171] Centers for Medicare and Medicaid Services, "Medicare Program; End-Stage Renal Disease Prospective Payment System; Final Rule and Proposed Rule," *Federal Register* 75, no. 155 (August 12, 2010): 49083.

[172] Medicare Payment Advisory Commission, "Outpatient Dialysis Services Payment System," http://www.medpac.gov (October 2009), p. 3.

[173] Ibid.

[174] Ibid.

TABLE 2.7 Factors Used to Adjust ESRD PPS Base Rate Payments

Adjustment Factor	Description
Patient-Level Adjustments for Case-Mix	Based on demographics that play a role in the cost of providing care, including patient age, body surface area, low body mass index, onset of dialysis, and the following six specified comorbidities: (1) hereditary hemolytic and sickle cell anemia, (2) monoclonal gammopathy (in the absence of multiple myeloma), (3) myelodysplastic syndrome, (4) bacterial pneumonia, (5) gastrointestinal bleeding, and (6) pericarditis.
Facility-Level Adjustments	Facilities that are certified to furnish home or self-care dialysis training services will receive a training add-on payment. This adjustment applies to both peritoneal dialysis and hemodialysis training treatments.
Adjustments for Pediatric Patients	Treatments provided to pediatric patients (i.e., individuals under the age of 18) are subject to a payment adjustment to reflect the higher total payments for pediatric composite rate and separately billable services, compared to adult patients.
Outlier Adjustments	An additional outlier payment is applied when a beneficiary's payment per treatment for outlier services exceeds the predicted payment amount per treatment for the outlier services plus a fixed dollar amount. Outlier services include drugs, laboratory testing, and other items that facilities separately billed under the old payment system, such as ESRD-related medical and surgical supplies.

"Medicare Program; End-Stage Renal Disease Prospective Payment System and Quality Incentive Program; Ambulance Fee Schedule; Durable Medical Equipment; and Competitive Acquisition of Certain Durable Medical Equipment, Prosthetics, Orthotics and Supplies; Final Rule," Centers for Medicare and Medicaid Services, *Federal Register* 76, no. 218 (November 10, 2011): 70230.

2.4.1.3.1.8 Durable Medical Equipment Reimbursement Medicare Part B reimburses for approximately 28 percent of all spending on medically necessary and physician prescribed *durable medical equipment*, *prosthetics*, *orthotics*, *and other medical supplies* (DMEPOS). Distinctions in the scope of CMS reimbursement vary based on the definition of DMEPOS. The category with the largest scope of Medicare reimbursement is *durable medical equipment* (DME) and *prosthetics and orthotics* (PO). DME includes any equipment that "(1) can withstand repeated use, (2) is used

to serve a medical purpose, (3) generally is not useful in the absence of an illness or injury, and (4) is appropriate for use in the home."[175] PO are limited to those devices that replace all or part of an internal body organ or body part, such as colostomy bags, artificial parts, and leg braces. Medicare also covers *some* supplies (S) that are not including in DME or PO, such as disposable surgical dressings.[176]

Medicare reimbursement for DMEPOS uses a fee schedule developed from suppliers' previous charges to Medicare. The payment available by Medicare is typically 80 percent of the lesser of either (1) the supplier's actual charge, or (2) the Medicare fee schedule for an item or service. Beneficiary coinsurance accounts for the remaining 20 percent of the charge, which is accepted by the supplier. There are four specific *Medicare Administrative Contractors* that manage the payment of claims for DMEPOS Medicare billing.[177]

The *National Association of Medical Equipment Services' Six-Point Plan* was signed into law by President Ronald Reagan, as part of the *Omnibus Budget Act of 1987*. The *Six-Point Plan*, effective as of 1989, was designed to stabilize Medicare reimbursements for DMEPOS and to increase the *rent/purchase cap* from $120 to $150.[178] The *Six-Point Plan* classified DMEPOS into six categories defined as follows:

1. **Inexpensive or other routinely purchased DME (rent or purchase).** Defined as DME that does not exceed $150 or is acquired by purchase at least 75 percent of the time.
2. **Items requiring frequent and substantial servicing (rental only).** Defined as DME items that require frequent and substantial servicing to avoid a risk to a patient's health, such as ventilators and aspirators.
3. **General prosthetic and orthotic devices and supplies, miscellaneous supplies, and other Items (purchase only).** Where prosthetics are defined as

[175] Paulette C. Morgan, *Medicare Durable Medical Equipment: The Competitive Bidding Program*, Congressional Research Service, Report to Congress, R41211, August 6, 2010, p. 1.

[176] Ibid.

[177] Government Accountability Office, *Medicare: Review of the First Year of CMS's Durable Medical Equipment Competitive Bidding Program's Round 1 Rebid*, GAO-12-693, May 2012, p. 6.

[178] The maximum cost of DME that Medicare will reimburse for; "The Home Care Evolution," *Home Care Magazine*, January 1, 2003, http://homecaremag.com/mag/medical_home_care_evolution/ (accessed May 29, 2007); David Gourley, "Reimbursement Challenges Hit Home," *RT for Decision Makers in Respiratory Care* (2006): 1–4.

devices that replace all or part of an internal body organ or its function, orthotic devices are defined as items used for the correction or prevention of skeletal deformities, and miscellaneous supplies include items such as sterile saline or water and blood glucose test strips.

4. **Capped rental items (rent or purchase).** Defined as items that cost more than $150, are not routinely purchased, are not service intensive, are not customized, and are not oxygen or oxygen-related.
5. **Oxygen (rental only) and oxygen equipment.** With oxygen equipment defined as stationary or portable gaseous and liquid systems.
6. **Customized equipment (including customized prosthetic and orthotic devices) (purchase only).** Defined as equipment uniquely constructed or modified to meet the needs of a specific patient.[179]

These six basic categories are still used today by CMS for DMEPOS reimbursement.[180]

Under the Deficit Reduction Act (DRA) of 2005, the terms of beneficiary ownership of certain DMEPOS, including those defined in the *Six-Point Plan,* were altered. For rentals, payments must be made on a monthly basis, but not for longer than 13 months of continuous use. If the rental item is used for more than 13 continuous months, the supplier will transfer the title of the item to the individual. An exception to this is the power-driven wheelchair, which is required to be offered for purchase at a lump sum price at the time the supplier furnishes the item. Another change made by the DRA involves maintenance and servicing of DME after the title is transferred to the individual. The DRA states that reasonable and necessary maintenance and servicing for capped rental items and certain oxygen-generating equipment are the responsibility of the supplier.[181]

Unique to certain DMEPOS (i.e., patient safety items, ambulatory aids, wheelchairs, and hospital beds) is the process of *competitive bidding*, whereby DMEPOS manufacturers submit competing bids to Medicare based on the *charge per unit*, the lowest of which is granted a government

[179] Palmetto GBA and Centers for Medicare and Medicaid Services, *Region C DMERC: DMEPOS Supplier Manual* (Spring 2007): 8.2–8.7.

[180] Centers for Medicare and Medicaid Services, "Chapter 20—Durable Medical Equipment, Prosthetics, Orthotics, and Supplies (DMEPOS)," in *Medicare Claims Processing Manual*, June, 8, 2012.

[181] "Deficit Reduction Act of 2005," *Pub. L.* 109-171, 120 Stat 4 (February 8, 2006), pp. 37–38.

DMEPOS contract to be a Medicare provider of DMEPOS in 1 of 10 different metropolitan areas.[182] CMS chooses two or more suppliers from each *metropolitan statistical area* (MSA); however, once patient need is satisfied, CMS caps the number of *winning bidders*. Mandated under §302 of the *Medicare Prescription Drug, Improvement, and Modernization Act* of 2003 (MMA),[183] *competitive bidding* was designed to reduce out-of-pocket costs to patients, as well as costs incurred by Medicare, by combating provider fraud.[184] As such, identical products must be priced the same within an individual MSA, although prices can vary between MSAs. Of note, all contract suppliers for Medicare must be licensed and accredited by an approved agency before their bid is considered.[185] CMS

[182] United States Securities and Exchange Commission, "Apria Healthcare Group, Inc. 10K Form," December 31, 2006; Chris Silva, "Medicare DME Bidding Program Set to Relaunch in 2010," *American Medical News*, May 4, 2009, http://www.ama-assn.org/amednews/2009/05/04/gvsd0504 (accessed November 10, 2009).

[183] "Medicare Prescription Drug, Improvement, and Modernization Act of 2003," *Pub. L.* 108-173, 117 Stat 2066 (December 8, 2003), pp. 2224–2233.

[184] Centers for Medicare and Medicaid Services, "Medicare Announces Competitive Acquisition Program for Certain Durable Medical Equipment, Prosthetics, Orthotics, and Supplies," April 2, 2007, http://www.cms.hhs.gov/apps/media/press/release.asp?Counter=2097&intNumPerPage=10&checkDate=&checkKey=&srchType=&numDays=3500&srchOpt=0&srchData=&keywordType=All&chkNewsType=1%2C+2%2C+3%2C+4%2C+5&intPage=&showAll=&pYear=&year=&desc=&cboOrder=date (accessed August 16, 2012).

[185] To obtain a CMS contract to supply DME, suppliers must meet quality standards established by CMS and be accredited by a CMS-approved independent national Accreditation Organization (AO), of which there are 10 (approved by CMS in November 2006), including (1) Accreditation Commission for Health Care, Inc.; (2) American Board for Certification in Orthotics & Prosthetics, Inc.; (3) Board of Certification/Accreditation International; (4) Commission on Accreditation of Rehabilitation Facilities; (5) Community Health Accreditation Program; (6) HealthCare Quality Association on Accreditation; (7) National Association of Boards of Pharmacy; (8) the Compliance Team, Inc.; (9) the Joint Commission; and (10) the National Board of Accreditation for Orthotic Suppliers. Centers for Medicare and Medicaid Services, "Medicare New Deemed Accreditation Organizations for Suppliers of Durable Medical Equipment, Prosthetics, Orthotics and Supplies (DMEPOS)," May 4, 2010; Miram Lieber, "Shaping Up for NCB," HomeCare, April 1, 2007, http://www.homecaremag.com/mag/medical_shaping_ncb/index.html (May 8, 2007).

requires potential DME suppliers for the federal government to meet seven criteria:

1. Be in good standing with the Medicare program and not under any current sanctions by Medicare or any governmental agency or accreditation or licensing organization.
2. Have an active National Supplier Clearinghouse (NSC) number.[186]
3. Meet any local or state licensure requirements for the item being bid.
4. Submit a bid as a prerequisite to becoming a winning supplier.
5. Be accredited or have an application for accreditation pending in order to participate in bidding.
6. Provide capacity estimates of the number of units for each item included in the product category that the supplier would be capable of furnishing under the program.
7. Agree to service the entire *competitive bidding area* (CBA), regardless of where the beneficiary is located, although the supplier will not be required to be capable of servicing 100 percent of the beneficiaries in that geographic area.[187]

Small suppliers that generate gross revenue of $3.5 million or less in annual receipts account for approximately 85 percent of DMEPOS suppliers enrolled in the Medicare program.[188] The CMS final rule on the

[186]The National Supplier Clearinghouse (NSC) is the organization that enrolls and monitors the business information for DMEPOS suppliers in the Medicare program. NSC issues Medicare supplier numbers based on a supplier's single tax reporting or employee identification number and uses modifiers to identify geographic office locations. Although NSC is not directly involved in billing and claims, it supplies DME Medicare Administrative Contractors with the overall NSC Master File to facilitate supplier eligibility for claims payment. Centers for Medicare and Medicaid and the Medicare Contractor Management Group, *Durable Medicare Equipment Medicare Administrative Contractor: Workload Implementation Handbook*, March 1, 2007, pp. 7–3.

[187]"Medicare Program; Competitive Acquisition for Certain Durable Medical Equipment, Prosthetics, Orthotics, and Supplies (DMEPOS) and Other Issues," *Federal Register* 72, no. 68 (April 10, 2007): 18035–18039.

[188]Centers for Medicare and Medicaid Services, "Fact Sheet: Competitive Bidding Program for Certain Durable Medical Equipment, Prosthetics, Orthotics, and Supplies: Final Rule (CMS 1270-F)," April 2, 2007, http://www.cms.hhs.gov/apps/media/press/factsheet.asp?Counter=2098&intNumPerPage=10&checkDate=&checkKey=&srchType=&numDays=3500&srchOpt=0&srchData=&keywordType=All&chkNewsType=6&intPage=&showAll=&pYear=&year=&desc=&cboOrder=date (accessed August 16, 2012).

DMEPOS competitive bidding program, published on April 10, 2007, ensures small supplier participation and access to the competitive bidding market through several provisions. The final rule set a target percentage for winning bidders representing small supplier participation of 30 percent in each product category. If this percentage is not achieved during a competitive bidding cycle, CMS must offer DMEPOS supplier contracts to those small suppliers that submitted bids higher than the winning bids and represent the highest of the small supplier bids. CMS will continue using this methodology until either (1) the 30 percent goal is met, or (2) there are no additional small supplier bidders.[189] Small suppliers are also allowed to form *networks* in order to "lower bidding costs, expand service options, or attain more favorable purchasing terms," thereby facilitating their participation in the bidding process.[190] Any network formed must comply with all federal and state laws, including federal antitrust laws.[191]

The first round of competitive bidding began in 2007, and contracts were awarded and took effect on July 1, 2008, achieving an approximate 26 percent in savings as compared to prior Medicare expenditures on specific DMEPOS items.[192] However, MIPPA rescinded those contracts awarded in the first round of bidding; delayed the second round of bidding, which was scheduled for 2009; and made several other changes to the program.[193] These revisions were attributed partially to implementation difficulties with the automatic bid submission system.[194]

In order to offset the cost of the implementation delays after MIPPA, changes were made to the fee schedule. For any item selected for competitive bidding before July 1, 2008, the fee schedule did not increase but instead was reduced by 9.5 percent in 2009.[195] The *Round One Rebid* began again in October 2009, resulting in 1,217 new contracts, which became effective in

[189] "Medicare Program; Competitive Acquisition for Certain Durable Medical Equipment, Prosthetics, Orthotics, and Supplies (DMEPOS) and Other Issues," *Federal Register* 72, no. 68 (April 10, 2007): 18058.

[190] Ibid., 18058–18059.

[191] Ibid.

[192] Medicare Payment Advisory Commission, "Durable Medical Equipment Payment System," *MedPAC Payment Basics,* October 2001, http://medpac.gov/documents/MedPAC_Payment_Basics_11_DME.pdf (accessed August 9, 2012).

[193] Ibid.

[194] Ibid.

[195] Ibid.

January 2011 in nine MSAs for nine product categories.[196] Approximately 51 percent of the contracts were with small businesses, vastly exceeding the required target minimum of 30 percent (discussed earlier).[197] Achieving a 35 percent savings in its *first* round, the competitive bidding program has significantly reduced prices for beneficiaries in select areas.[198] CMS has estimated that due to the *competitive bidding process*, there has been an overall reduction in DMEPOS expenditures of $202.1 million (42 percent) in MSAs included in the *Round One Rebid.*[199] CMS *real-time monitoring* also indicated significantly fewer instances of inappropriate mail-order claims.[200]

CMS is required to *re-compete* DMEPOS contracts every three years; therefore, the *Round One Rebid contracts* (except for mail order diabetes products) all expire on December 31, 2013. In preparation for this, CMS began conducting the *Round One Re-Compete* in the spring of 2012 in the same geographic areas (MSAs) included in the *Round One Rebid.*[201]

The ACA expanded the *Round Two* MSAs from 70 to 91 and required further expansion in subsequent re-competes, such that the entire country is scheduled to be eligible for *competitive bidding* by 2016.[202] CMS also included mail order items as a product category for *Round Two* competitive bidding.[203] The *Round Two* competitive bidding process mirrors the process

---

[196] Centers for Medicare and Medicaid Services, "DMEPOS Competitive Bidding," April 18, 2012, http://www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/DMEPOSCompetitiveBid/index.html?redirect=/DMEPOSCompetitiveBid/ (accessed August 9, 2012); Centers for Medicare and Medicaid Services, "Competitive Bidding Update—One Year Implementation Update," April 17, 2012, p. 2, http://www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/DMEPOSCompetitiveBid/Downloads/Competitive-Bidding-Update-One-Year-Implementation.pdf (accessed August 9, 2012).

[197] Centers for Medicare and Medicaid Services, "Competitive Bidding Update—One Year Implementation Update," April 17, 2012, p. 2, http://www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/DMEPOSCompetitiveBid/Downloads/Competitive-Bidding-Update-One-Year-Implementation.pdf (accessed August 9, 2012).

[198] Ibid.

[199] Ibid.

[200] Ibid.

[201] Centers for Medicare and Medicaid Services, "DMEPOS Competitive Bidding Program Round 1 Recompete Announced," April 17, 2012, http://www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/DMEPOS-Round-1-Recompete/index.html (accessed August 9, 2012).

[202] Ibid.

[203] Ibid.

used during *Round O*ne, which will continue, absent any negative effects on either access to supplies or beneficiary health indicators. The *Office of the Actuary* (OACT) has estimated that *competitive bidding* may achieve $25.7 billion in savings for the Medicare program and an additional $17.1 billion for beneficiaries between 2013 and 2022.[204] For more information on the impact of competitive bidding, see Section 4.6.3, "Commoditization of Healthcare," in Chapter 4, "Competition."

2.4.1.3.2 Physician Reimbursement and Billing: The Resource-Based Relative Value Scale (RBRVS) Medicare reimbursement is based on a standardized physician payment schedule based on the *Resource-Based Relative Value Scale* (*RBRVS*), the intent of which is to determine payments based on the *relative value* of the resources necessary to provide a particular service.[205] The MPFS determines payments by a procedure's *Relative Value Units* (*RVU*), which is applied across all specialties.[206]

The RBRVS was developed by Harvard economist William C. Hsiao, PhD, in 1988 (see Section 1.6.6, "Development of Resource-Based Relative Value System [RBRVS]," in Chapter 1, "The Chronology of U.S. Healthcare Delivery"). The movement toward the development of a *resource-based* physician payment schedule was a significant change to Medicare reimbursement. For 25 years, Medicare physician payments were determined by the *Customary, Prevailing, and Reasonable* (CPR) system, under which payments were based on (1) the 90th percentile of *customary charges* within the physician specialty area, (2) the median prices of physician charges, or (3) the lowest of the physician's

[204]The Office of the Actuary (OACT) is a department within CMS that "[c]onducts and directs the actuarial program for CMS and directs the development of and methodologies for macroeconomic analysis of health care financing issues." Centers for Medicare and Medicaid Services, "Office of the Actuary" June 28, 2012, http://www.cms.gov/About-CMS/Agency-Information/CMSLeadership/Office_OACT.html (accessed September 11, 2012); Centers for Medicare and Medicaid Services, "Competitive Bidding Update—One Year Implementation Update" April 17, 2012, p. 7, http://www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/DMEPOSCompetitiveBid/Downloads/Competitive-Bidding-Update-One-Year-Implementation.pdf (accessed August 9, 2012).

[205]American Medical Association, "Overview of the RBRVS," http://www.ama-assn.org/ama/pub/physician-resources/solutions-managing-your-practice/coding-billing-insurance/medicare/the-resource-based-relative-value-scale/overview-of-rbrvs.shtml (accessed October 5, 2009).

[206]Medicare Payment Advisory Committee, "Physician and Other Health Professionals Payment System," *Payment Basics* (October 2011, http://medpac.gov/documents/MedPAC_Payment_Basics_11_Physician.pdf (accessed August 14, 2012), p. 1.

RELATIVE VALUE SCALE (RVS)

The RVS is the reimbursement scheme by which each procedure is assigned a relative value, which is multiplied by a negotiated factor (the multiplier), usually a discount, to arrive at a payment.

The Managed Health Care Handbook, *3rd ed., by Peter R. Kongstvedt (Gaithersburg, MD: Aspen Publishers, 1996), pp. 140–141.*

Factoid

The RBRVS was created by William C. Hsiao in 1988 in order to (1) address the growing inequity of reimbursement rates for procedural services for cognitive clinical services, and (2) address the rapid increases in Medicare spending.

"Resource-Based Relative Value Units: A Primer for Academic Family Physicians," by Sarah E. Johnson and Warren P. Newton, Family Medicine *(March 2002): 172–173.*

actual fees within the geographic location.[207] Over time, the CPR was perceived as resulting in fluctuations in prices, creating pricing disparities between geographic locations, physician specialties, and third-party insurance companies.[208] For example, reimbursement rates were often higher in urban areas and for procedural-oriented services.[209] The CPR system was eventually seen as unreliable and a factor in driving up health expenditures in the United States.

In an attempt to rectify that situation, the *Physician Payment Review Commission* (PPRC), currently known as MedPAC, considered four distinct options: (1) modify the current CPR system, (2) implement a Prospective Payment System (PPS), (3) mandate the use of *health maintenance organization* (HMO) programs and capitation strategies, or (4) implement a relative value scale.[210] The PPRC eventually endorsed a *resource-based relative*

[207] William C. Hsiao, et al., "A National Study of Resource-Based Relative Value Scales for Physician Services," Cambridge, MA, 1988, pp. 1–25.

[208] Ibid.

[209] Ibid.

RESOURCE-BASED RELATIVE VALUE SYSTEM (RBRVS)

The RBRVS is the scale on which Medicare bases its standardized physician payment schedule. The RBRVS determines payments based on the value of the resources necessary to provide a particular service.

"Overview of the RBRVS," American Medical Association, http://www.ama-assn.org/ama/pub/physician-resources/solutions-managing-your-practice/coding-billing-insurance/medicare/the-resource-based-relative-value-scale/overview-of-rbrvs.shtml (accessed October 5, 2009).

value scale in efforts to project neutral values under a hypothetical competitive market and effectively present physician services as a health market commodity.

In the study used to establish the RBRVS system, that is, *A National Study of Resource-Based Relative Value Scales for Physician Services*, Hsiao examined several components making up physician services, in particular: *work*, *practice costs*, and *opportunity costs*, including the cost associated with *training*. With the aid of multidisciplinary consulting groups and physician surveys, Hsiao composed a common scale of *relative values* across physician specialties and services.[211] These components, studied by Hsiao, were the basis for the RVU calculation used in the current MPFS.

There are three RVU components: (1) *physician work*, (2) *practice expense*, and (3) *malpractice costs*, defined as:

1. **Physician work (wRVU).** "The relative levels of time, effort, skill, and stress associated with providing each service"—approximately 55 percent of the RVU value.
2. **Practice expense (PE RVU).** "The expenses physicians incur when they rent office space, buy supplies and equipment, and hire nonphysician

[210] American Medical Association, "Medicare RBRVS: The Physicians' Guide," 1997, p. 4.

[211] William C. Hsiao, et al., "A National Study of Resource-Based Relative Value Scales for Physician Services," Cambridge, MA, 1988, pp. 1–25.

RELATIVE VALUE UNIT (RVU)

The RBRVS assigns each procedure a relative value unit, or RVU. There are three types of RVUs: one for physician work (wRVU), one for practice expense (PE), and one for malpractice costs. The three components of the RVU can be broken down as follows:

1. **Work.** The estimated value of the time, effort, expertise, and intensity of the service—approximately 55 percent of the RVU value.
2. **Practice expense.** The estimated value of overhead and other expenses necessary to run the practice—approximately 42 percent of the RVU value.
3. **Professional liability insurance (PLI).** The estimated value of malpractice cost for the service—approximately 3 percent of RVU value.

"Gauging Emergency Physician Productivity: Are RVUs the Answer," by John Proctor, American College of Emergency Physicians, ACEP Reimbursement Committee, http://www.acep.org/practres.aspx?id=30306 (accessed April 1, 2009).

clinical and administrative staff"—approximately 42 percent of the RVU value.

3. **Malpractice expense (MP RVU).** The "premiums physicians pay for professional liability insurance, also known as medical malpractice insurance"—approximately 3 percent of RVU value.[212]

Modifiers are often used to adjust each of these RVU components, as well as the total number of RVUs for a given service as designated by a diagnosis of procedure code (see Section 2.2.3, "Diagnostic and Procedural Coding"). Each RVU component is adjusted by its corresponding *Geographic Practice Cost Index* (*GPCI*) to account for local and geographic cost differences. The sum of the geographically adjusted RVUs is multiplied by a *conversion*

[212] Medicare Payment Advisory Committee, "Physician and Other Health Professionals Payment System" *MedPAC Payment Basics* (October 2011), http://medpac.gov/documents/MedPAC_Payment_Basics_11_Physician.pdf (accessed August 14, 2012), pp. 1–2; John Proctor, ACEP Reimbursement Committee, "Gauging Emergency Physician Productivity: Are RVUs the Answer?" posted on American College of Emergency Physicians, www.acep.org/practres.aspx?id=30306 (accessed August 14, 2012).

Key

RVU = Relative Value Unit
w = Work
PE = Practice Expense
MP = Malpractice
GPCI = Geographic Price Index
CF = Conversion Factor

Payment = [(wRVU × GPCI work) + (PE RVU × GPCI PE) + (MP RVU × GPCI malpractice)] × CF

EXHIBIT 2.9 MPFS Payment Calculation

factor (CF) to determine the dollar amount of Medicare reimbursement for a specific service at a given location.[213]

The formula for calculating the Medicare physician reimbursement amount for a specific procedure at a given location is shown in Exhibit 2.9.[214]

Each of these three RVU components, GPCI, and CF is discussed further on.

2.4.1.3.2.1 Work Component The *work RVU* (wRVU) *component* represents the physician's contribution of *time* and *effort* to the completion of a given procedure. For example, as referenced previously, an E/M procedure for a *difficult* to diagnose medical condition will have a higher wRVU than an E/M for a *preventative care* office visit. Similarly, the surgery code for a *simple closure* will result in a lower wRVU than the code for a *complex closure*. Typically, the higher the value of the code, the more *skill*, *time*, and *work necessary to complete* the service.

Hsiao and his peers considered the wRVU component of reimbursement to be the most significant aspect of their RBRVS study. The study divided *work* into three categories: (1) *pre services*, (2) *intra services* (face-to-face time with a physician), and (3) *post services*. *Pre-service* and *post-service*

[213] Medicare Payment Advisory Committee, "Physician and Other Health Professionals Payment System," *MedPAC Payment Basics* (October 2011, http://medpac.gov/documents/MedPAC_Payment_Basics_11_Physician.pdf (accessed August 14, 2012), p. 2.

[214] "Medicare Program; Revisions to Payment Policies Under the Physician Fee Schedule for Calendar Year 2006 and Certain Provisions Related to the Competitive Acquisition Programs of Outpatient Drugs and Biologicals Under Part B; Final Rule," *Federal Register* 70, no. 223 (November 21, 2005): 70120.

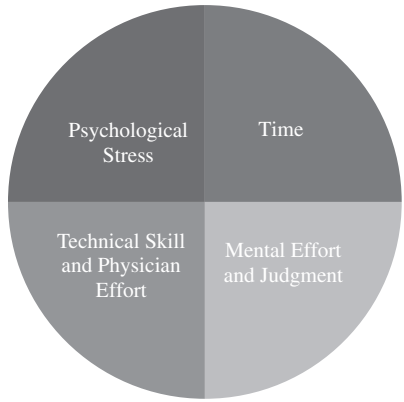


EXHIBIT 2.10 wRVU Components

work included *reviewing* data; *communicating* with colleagues, patient relatives, and staff; and *documentation*. Due to the nature of *pre-service* and *post-service* work, *intra-service* work was considered more discrete and more reliable than the other categories. Therefore, Hsiao's study focused heavily on refining and calculating *intra-service* measurements, and *pre-service* and *post-service* work measurements were extrapolated.[215]

Hsiao's preliminary studies defining the dimensions associated with *work* first assessed *time* separate from *work intensity*. Although Hsiao discovered high correlations between the duration of a procedure and the physicians' estimates of its complexity, he questioned whether the overlap would lead to an exaggerated final *work* product. The physicians serving as the study's *Technical Consulting Groups* (TCGs) confirmed that the final *work* product did *not* reflect the perceived *reasonable input*. For services that were considered *long*, physicians underestimated their work values and, conversely, for services that were *short*, physicians overestimated their work values.[216] Hsiao eventually used a *multidimensional* definition of *work*, which included the following variables: *time*, *mental effort* and *judgment*, *technical skill* and *physical effort*, and *psychological stress*.[217] The components that are used to compile an accurate wRVU are illustrated in Exhibit 2.10.

---

[215] William C. Hsiao et al., "Estimating Physicians' Work for a Resource-Based Relative-Value Scale," *New England Journal of Medicine* 319 (September 29, 1988): 835–841.

[216] Ibid.

[217] William C. Hsiao et al., "A National Study of Resource-Based Relative Value Scales for Physician Services," Cambridge, MA, 1988, p. 15.

Fungible Commodity

A good whose units are freely exchangeable and interchangeable.

Dictionary of Health Economics and Finance, *ed. David E. Marchinko (New York: Springer, 2007), p. 159.*

To construct a *relative value* for intra-service *work*, Hsiao surveyed 6,841 physicians in 33 specialties across the nation. The response rate averaged 69 percent; however, within specific specialties, the response rate ranged from 56 percent in *obstetrics* and *gynecology* to 84 percent in *nuclear medicine*.[218] The 460 *Current Procedural Terminology* (CPT) codes that made up, at the time of Hsiao's study, more than 90 percent of Medicare physician payments were ranked by physicians' subjective estimations of usage. Physicians subjectively ranked their work input for a *particular service* relative to a *reference service* on a *ratio scale*, which was then cross-linked on a special panel to compose all *relative values* on one common *global scale*. The results revealed a high agreement in service rankings for physicians within specialties, as well as for physicians across specialties, and therefore suggested an indication that the work assessment was both highly reliable and valid.[219]

The underlying premise of Hsiao's work was based on the concept of the *fungible* nature of wRVUs, that is, "a work RVU is a work RVU," and that one rendering of a medical service was eminently interchangeable and replaceable by another. The application of this supposition of the *fungibility* of medical services into the RVRBS payment model for the Medicare reimbursement system is considered to be a pivotal advancement toward the *commoditization* of healthcare. For more information on the *commoditization of healthcare*, see Section 4.6.3, "Commoditization of Healthcare," in Chapter 4, "Competition."

2.4.1.3.2.2 Practice Expense Component The *practice expense RVU* (PE RVU) is based on the costs that are incurred in the provision of a medical service, for example, overhead for the practice, including, but not limited to, the costs associated with (1) office space (occupation cost), (2) medical and nonmedical supplies, (3) equipment and furniture, and (4) nonphysician

[218]William C. Hsiao et al., "Results and Impacts of the Resource-Based Relative Value Scale," *Medicare Care* 30, no.11 (November 1992): NS64.

[219]Ibid.

clinical and administrative staff.[220] Originally, in Hsiao's RBRVU study, the PE RVU was constructed based on a *practice cost index* (PCI), established by calculating physician practice costs as a percentage of physician gross revenues using two sources: (1) the AMA's *Socioeconomic Monitoring System Survey* (SMS), and (2) the *Physician Cost Income Survey*.[221] Today, the PE RVU is calculated using modern versions of the previously listed surveys, including the AMA's *Practice Information Survey* (PPIS) and various specialty-specific practice expense surveys, for example, *medical oncology supplemental survey data* and supplemental survey data from the *National Coalition of Quality Diagnostic Imaging Services* (NCQDIS).[222] However, the methodology used for the PE RVU calculation has changed.

---

[220] John Proctor, ACEP Reimbursement Committee, "Gauging Emergency Physician Productivity: Are RVUs the Answer?" posted on American College of Emergency Physicians, http://www.acep.org/practres.aspx?id=30306 (accessed August 14, 2012); "Introduction to Relative Value Units (RVUs) and How Medicare Reimbursement Is Calculated," American Colleges of Radiation Oncology, 2009, http://www.acro.org/washington/RVU.pdf (accessed May 1, 2009); Medicare Payment Advisory Committee, "Physician and Other Health Professionals Payment System," *MedPAC Payment Basics* (October 2011), pp. 1–2, http://medpac.gov/documents/MedPAC_Payment_Basics_11_Physician.pdf (accessed August 14, 2012).

[221] The AMA's Socioeconomic Monitoring System Survey was published annually, from 1981 to 1999, and collected data regarding physician earnings, expenses, work patterns, and fees. This survey was used to calculate PE RVU until 2010, when it was determined to be too outdated and was replaced with the AMA Practice Information Survey. "Medicare Program; Revisions to Payment Policies Under the Physician Fee Schedule, and Other Part B Payment Policies for CY 2008; Revisions to the Payment Policies of Ambulance Services Under the Ambulance Fee Schedule for CY 2008; and the Amendment of the E-Prescribing Exemption for Computer Generated Facsimile Transmissions: Final Rule," *Federal Register* 72, no. 227 (November 27, 2008): 66228. The Physician Cost Income Survey was conducted by the National Opinion Research Center and published by CMS to provide benchmarks for physician practice costs, as well as other income and practice information. William C. Hsiao, et al., "A National Study of Resource-Based Relative Value Scales for Physician Services," Cambridge, MA, 1988, pp. 623, 625; Centers for Medicare and Medicaid, "Medicare Program; Payment Policies Under the Physician Fee Schedule, Five-Year Review of Work Relative Value Units, Clinical Laboratory Fee Schedule: Signature on Requisition, and Other Revisions to Part B for CY 2012: Final Rule with Comment Period," *Federal Register* 76, no. 228 (November 28, 2011): 73036.

[222] The calculation of the PE RVU started using the AMA Practice Information Survey in 2010. This survey was conducted in 2007 and 2008 and includes physician and nonphysician practitioners. Centers for Medicare and Medicaid, "Medicare Program; Payment Policies Under the Physician Fee Schedule, Five-Year Review of Work Relative Value Units, Clinical Laboratory Fee Schedule: Signature on Requisition, and Other Revisions to Part B for CY 2012: Final Rule with Comment Period," *Federal Register* 76, no. 228 (November 28, 2011): 73036.

The PE RVU is calculated using a *bottom-up methodology*, in which *direct costs*, that is, costs that *can* be assigned, such as the cost of supplies, are *calculated* based on costs associated with the CPT codes for a given service, while *indirect costs*, in other words, costs that *cannot* be assigned but exist as a cost of owning a practice, for example, the expense burden related to a patient waiting room, are *allocated,* based on the surveys listed earlier.[223] The *bottom-up methodology* for calculating PE RVU was phased in, with the PE RVU being weighted at 25 percent in 2007, 50 percent in 2008, 75 percent in 2009, and 100 percent (i.e., full implementation) in 2010.[224]

The calculation of the PE RVU is dependent on the site of services, that is, a *facility setting* (e.g., a hospital) or a *non-facility setting* (e.g., a freestanding center), due to differences between the two types of sites of service, in the cost of operation. The assumption is that the practice expense incurred by a physician working at a hospital will likely be lower than that incurred by a physician practicing at a physician practice or a freestanding ASC.[225] The formula to calculate PE RVU for each site of service is set forth in Exhibit 2.11.[226]

---

[223] American Colleges of Radiation Oncology, "Introduction to Relative Value Units (RVUs) and How Medicare Reimbursement Is Calculated," 2009, http://www.acro.org/washington/RVU.pdf (accessed April 1, 2009); Centers for Medicare and Medicaid, "Medicare Program; Payment Policies Under the Physician Fee Schedule, Five-Year Review of Work Relative Value Units, Clinical Laboratory Fee Schedule: Signature on Requisition, and Other Revisions to Part B for CY 2012: Final Rule with Comment Period," *Federal Register* 76, no. 228 (November 28, 2011): 73035–73036.

[224] Prior to 2007 and phased out from 2007 to 2009, the PE RVU was calculated by adjusting data from the AMA Socioeconomic Monitoring System Survey to 2005, based on six categories: (1) clinical payroll expenses, (2) administrative payroll expenses, (3) office expenses, (4) medical material and supply expenses, (5) medical equipment expenses, and (6) all other expenses. The PE RVU is found by multiplying the specialty specific practice expense amount per hour, determined from the AMA survey and specialty survey data, by a specialty specific indirect percentage factor, and then scaled based on the percentage of clinical labor costs associated with the given service. "Medicare Program; Revisions to Payment Policies Under the Physician Fee Schedule, and Other Part B Payment Policies for CY 2008; Revisions to the Payment Policies of Ambulance Services Under the Ambulance Fee Schedule for CY 2008; and the Amendment of the E-Prescribing Exemption for Computer Generated Facsimile Transmissions: Final Rule," *Federal Register* 72, no. 227 (November 27, 2008): 66228–66229.

[225] American Colleges of Radiation Oncology, "Introduction to Relative Value Units (RVUs) and How Medicare Reimbursement is Calculated," 2009, http://www.acro.org/washington/RVU.pdf (accessed April 1, 2009).

[226] Ibid.

Key

RVU = Relative Value Unit
w = Work
PE = Practice Expense
MP = Malpractice
GPCI = Geographic Price Index
CF = Conversion Factor

Facility Payment Amount:

Payment = [(wRVU × wGPCI) + (*Facility* PE RVU × PE GPCI) + (MP RVU × MP GPCI)] × [*CF adjusted for budget neutrality*]

Non-Facility Payment Amount:

Payment = [(wRVU × wGPCI) + (*Non-Facility* PE RVU × PE GPCI) + (MP RVU × MP GPCI)] × [*CF adjusted for budget neutrality*]

EXHIBIT 2.11 PE RVU Calculation

When a service is billed by a *non-facility*, the PE RVU compensates the physician for the costs of owning and operating a practice. However, when a service is billed by the *facility*, the costs associated with clinical personnel, equipment, and supplies are incurred by the *facility*, not by the *physician*.[227] Therefore, nonfacility PE RVUs are typically higher than *facility* PE RVUs.

2.4.1.3.2.3 Malpractice Expense Component The costs associated with malpractice insurance were not included in Hsiao's original RBRVS study.[228] From 1992, when the RBRVS was initially implemented, to 2000, a malpractice adjustment was included in the RBRVS; however, it was *charge-based*, that is, calculated based on *weighted specialty-specific malpractice expense percentages* and Medicare *allowable charges*.[229] Resource-based *malpractice* RVUs (MP RVU), also referred to as *professional liability insurance*

[227] Sarah E. Johnson and Warren P. Newton, "Resource-Based Relative Value Units: A Primer for Academic Family Physicians," *Family Medicine* (March 2002): 174, http://www.stfm.org/fmhub/fm2002/mar02/sa1.pdf (accessed April 1, 2009); National Health Policy Forum, "The Basics: Relative Value Units (RVUS)," George Washington University, February 2009, http://www.nhpf.org/library/the-basics/Basics_RVUs_02-12-09.pdf (accessed April 1, 2009).

[228] William C. Hsiao, et al., "A National Study of Resource-Based Relative Value Scales for Physician Services" (Cambridge, MA: 1988).

[229] "Malpractice Relative Value Unit," *Federal Register* 75, no. 228 (November 29, 2010): 73208.

RVU (pli RVU), were added into the RBRVS calculation in 2000, under §1848(c), *Payment for Physician Services,* of the Social Security Act.[230]

MP RVUs correspond to the relative *malpractice practice expense* for medical procedures.[231] These values are updated at least every five years and typically make up the smallest component of the MPFS payment calculation for a given service.[232] MP RVUs are calculated based on national malpractice insurance premium data collected from commercial and physician-owned payors. In its 2010 review of RVUs, CMS adjusted each MP RVU for a given procedure by the same percentage difference between the *pre-review* RVU amount and the *post-review* RVU amount for the greater of either (1) the *wRVU*, or (2) the *clinical labor portion of the PE RVU*.[233] These revised MP RVUs were implemented in the 2012 MPFS.[234] Due to the variation in *malpractice costs* among states and specialties, the *malpractice component* must be weighted *geographically* and across *specialties*.[235]

2.4.1.3.2.4 Geographic Practice Cost Index (GPCI) The *Geographic Practice Cost Index* (*GPCI*) accounts for the geographic differences in the costs of providing healthcare services across the country. Every *Medicare payment locality* has a distinct GPCI for each of the *work*, *practice expense*, and *malpractice* components of the RBRVS.[236] A locality's GPCI is determined

---

[230] "Payment for Physicians' Services," Social Security Act § 1848(d)(3), 42 U.S.C. § 1395w-4; Margaret O'Brien-Strain, Sean McClellan, and Steve Frances, *Interim Report on Malpractice RVUs for the CY 2010 Medicare Physician Fee Schedule Proposed Rule*, Acumen LLC, June 2009, p. 1.

[231] Ibid., p. 11.

[232] Ibid. American College of Radiation Oncology, "Introduction to Relative Value Units and How Medicare Reimbursement Is Calculated," 2009, http://www.acro.org/washington/RVU.pdf (accessed August 23, 2012).

[233] CMS reviews each RVU methodology every five years.

[234] Centers for Medicare and Medicaid, "Medicare Program; Payment Policies Under the Physician Fee Schedule, Five-Year Review of Work Relative Value Units, Clinical Laboratory Fee Schedule: Signature on Requisition, and Other Revisions to Part B for CY 2012: Final Rule with Comment Period," *Federal Register* 76, no. 228 (November 28, 2011): 73034.

[235] Margaret O'Brien-Strain, Sean McClellan, and Steve Frances, *Interim Report on Malpractice RVUs for the CY 2010 Medicare Physician Fee Schedule Proposed Rule*, Acumen LLC, June 2009, p. 11

[236] CMS, "Physician Fee Schedule Look-Up, Overview," HHS.gov, January 7, 2009, http://www.cms.hhs.gov/PFSLookup/ (accessed July 30, 2009); Alan M. Scarrow, "Physician Reimbursement Under Medicare," *Neurosurgical Focus* 12, no. 4 (April, 2002): 2.

by taking into consideration the median cost of (1) hourly earnings of workers in the area, (2) office rents, (3) medical equipment and supply costs, and, (4) other miscellaneous expenses.[237] As of 2012, there were 89 GPCI payment localities, which have not been revised since 1997.[238]

2.4.1.3.2.5 Conversion Factor The *conversion factor* (*CF*) is a monetary amount that is multiplied by the composite RVU from a specific locality to determine the dollar amount to reimburse for a given service.[239] Originally, there were three conversion factors: (1) *surgical*, (2) *specialty*, and (3) *primary care* services. Many believed that the three CF system facilitated disparities between *procedure-oriented* and *E/M services*, and, in 1998, a *universal conversion factor* was implemented.[240] Today, all physician services, except anesthesia services, use a single CF.[241]

The CF is updated yearly as part of the annual MPFS update done by CMS. Changes to the CF are based on an update formula, mandated in the *Balanced Budget Act of 1997*, which takes into account (1) the previous year's *conversion factor*; (2) the estimated percentage increase in the *Medicare Economic Index* (*MEI*) for the year, which accounts for inflationary changes in office expenses and physician earnings; and (3) an *update adjustment factor.*[242] The balanced budget act also replaced the *Medicare Volume Performance Standard* (MVPS) with the *Sustainable Growth Rate* (SGR)

---

[237] Ibid.

[238] Centers for Medicare and Medicaid Services, "Review of Alternative GPCI Payment Locality Structures-Final Report" March 5, 2012, https://www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/PhysicianFeeSched/AlternativeGPCIReview.html (accessed August 6, 2012).

[239] Alan M. Scarrow, "Physician Reimbursement Under Medicare," *Neurosurgical Focus* 12, no. 4 (April, 2002): 2.

[240] Sarah E. Johnson and Warren P. Newton, "Resource-Based Relative Value Units: A Primer for Academic Family Physicians," *Family Medicine* (March 2002): 173.

[241] Pam Carron and Nicole T. Stone, *2009 Master Medicare Guide* (Chicago: CCH, 2009), p. 901; "Payment for Physicians' Services," Social Security Act § 1848(d)(3), 42 U.S.C. § 1395w-4.

[242] The Medicare Economic Index (MEI) is a measure of practice cost inflation that acts as a base for updates to the physician fee schedule. The MEI is multiplied by an adjustment factor established by the SGR to determine the final update to the physician fee schedule. The MEI is also used to determine the price component of the SGR formula. David O. Barbe, *Improving the Medicare Economic Index*, Report of the Council on Medicare Service, CMS Report 6-I-08, 2008, p. 2; Pam Carron and Nicole T. Stone, *2009 Master Medicare Guide* (Chicago: CCH, 2009), p. 901; "Payment for Physicians' Services," Social Security Act § 1848(d)(3), 42 U.S.C. § 1395w-4.

as the determinant of the *update adjustment factor*, implementing the new formula in 1998.[243]

2.4.1.3.2.6 The Sustainable Growth Rate—a Continuing Saga The SGR represents a spending target for the total annual expenditures on Medicare Part B services. The concept addresses the circumstance under which providers might compensate for reduced reimbursement payments per procedure by increasing the volume of procedures they perform and bill for. Annual adjustments are made to the MPFS based on whether actual spending was above or below the set target.[244] If actual spending is above the target, payment rates are adjusted down; likewise, if actual spending is below the target, payment update rates are adjusted up.[245] In this manner, the SGR serves as a "governor" toward restraining the growth of expansion to a "sustainable growth rate."[246]

The calculation of SGR relies on four factors:

1. "The estimated percentage change in fees for physicians' services;
2. The estimated percentage change in the average number of Medicare fee-for-service beneficiaries;
3. The estimated 10-year average annual percentage change in real GDP per capita; and,
4. The estimated percentage change in expenditures due to changes in law or regulations."[247]

The purpose of instituting the SGR formula was twofold: (1) to ensure patient *access* to physician services, and (2) to predictably *control federal*

[243] The SGR is used to calculate the conversion factor, which is used to calculate physician fee schedule updates. Centers for Medicare and Medicaid Services, "Medicare Program; Physician Fee Schedule Conversion Factor for Calendar Year 1998 and Sustainable Growth Rate for Fiscal Year 1998: Final Notice," *Federal Register* 62, no. 211 (October 31, 1997): 59261.

[244] Congressional Budget Office, "The Sustainable Growth Rate Formula for Setting Medicare's Physician Payment Rates," Economic and Budget Issue Brief, September 6, 2006, http://www.cbo.gov/ftpdocs/75xx/doc7542/09-07-SGR-brief.pdf (accessed October 9, 2009), pp. 2, 4–5.

[245] Ibid.

[246] A governor, in the mechanical sense of the term (e.g., as applied to internal combustion engines), is a device for maintaining a desired uniform speed, regardless of changes of load, by regulating the supply of fuel in a manner that prevents the engine from speeding out of control.

[247] Centers for Medicare & Medicaid Services, "Estimated Sustainable Growth Rate and Conversion Factor, for Medicare Payments to Physicians in 2013," 2012, p. 1.

spending on Medicare part B.[248] As a result of significant increases in per-beneficiary expenditures, the designed aims of the SGR have fallen short.[249]

The SGR formula has indicated downward adjustments to the MPFS every year since 2002. However, in what has become an almost ritual, annual response to intense pressure from providers and advocates for the Medicare population (for example, AARP, formerly the *American Association of Retired Persons*), Congress has consistently, since 2003, intervened and, often with "*Horatio-at-the-bridge*" style brinkmanship, stepped in at the last moment to override the mandated MPFS decreases to the MPFS, typically replacing scheduled cuts with increases in payment.[250] This repeated ad hoc congressional action to maintain physician payments at acceptable rates has incited an intense national debate.

The annual mandated changes to the SGR, the CF, the *Physician Fee Schedule*, and the actual changes to the *Physician Fee Schedule* (post-congressional action), from 1998 to 2012, as well as the scheduled 2013 adjustment that Congress has yet to address, are set forth in Table 2.8.

Of note is that the SGR (Column B) is used to determine the conversion factor (Column C), which is then used in the calculation of the physician fee schedule update under the CMS Final Rule (Column D); however, congressional actions forgo these calculations and simply established a physician fee schedule update (Column E).

Each time Congress offers legislative relief from pending SGR reimbursement cuts for Medicare providers (the "doc-fix"), the consequence is the requirement for billions in federal budget offsets.[251]

---

[248] "Medicare's Physician Payment Rates and the Sustainable Growth Rate," Statement of Donald B. Marron before the Subcommittee on Health, Committee on Energy and Commerce, and U.S. House of Representatives, Congressional Budget Office, July 25, 2006, pp. 3–4.

[249] Ibid.

[250] Publius Horatius Cocles was an ancient Roman officer who defended the Pons Sublicuis, the bridge that allowed entry into Rome, from the invading army of Clusium (an ancient city in Italy). Centers for Medicare and Medicaid Services, "CMS Proposes Payment, Policy Changes for Physicians Services to Medicare Beneficiaries in 2010," Press Release (July 1, 2009), http://www.cms.hhs.gov/apps/media/press/release.asp?Counter=3469 (accessed October 9, 2009); "Senate Votes 69-30 to Approve Legislation That Would Halt Medicare Physician Payment Cut," *Kaiser Daily Health Report*, July 10, 2008, http://www.kaisernetwork.org/daily_reports/rep_index.cfm?hint=3&DR_ID=53221 (accessed October 16, 2008).

[251] Medical Group Management Association, "Special Edition: SGR Update," Washington Connexion, December 19, 2011, http://www.mgma.com/washington/ (accessed December 19, 2011).

TABLE 2.8 Annual Updates to the MPFS CF (CMS Final Rule v. Congressional Action), 1997–2013

A	B	C	D	E
Year	SGR	CF	Physician Fee Schedule Update under CMS Final Rule	Physician Fee Schedule Update after Congressional Actions
1998	1.5%	$36.6873	2.3%[252]	N/A
1999	0.0%	$34.7315	2.3%[253]	N/A
2000	3.0%	$36.6137	5.5%[254]	N/A
2001	5.6%	$38.2581	5.0%[255]	N/A
2002	5.6%	$36.1992	–4.8%[256]	N/A
2003	7.6%	$34.5920	–4.4%[257]	1.6%[258]
2004	7.4%	$35.1339	–4.5%[259]	1.5%[260]
2005	4.3%	$37.8975	1.5%[261]	1.5%[262]
2006	1.7%	$36.1770	–4.4%[263]	0.0%[264]
2007	2.0%	$35.9848	–5.0%[265]	0.0%[266]
2008	–0.1%	$34.0682	–10.1%[267]	0.5%[268]
2009	7.4%	$36.0666	1.1%[269]	1.1%[270]
2010 (Jan–May)	–8.8%	$28.4061	–21.2%[271]	0.0%[272]
2010 (June–Dec)				2.2%[273]
2011	–13.4%	$25.5217	–24.9%[274]	0.0%[275]
2012	–16.9%	$24.6712	–27.4%[276]	0.0%[277]
Proposed 2013	–18.9%	$24.8441	–27.0%[278]	

[252] Centers for Medicare and Medicaid Services, "Medicare Program; Physician Fee Schedule Conversion Factor for Calendar Year 1998 and Sustainable Growth Rate for Fiscal Year 1998: Final Notice," *Federal Register* 62, no. 211 (October 31, 1997): 59261, 59265.

[253] Centers for Medicare and Medicaid Services, "Medicare Program; Revisions to Payment Policies and Adjustments to the Relative Value Units Under the Physician Fee Schedule for Calendar Year 1999: Final Rule with Comment Period," *Federal Register* 63, no. 211 (November 2, 1998): 58890–58891.

[254] Centers for Medicare and Medicaid Services, "Medicare Program; Revisions to Payment Policies Under the Physician Fee Schedule for Calendar Year 2000: Final Rule with Comment Period," *Federal Register* 64, no. 211 (November 2, 1999): 59429.

Footnotes to Table 2.8 (*continued*)

[255] Centers for Medicare and Medicaid Services, "Medicare Program; Revisions to Payment Policies Under the Physician Fee Schedule for Calendar Year 2001: Final Rule with Comment Period," *Federal Register* 65, no. 212 (November 1, 2000): 65427.

[256] Centers for Medicare and Medicaid Services, "Medicare Program; Revisions to Payment Policies and Five-Year Review of and Adjustments to the Relative Value Units Under the Physician Fee Schedule for Calendar Year 2001: Final Rule with Comment Period," *Federal Register* 66, no. 212 (November 1, 2001): 55229, 55246.

[257] Centers for Medicare and Medicaid Services, "Medicare Program; Revisions to Payment Policies Under the Physician Fee Schedule for Calendar Year 2003: Final Rule with Comment Period," *Federal Register* 67, no. 251 (December 31, 2002): 79966.

[258] Centers for Medicare and Medicaid Services, "Medicare Program; Physician Fee Schedule Update for Calendar Year 2003: Final Rule," *Federal Register* 68, no. 40 (February 28, 2003): 9567; "Consolidated Appropriations Resolution of 2003," *Pub. L.* 108-7, 117 Stat 548, §402 (February 20, 2003).

[259] Centers for Medicare and Medicaid Services, "Medicare Program; Revisions to Payment Policies Under the Physician Fee Schedule for Calendar Year 2004," *Federal Register* 68, no. 216 (November 7, 2003): 63196.

[260] Centers for Medicare and Medicaid Services, "Medicare Program; Changes to Medicare Payment for Drugs and Physician Fee Schedule Payments for Calendar Year 2004: Interim Final Rule with Comment Period *Federal Register* 69, no. 4 (January 7, 2004): 1084, 1095; "Medicare Prescription Drug, Improvement, and Modernization Act of 2003," *Pub. L.* 108-173 (December 8, 2003), 117 Stat 2300.

[261] Centers for Medicare and Medicaid Services, "Medicare Program; Revisions to Payment Policies Under the Physician Fee Schedule for Calendar Year 2005," *Federal Register* 69, no. 219 (November 15, 2004): 66236.

[262] "Medicare Prescription Drug, Improvement, and Modernization Act of 2003," *Pub. L.* 108-173 (December 8, 2003), 117 Stat 2300.

[263] Centers for Medicare and Medicaid Services, "Medicare Program; Revisions to Payment Policies Under the Physician Fee Schedule for Calendar Year 2006 and Certain Provisions Related to the Competitive Acquisition Program of Outpatient Drugs and Biologicals Under Part B," *Federal Register* 70, no. 223 (November 21, 2005): 70116.

[264] "Deficit Reduction Act of 2005," *Pub. L.* 109-171 (February 8, 2006), 120 Stat 40-41.

[265] Centers for Medicare and Medicaid Services, "Medicare Program; Revisions to Payment Policies, Five-Year Review of Work Relative Value Units, Changes to the Practice Expense Methodology Under the Physician Fee Schedule, and Other Changes to Payment Under Part B; Revisions to the Payment Policies of Ambulance Services Under the Fee Schedule for Ambulance Services; and Ambulance Inflation Factor Update for CY 2007," *Federal Register* 71, no. 231, (December 1, 2006): 69624.

Footnotes (*continued*)

Footnotes (*continued*)

[266] "Tax Relief and Health Care Act of 2006," *Pub. L.* 109-432 (December 20, 2006), 120 Stat 2975.

[267] Centers for Medicare and Medicaid Services, "Medicare Program; Revisions to Payment Policies Under the Physician Fee Schedule, and Other Part B Payment Policies for CY 2008; Revisions to the Payment Policies of Ambulance Services Under the Ambulance Fee Schedule for CY 2008; and the Amendment of the E-Prescribing Exemption for Computer Generated Facsimile Transmissions," *Federal Register* 72, no. 227 (November 27, 2007): 66222.

[268] "Medicare, Medicaid, and SCHIP Extension Act of 2007," *Pub. L.* 110-173 (December 29, 2007), 121 Stat 2493.

[269] Centers for Medicare and Medicaid Services, "Medicare Program; Payment Policies Under the Physician Fee Schedule and Other Revisions to Part B for CY 2009," *Federal Register* 73, no. 224 (November 19, 2008): 69726.

[270] "Medicare Improvements for Patients and Providers Act of 2008," *Pub. L.* 110-275 (July 15, 2008), 122 Stat 2520.

[271] Centers for Medicare and Medicaid Services, "Medicare Program; Payment Policies Under the Physician Fee Schedule and Other Revisions to Part B for CY 2010," *Federal Register* 74, no. 226 (November 25, 2009): 61738.

[272] "Department of Defense Appropriations Act, 2010," *Pub. L.* 111-118, (December 19, 2009), 123 Stat 3474 extended by "Temporary Extension Act of 2010," *Pub. L.* 111-144 (March 2, 2010), 124 Stat 46; and "Continuing Extension Act of 2010," *Pub. L.* 111-157 (April 15, 2010), 124 Stat 1117.

[273] "Preservation of Access to Care for Medicare Beneficiaries and Pension Relief Act of 2010," *Pub. L.* 111-192 (June 25, 2010), 124 Stat 1280.

[274] Centers for Medicare and Medicaid Services, "Medicare Program; Payment Policies Under the Physician Fee Schedule and Other Revisions to Part B for CY 2011; Final Rule," *Federal Register* 75, no. 228 (November 29, 2010): 73277, 73283.

[275] Centers for Medicare and Medicaid Services, "Medicare Program; Payment Policies Under the Physician Fee Schedule and Other Revisions to Part B for CY 2011; Corrections: Correction on Final Rule with Comment Period," *Federal Register* 76, no. 7 (January 11, 2011): 1670, 1673; "Medicare and Medicaid Extenders Act of 2010," *Pub. L.* 111-309 (December 15, 2010), 124 Stat 3286.

[276] Centers for Medicare and Medicaid Services, "Medicare Program; Payment Policies Under the Physician Fee Schedule, Five-Year Review of Work Relative Value Units, Clinical Laboratory Fee Schedule: Signature on Requisition, and Other Revisions to Part B for CY 2012; Final Rule," *Federal Register* 76, no. 228 (November 28, 2011): 73269, 73277.

[277] "Temporary Payroll Tax Cut Continuation Act of 2011," *Pub. L.* 112-78 (December 23, 2011), 125 Stat 1283; extended by "Middle Class Tax Relief and Job Creation Act," *Pub. L.* 112-96 (February 22, 2012), 126 Stat 186.

Footnote (*continued*)

Medical provider groups, including the AMA and the AHA, have repeatedly asked Congress for a "permanent solution" for physician payments under the SGR formula.[279] The AMA has recommended a *three-pronged approach* that includes (1) repealing the SGR, (2) incorporating positive payment updates based on the MEI for a five-year period, and (3) testing and transitioning to alternative payment models focused on cost, coordination, quality, and appropriateness of care.[280] The physician payment models referenced in the AMA proposal included (1) *partial capitation*, (2) *virtual partial capitation*, (3) *condition-specific capitation*, (4) *accountable medical home*, (5) *inpatient care warranties*, (6) *mentoring programs*, and (7) *private contracting*.[281]

On September 15, 2011, MedPAC suggested completely *repealing* the SGR, funded by cuts to provider reimbursement and increases in beneficiary costs, to be shared by "physicians, other health care professionals, providers in other sectors, and beneficiaries."[282] The MedPAC proposal estimates that the total cost of repealing the SGR would approach $300 billion. MedPAC's controversial SGR fix proposes to *freeze* payments *to primary care physicians* for 10 years and reduce payments to *specialists* by 17 percent during the first 3 years before freezing payments for the remaining seven years.[283] Many advocacy groups that support the repeal of the SGR were critical of the MedPAC proposal.

Footnote (*continued*)

[278] Centers for Medicare and Medicaid Services, "Estimated Sustainable Growth Rate and Conversion Factor, for Medicare Payments to Physicians in 2013," 2012, p. 9.

[279] Jessica Zigmond, "Doc Associations Rip Medicare Pay Deal," *Modern Healthcare*, February 15, 2012, http://www.modernhealthcare.com/article/20120215/NEWS/302159974/doc-associations-rip-medicare-pay-deal (accessed February 16, 2012); Jessica Zigmond, "Hospitals Hit Too Hard in SGR Deal: AHA," *Modern Healthcare*, February 16, 2012, http://www.modernhealthcare.com/article/20120216/NEWS/302169948/hospitals-hit-too-hard-in-sgr-deal-aha (accessed July 17, 2012).

[280] Cecil B. Wilson, "The Need to Move Beyond the SGR," Statement of the American Medical Association before the House Energy and Commerce Committee Subcommittee on Health, May 5, 2011.

[281] Ibid.

[282] Cristina Boccuti, Kevin Hayes, and Kaye Bloniarz, "Moving Forward from the Sustainable Growth Rate System," Medicare Payment Advisory Commission, September 15, 2011, http://interactive.snm.org/docs/MedPAC%20SGR%20sept%202011%20handout.pdf (accessed October 5, 2011).

[283] Ibid.

In October 2011, the AMA, joining with 42 other professional associations and societies, sent a highly critical letter to MedPAC, which stated that the September 15 proposal "retains many of the SGR's flaws, undermines physicians' ability to participate in payment and delivery reforms, and calls for payment rates that the Commission itself has previously said could reduce Medicare beneficiaries' access to medical care."[284] The letter argued that the MedPAC proposed cuts would *threaten physician incomes* and the *capacity of physicians* to retain staff and provide services to Medicare beneficiaries. The letter also noted that due to the rising shortage of physicians, confounded by the aging baby boomer population, the proposed changes to the SGR will likely intensify existing threats to the healthcare delivery system and could stifle physician interest in new payment models, such as ACOs and other shared savings programs.[285]

Virginia L. Hood, president of American College of Physicians (ACP), stated in a September 2011 letter to Congress that "Each time that Congress postpones enactment of a permanent solution, the budget [cost] of a permanent solution to the SGR increases."[286] The ACP noted that temporary fixes only increase the inevitable cost associated with ultimately repealing the SGR. Projections estimate that by 2016, repealing the SGR could cost $600 billion, double the cost of repealing the SGR now.[287] To date, there has been no consensus regarding a long-term solution to the SGR or its possibly imminent repeal. As a result, the Medicare program may face significant financial challenges over the coming years as a result of constant SGR doc-fixes.

With the current threat from the SGR of pending physician payment cuts of 27 percent looming in 2013, *physician advocacy groups* have once again implored Congress to take *permanent action*, echoing the ACP's 2011 plea: "The status quo is unsustainable, and will do considerable harm to the Medicare program as well as the broader health care delivery system."[288] For more information on the SGR debate and its impact on medical revenues, see Section 6.3.4, "Shifting Reimbursement Trends," in Chapter 6, "Healthcare Reform."

---

[284] "Letter from AMA to MedPAC Regarding Proposed SGR Repeal," American Medical Association, et al., to Glenn M. Hackbarth, Chair of Medicare Payment Advisory Commission, October 3, 2011.

[285] Ibid.

[286] "Letter from ACP to Congress regarding SGR Repeal," by Virginia L. Hood, president of American College of Physicians, to Members of Congress, September 12, 2011.

[287] Ibid.

[288] "Letter from Physician Advocacy Groups to Congress regarding SGR and Sequestration," American Medical Association, et al. [125 groups], to John A. Boehner, Speaker of the U.S. House of Representatives, and Nancy Pelosi, Democratic Leader of the U.S. House of Representatives, September 12, 2012.

The concerns of physician advocates regarding the scheduled 2013 physician payment cuts stem beyond the current SGR debate, since in 2012, the *Office of Management and Budget* (OMB), as advised by Congress, announced a plan that would cut Medicare funding by $11 billion over the next decade.[289] In response to the *Sequestration Transparency Act of 2012* (STA), which requires the production of a report on potential presidentially mandated cuts to federal programs if the *Joint Selection Committee on Deficit Reduction* fails to reduce the federal deficit by $1.5 trillion (which the committee failed to accomplish by the November 23, 2011 deadline), Congress has proposed a 2 percent cut to the Medicare budget, that is, $43 billion, for fiscal year 2013.[290]

2.4.1.3.2.7 AMA/Specialty Society Relative Value Scale Update Committee RVUs are updated annually by CMS and the AMA, who often rely on the analysis of the *AMA/Specialty Society Relative Value Scale Update Committee (RUC)*.[291] The *RUC* is a somewhat controversial panel of 29 physicians from different specialties who recommend updates to various RVUs under the *Physician Fee Schedule* to CMS.[292] Of the 29 physicians making up the RUC, 23 physicians represent the following major medical specialties: *anesthesiology*, *cardiology*, *colon and rectal surgery,* dermatology*, *emergency medicine*,

---

[289] Ibid.; Office of Management and Budget, *OMB Report Pursuant to the Sequestration Transparency Act of 2012* (*Pub. L.* 112–155), September 14, 2012.

[290] "Sequestration Transparency Act of 2012," H.R. 5872 (July 6, 2012; signed into law on August 7, 2012). The Joint Selection Committee on Deficit Reduction was created under the Budget Control Act of 2011 to develop a plan to cut the federal deficit by $1.5 trillion by November 23, 2011. The committee is composed of 12 members of Congress and, on November 21, 2011, released a statement, to wit: "After months of hard work and intense deliberations, we have come to the conclusion today that it will not be possible to make any bipartisan agreement available to the public before the committee's deadline." Joint Committee on Deficit Reduction, "Statement from Co-Chairs of the Joint Committee on Deficit Reduction," Press Release, November 21, 2011, http://cybercemetery.unt.edu/archive/deficit/20120113174127/http://www.deficitreduction.gov/public/index.cfm/pressreleases?ID=fa0e02f6-2cc2-4aa6-b32a-3c7f6155806d (accessed September 18, 2012); Budget Control Act of 2011, *Pub. L.* 112-25, 125 Stat 259 (August 2, 2011); Office of Management and Budget, *OMB Report Pursuant to the Sequestration Transparency Act of 2012* (*Pub. L.* 112–155) September 14, 2012, p. 1.

[291] John Proctor, ACEP Reimbursement Committee, "Gauging Emergency Physician Productivity: Are RVUs the Answer?" posted on American College of Emergency Physicians, www.acep.org/practres.aspx?id=30306 (accessed August 14, 2012).

[292] "AMA/Specialty Society RVU Update Committee: The RUC is . . . The RUC is Not . . . ," American Medical Association, Chicago, Illinois, June 16, 2007.

family medicine, *general surgery*, *internal medicine*, *nephrology**, *neurology*, *neurosurgery*, *obstetrics/gynecology*, *ophthalmology*, *orthopedic surgery*, *otolaryngology*, *pathology*, *pediatrics*, *plastic surgery*, *pulmonary medicine**, *psychiatry*, *radiology*, *thoracic surgery*, and *urology*.[293] The remaining six slots are occupied by the RUC chair, the co-chair of the RUC *Health Care Professionals Advisory Committee Review Board*, the chair of the *Practice Expense Review Board*, and representatives of the AMA, *Current Procedural Terminology (CPT) Editorial Panel*, and *American Osteopathic Association*.[294]

---

[293] An * indicates rotating seats.

[294] The RUC chair is appointed by the AMA Board of Trustees. Karen L. Hagerty, "How a Code Becomes a Code," American Society of Clinical Oncology, http://www.iom.edu/~/media/Files/Activity%20Files/Disease/NCPF/2011-Mar-21-Implementation-Workshop/Hagerty%20Presentation.pdf (accessed September 18, 2012). The RUC Health Care Professionals Advisory Committee Review Board is composed of three RUC Health Care Professionals Advisory Committee members, one of which is appointed to the position of co-chair by the RUC Health Care Professionals Advisory Committee, which is composed of limited license practitioners, including "physician assistants, chiropractors, nurses, occupational therapists, optometrists, physical therapists, podiatrists, psychologists, audiologists, speech pathologists, social workers and registered dieticians." American Medical Association, "AMA/Specialty Society: RVS Update Process," 2004, http://www.hrsonline.org/Policy/CodingReimbursement/resources/upload/2004_RVS_booklet-3.pdf (accessed September 18, 2012). The chair of the Practice Expense Review Board is appointed by the AMA House of Delegates to "participate and monitor all phases of the refinement of the new practice expense relative values and continue to advocate that they be based on valid physician practice expense data." American Medical Association, "AMA/Specialty Society: RVS Update Process," 2004, http://www.hrsonline.org/Policy/CodingReimbursement/resources/upload/2004_RVS_booklet-3.pdf (accessed September 18, 2012). The CPT Editorial Panel reviews suggestions from medical specialty societies, individual physicians, hospitals, third-party payers, and other interested parties, through coding change request (CCR) forms. Those suggestions agreed with by the editorial panel are referred to the RUC. The panel is a part of the CPT Advisory Committee. Of its 17 members, 11 are physicians nominated by National Medical Specialty Societies; 4 represent the Blue Cross Blue Shield Association (BCBSA), AHA, the American Health Insurance Plans (AHIP), CMS; and 2 are from the Health Care Professionals Advisory Committee. Karen L. Hagerty, "How a Code Becomes a Code," American Society of Clinical Oncology, http://www.iom.edu/~/media/Files/Activity%20Files/Disease/NCPF/2011-Mar-21-Implementation-Workshop/Hagerty%20Presentation.pdf (accessed September 18, 2012); American Medical Association, "The Resource Based Relative Value Scale: The RVS Update Committee," 2010, http://www.ama-assn.org/ama/pub/physician-resources/solutions-managing-your-practice/coding-billing-insurance/medicare/the-resource-based-relative-value-scale/the-rvs-update-committee.shtml (accessed November 19, 2010).

The panel convenes three times per year to discuss and make recommendations regarding a multitude of medical and surgical procedures.[295] In addition, the RUC houses various advisory committees and workgroups responsible for participating in the decision-making process, handling procedural maintenance, and developing and refining RUC and relative value methodology.[296] The RUC recommendation process begins with a proposed list of the new and revised CPT codes. Members of the *RUC Advisory Boards* complete a survey, distributed by the AMA, which amasses information regarding how physician members view the work associated with a specific service and suggested revisions to the RVUs associated with the listed CPT codes.[297] From the collected surveys, the RUC may (1) adopt the advisory board's recommendation, (2) refer it back to the specialty society, or (3) modify the recommendation.[298] When the process is complete, the RUC submits its recommendations to CMS.

Recently, there has been controversy surrounding the RUC's level of impartiality and the extent to which CMS relies on its recommendations.[299] During the last seven years, CMS approved increases in physician wRVUs by an average of 22 percent, while actual physician-reported work times declined 8.4 percent.[300] Critics of the RUC process have suggested that CMS gives the RUC too much influence in the RBRVS decision-making process. Historically, CMS has followed 90 percent of the recommendations provided by the RUC regarding physician reimbursements, basing at least 20 percent of physician payments on RUC recommendations.[301]

---

[295] Barbara S. Levy, AMA/Specialty Society RVS Committee Chair, "AMA/Specialty Society RVS Update Committee (RUC)," American Medical Association, March 5, 2010, p. 4.

[296] American Medical Association, "The RBRVS and the AMA Specialty Society RVS Update Committee (RUC) Process," 2008, pp. 23–24.

[297] Kent J. Moore, et al., "What Every Physician Should Know about the RUC," *Family Practice Management* 15, no. 2 (February 2008): 36–38.

[298] American Medical Association, "The RBRVS and the AMA Specialty Society RVS Update Committee (RUC) Process," 2008, pp. 14–15.

[299] "Letter from AAFP to CMS Regarding the RUC," by Lori Heim, American Academy of Family Physicians, to Donald Berwick, Centers for Medicare and Medicaid Administrator, October 8, 2010.

[300] Jerry Cromwell, et al., "Missing Productivity Gains in Medicare Physician Fee Schedule: Where Are They?" *Medical Research and Review* (June 16, 2010): 8, 14.

[301] Kent J. Moore, et al., "A Small Group of Physicians Has a Big Say in What You Get Paid: What Every Physician Should Know about the RUC," *Family Practice Management* (February 2008): 36; "AMA/Specialty Society RVU Update Committee: The RUC is . . . The RUC is Not . . . ," American Medical Association, Chicago, June 16, 2007.

RUC challengers have also noted that the RUC has facilitated disparities between specialty and primary reimbursement rates. The majority of RUC members are selected by medical-specialty trade groups, whose financial interests may incentivize increasing Medicare reimbursements rates for certain procedures used by specialty physicians. Critics have noted the RUC's reluctance to suggest increases to wRVUs for E/M services heavily used by primary care.[302] To amend the current RUC membership, primary care physicians are lobbying for more representation in the RUC. The *American Academy of Family Physicians* (AAFP), the most vocal opponent to the RUC, wrote to CMS urging it to follow a 2006 MedPAC Advisory Report to Congress, which suggested lowering reliance on the RUC by forming a group of less financially invested experts to identify overvalued services and work with the RUC to increase transparency and encourage provider efficiency.[303]

Although the RUC has claimed to have increased the use of evaluation strategies that led to "*over-reimbursements*" for certain specialties and formed an internal workgroup to identify misvalued services (due to pressures from MedPAC), the *Government Accountability Office* (GAO) in 2009 downplayed their efforts, saying that they did not focus on services that accounted for the largest Medicare payouts.[304] The GAO report also suggested that CMS should ensure that physician fees reflect efficiencies occurring through integrated care.[305] CMS officials have reported that they would be hard-pressed to replace the RUC process; however, in response to criticism, CMS has reported proposed plans to establish more extensive validation processes, to lessen disparities and overpayments and to incentivize integrated care.[306]

---

[302] Jerry Cromwell, et al., "Missing Productivity Gains in Medicare Physician Fee Schedule: Where are They?" *Medical Research and Review* (June 16, 2010): 2, 3.

[303] "Letter from AAFP to CMS Regarding the RUC," by Lori Heim, American Academy of Family Physicians, to Donald Berwick, Centers for Medicare and Medicaid Administrator, October 8, 2010; Jerry Cromwell, et al., "Missing Productivity Gains in Medicare Physician Fee Schedule: Where Are They?" *Medical Research and Review* (June 16, 2010): 3, 15.

[304] Barbara S. Levy, "AMA/Specialty Society RVU Update Committee (RUC)," American Medical Association, March 5, 2010; Joe Eaton, "Little-Known AMA Group Has Big Influence on Medicare Payments," *Kaiser Health News*, October 27, 2010.

[305] Barbara S. Levy, "AMA/Specialty Society RVU Update Committee (RUC)," American Medical Association, March 5, 2010, p. 33.

[306] Joe Eaton, "Little-Known AMA Group Has Big Influence on Medicare Payments," *Kaiser Health News*, October 27, 2010; Barbara S. Levy, "AMA/Specialty Society RVU Update Committee (RUC)," American Medical Association, March 5, 2010, p. 34.

2.4.1.3.3 CMS Anti-Markup Rule If a provider or a supplier orders a diagnostic test from a subcontracted provider or supplier, he may bill Medicare for the *technical component* of that diagnostic test, even though he did not perform the *technical component* himself.[307] However, CMS prohibits the billing provider from submitting a bill for an amount above what the billing provider paid for the test, that is, at a *markup*.[308] The 2008 MPFS Final Rule expanded the *anti-markup rule* to include submitted claims for both *professional* and *technical component revenue* generated by tests performed outside the office of the billing physician.[309] The *anti-markup rule* applies to the *technical* and *professional* component of a diagnostic service if either is "*(i) [p]urchased from an outside supplier; or (ii) performed or supervised by a physician who does not share a practice with the billing physician or other supplier.*"[310] Of note, if both the *professional component* and the *technical component* are performed in the same practice, rather than the *technical component* being performed at a separate diagnostic testing facility, then the *anti-markup rule* does not apply.[311]

The 2009 MPFS Final Rule lessened the rigidity of the *anti-markup rule* by incorporating two exceptions for situations where:

1. The diagnostic service is performed by a physician who performs "*substantially all*" (i.e., 75 percent or more) of his professional services for the billing physician, physician organization, or supplier; or
2. The diagnostic service is conducted and supervised in the "*same building*" where the medical office of the ordering physician or authorized nonphysician provider is located.

---

[307]Thomas W. Greeson and Heather M. Zimmerman, "CMS 2008 Rulemaking Focuses on Curbing Self-Referral Imaging," *American Journal of Roentgenolog* 190 (February 2008): 277, http://www.ajronline.org/cgi/reprint/190/2/275.pdf (accessed September 15, 2009).

[308]Ibid.

[309]"Physician Self-Referral Issues," *Federal Register* 72, no. 227 (November 27, 2007): 66307.

[310]"Changes to Reassignment Rules Related to Diagnostic Tests (Anti-Markup Provisions)," in "Medicare Program; Payment Policies Under the Physician Fee Schedule and Other Revisions to Part B for CY 2009: Final Rule with Comment Period," *Federal Register* 224, no. 73 (November 19, 2008): 69799.

[311]Thomas W. Greeson and Heather M. Zimmerman, "CMS 2008 Rulemaking Focuses on Curbing Self-Referral Imaging," *American Journal of Roentgenology* 190 (February 2008): 277–278, http://www.ajronline.org/cgi/reprint/190/2/275.pdf (accessed September 15, 2009).

According to CMS, each of these scenarios creates a "*sufficient nexus*" between the performing provider and the billing provider to alleviate the need to apply the *anti-markup rule.*[312]

2.4.1.3.4 Quality Limitations on Medicare Reimbursement To improve quality and limit costs in the healthcare delivery system, Medicare will not reimburse for those treatments that contribute to unnecessary cost and waste, in other words, those events that may indicate poor-quality care, referred to as *never events* and *sentinel events.*[313]

The *National Quality Forum* (*NQF*), a not-for-profit national coalition of physicians, hospitals, businesses, and policy-makers, has identified 28 events as occurrences that should "never" happen in a hospital and can be prevented. These occurrences are termed *serious reportable events,* or "*never events*," and include (1) *surgical events*, for example, performing the wrong surgical procedure; (2) *product or device events*, such as contaminated drugs or devices; and (3) *criminal events*, such as the abduction of a patient.[314]

The Joint Commission defines a *sentinel event* as an unexpected occurrence involving *death* or *serious physical* or *psychological injury*, or *the risk thereof.* For example, *serious injury* specifically refers to the loss of limb or function. The phrase "or the risk thereof" includes any *process variation* for which an occurrence would result in a significant chance of a serious adverse outcome. *The Joint Commission* reviews an organization's activities

---

[312]"Changes to Reassignment Rules Related to Diagnostic Tests (Anti-Markup Provisions)," in "Medicare Program; Payment Policies Under the Physician Fee Schedule and Other Revisions to Part B for CY 2009: Final Rule with Comment Period," *Federal Register* 224, no. 73 (November 19, 2008): 69800.

[313]A focus on quality in healthcare is, in part, a response to the Institute of Medicine, in its landmark study "To Err Is Human," which stated that at least 44,000 people, and perhaps as many as 98,000 people, die in hospitals each year as a result of medical errors that could have been prevented. Furthermore, the study indicated that medical errors in hospitals (including the expense of additional care necessitated by the errors, lost income and household productivity, and disability) have been estimated to result in total costs of between $17 billion and $29 billion per year. "To Err is Human: Building a Safer Health System," Institute of Medicine, November 1999, http://www.iom.edu/~/media/Files/Report%20Files/1999/To-Err-is-Human/To%20Err%20is%20Human%201999%20%20report%20brief.pdf (accessed February 8, 2011).

[314]The Leapfrog Group, "Never Event Fact Sheet," March 2008, http://www.leapfroggroup.org/media/file/Leapfrog-Never_Events_Fact_Sheet.pdf (accessed February 8, 2011).

in response to *sentinel events* in its accreditation process, including all full accreditation and random unannounced surveys and, as appropriate, for-cause surveys.

Similar to *never events*, *Healthcare Associated Infections* (HAIs) have been identified as a contributor to waste and unnecessary cost in the healthcare delivery system.[315] In their *National Action Plan to Prevent Healthcare-Associated Infections*, HHS, the *Centers for Disease Control and Prevention* (CDC), and many other agencies, estimated that 1 in every 20 hospital inpatients will develop an HAI, leading to $28 to $33 billion in preventable healthcare expenditures.[316] The costs associated with HAIs have been characterized as having a profound impact on the Medicare budget, and on October 1, 2008, CMS implemented a new policy to adjust reimbursement amounts so as not to include payment for services linked to HAIs that were not *present on admission* (POA) of a patient.[317]

To promote high-quality care and transparency in an era of increasing consumer awareness, CMS publishes statistics regarding *never* and

Factoid

In its landmark study *To Err Is Human*, the Institute of Medicine estimated that medical errors in hospitals result in total costs of between $17 billion and $29 billion per year.

To Err Is Human: Building A Safer Health System, *Institute of Medicine, November 1999, http://www.iom.edu/~/media/Files/Report%20Files/1999/To-Err-is-Human/To%20Err%20is%20Human%201999%20%20report%20brief.pdf (accessed February 8, 2011).*

[315] R. Douglas Scott II, "The Direct Medical Costs of Healthcare-Associated Infections in U.S. Hospitals and the Benefits of Prevention," Centers for Disease Control and Prevention, March 2009, p. 1, http://www.cdc.gov/ncidod/dhqp/pdf/Scott_CostPaper.pdf (accessed February 8, 2011).

[316] Steering Committee for the Prevention of Healthcare-Associated Infections, "National Action Plan to Prevent Healthcare-Associated Infections: Roadmap to Elimination," April 2012, p. 8, draft available at http://www.hhs.gov/ash/initiatives/hai/index.html (accessed September 7, 2012).

[317] "Hospital Sloppiness Costing Taxpayers Billions," ConsumerAffairs.com, November 17, 2005, http://www.consumeraffairs.com/news04/2005/hospital_sloppiness.html (accessed February 8, 2011); Patricia W. Stone, "Changes in Medicare Reimbursement for Hospital-Acquired Conditions including Infections," *American Journal of Infection Control* 37 (2009): 17A.

sentinel events for every hospital that provides services to Medicare beneficiaries. These findings are included in the information made publicly available on CMS's hospital compare website. For more information on the evolution of consumer-driven healthcare, see Chapter 4, "Competition."

In more recent years, Medicare has also limited reimbursement for patients who are readmitted within 30 days of discharge, which circumstances might suggest poor-quality care or poor communication of post-discharge requirements from providers. Furthermore, §3025 of the ACA, the *Hospital Readmissions Reduction Program*, requires that an adjustment factor be added to the IPPS for hospitals with excessive readmissions, effective October 1, 2012.[318]

2.4.1.4 Medicare Allowable Charge: Participation versus Nonparticipation As mentioned earlier, providers who offer services to Medicare patients must choose whether to participate in the Medicare program. While nonparticipation does not bar reimbursement payments from Medicare, the amount reimbursed is significantly limited. There are three scenarios under which providers may submit claims to CMS for reimbursement under the Medicare program: (1) *participation*, (2) *nonparticipation*, and (3) *private contracting*.

2.4.1.4.1 Participation In 2011, approximately 96 percent of all physicians billing Medicare were *participating providers* (PAR).[319] PAR physicians have entered into an assumed contractual agreement with CMS to accept the Medicare *allowable fee* for a given procedure and cannot charge above that amount. The benefit of *participation*, however, is that providers are guaranteed 80 percent of the *allowable charge* as payment for services, in contrast to *nonparticipating providers*, who may charge for only a *portion* of the *allowable fee* and are reimbursed at a *portion* of the 80 percent reimbursement rate. The smaller amount that *nonparticipating providers* are allowed to charge is known as the *limiting charge rule*.[320] CMS has

[318] "Patient Protection and Affordable Care Act," *Pub. L.* 111-148, 128 Stat 408, §3025 (March 23, 2010).

[319] CMS/OFM, "Table VI.6: Medicare Participating Physician Program," in "Centers for Medicare and Medicaid Services Data Compendium," December 2011, http://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/DataCompendium/2011_Data_Compendium.html (accessed August 6, 2012).

[320] Pamela K. Carron and Nicole T. Stone, eds., *CCH Medicare Explained: §826* (Chicago: CCH, 2012), pp. 412–413.

Participating Provider

A participating provider is one who has agreed to accept the reimbursement amount set by the Medicare Fee Schedule as payment in full for every claim. The physician may bill the patient for his or her share of the coinsurance and the deductible, but the physician cannot balance bill the patient, (i.e., attempt to collect the difference between his or her usual fee and Medicare's lower allowed charge).

"Medicare," in From Patient to Payment: Insurance Procedures for the Medicaid Office*, 3d ed., by Cynthia Newby (Columbus, OH: Glencoe/McGraw-Hill, 2002), p. 142; "Medicare," in* Understanding Health Insurance: A Guide to Billing and Reimbursement*, 9th ed., by Michelle A. Green and JoAnn C. Rowell (Clifton, NY: Delmar Cengage Learning, 2008), p. 437.*

developed special incentives to encourage physicians to enter into PAR agreements, including:

1. Inclusion into an annually published PAR directory and toll-free telephone registry for Medicare patients;
2. Faster electronic claim submission to Medicare contractors;
3. Participation certificates for public display in-office;
4. A 5 percent higher fee schedule than for nonparticipating providers; and,
5. Freedom from the *limiting charge rule*.[321]

Factoid

In 2011, approximately 96 percent of all physicians billing Medicare were participating providers.

"Table VI.6: Medicare Participating Physician Program," in "Centers for Medicare and Medicaid Services Data Compendium" CMS/OFM, December 2011, http://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/DataCompendium/2011_Data_Compendium.html (accessed August 6, 2012).

[321] Pamela K. Carron and Nicole T. Stone, eds., *CCH Medicare Explained: ¶870* (Chicago: CCH, 2012), p. 426.

Of note, when a PAR bills Medicare for reimbursement, the difference between what the provider would normally *charge* for the service and the *Medicare allowable fee* is written off by the PAR.[322] Furthermore, while 80 percent of the allowable fee is paid by CMS, the other 20 percent is billed to the Medicare beneficiary or the beneficiary's secondary insurance, for example, *Medigap* (discussed later).

2.4.1.4.2 Nonparticipating Providers *Nonparticipating providers* (*non*-PARs) may still see Medicare patients; however, they must choose (1) to agree to accept the Medicare reimbursement amount on a claim-by-claim basis, or (2) to fully reject the Medicare program. Each option presents a different amount of reimbursement that the *non*PAR may receive. *Non*PARs that choose to accept Medicare assignment on a claim-by-claim basis must agree to the following criteria:

1. File all Medicare claims;
2. Restrict their fees for nonassigned claims in accordance with the aforementioned *limiting charge*;
3. Forgo balance billing patients;
4. Collect only the patient deductible and coinsurance amounts at the time of service when accepting assignment on a claim;

Nonparticipating Provider

Nonparticipating providers are providers that have not agreed to accept the Medicare reimbursement amount for every claim. Yet nonparticipating providers are allowed to accept Medicare assignment on a claim-by-claim basis, if they agree to certain conditions. However, it should be noted that even though they have not accepted Medicare's fee as payment in full, nonparticipating providers are subject to a "*limiting charge*," which dictates what they may charge Medicare beneficiaries for covered services.

"*Medicare*," *in* Understanding Health Insurance: A Guide to Billing and Reimbursement, *9th ed., by Michelle A. Green and JoAnn C. Rowell (Clifton Park, NY: Delmar Cengage Learning, 2008), p. 437.*

[322] Pamela K. Carron and Nicole T. Stone, eds., *CCH Medicare Explained: §826* (Chicago: CCH, 2012), p. 412.

5. Require patients to sign a "*Surgical Disclosure Notice"* when charges for nonassigned surgical fees exceed $500; and
6. Accept assignment on clinical laboratory charges.[323]

All *non*PARs are subject to a *limiting charge,* which dictates what they may charge Medicare beneficiaries for covered services, specifically 5 percent less than the allowable fee that PARs are paid for similar services.[324]

A *non*PAR may also treat Medicare patients without accepting any Medicare assignment, that is, *full rejection of the Medicare program*. When a *non*PAR decides not to *accept assignment* on a particular claim, he or she may charge only a maximum of 15 percent above the *non*PAR fee.[325] Furthermore, when a provider does not accept Medicare claim assignments, Medicare will only reimburse the patient. Therefore, the provider must collect the entire charge of the service from the patient. The financial benefits a *non*PAR may receive from charging more than the Medicare allowable fee is often offset by the increased risk that the *non*PAR assumes from the potential that patients will not pay their bills.

The varying reimbursement amounts for different levels of participation in the Medicare program are illustrated in Table 2.9.

2.4.1.4.3 Private Contracting Under the *Balanced Budget Act of 1997*, providers and patients may opt to privately contract for the payment of services, outside the guidelines of the Medicare program. To employ this option, providers must fully opt out of the Medicare program for a *minimum of two years* and may not implement private contracting on a case-by-case basis, that is, within the two-year time period providers are not allowed to submit any claims to Medicare for reimbursement. To opt out, providers must file an affidavit with their specific CMS carrier that meets certain requirements, including (1) a signed statement by the provider agreeing to forgo all Medicare payments for two years, (2) a statement that Medicare will not pay for any of the contracted services, (3) the contract must be in writing and signed by the beneficiary, (4) the contract cannot be entered into while the beneficiary is undergoing emergency treatment or treatment for urgent conditions, and (5) the beneficiary must sign and agree (a) not to

[323] Michelle A. Green and JoAnn C. Rowell, *Understanding Health Insurance: A Guide to Billing and Reimbursement*, 9th ed. (Clifton Park, NY: Delmar Cengage Learning, 2008), p. 437.

[324] Pamela K. Carron and Nicole T. Stone, eds., *CCH Medicare Explained: ¶100* (Chicago: CCH, 2012), p. 413.

[325] Ibid.

TABLE 2.9 Hypothetical Reimbursement Scenario (Physician Charge of $110 with Allowable Medicare Fee of $100)

	PAR		NonPAR (Claim-by-Claim)		NonPAR (Full Rejection)	
Service for $100 Medicare Allowable Fee	Percent	Hypothetical Dollar Amount	Percent	Hypothetical Dollar Amount	Percent	Hypothetical Dollar Amount
Allowable Fee as Set by Medicare	100%	$100	95%	$95	115% of NonPAR	$109.25
Amount Covered by Medicare	80%	$80	80%	$76	80% of NonPAR	$76 to patient
Amount Covered by Patient or Secondary Insurance	20%	$20	20%	$19	20% of NonPAR + 15% fee over Medicare	$33.25 once receive Medicare payment
Amount Subject to Being *Written off* by Provider (Service Charge—Allowable Fee)	15%	$10	15% (If not billed to patient)	$15 (If not billed to patient)	N/A	$0 if patient pays ($110 if not)

bill Medicare, (b) that they understand that they are forgoing Medicare payments, (c) that they understand that supplemental federal insurance (e.g., *Medigap*) will not apply toward services, and (d) that they understand that they may seek Medicare-covered services from alternative providers.[326]

Medigap Coverage *Medigap*, also known as *Medicare supplement insurance*, is designed to cover the "*gaps*" in Medicare coverage created from the percentage of the *allowable charge* remaining after Medicare reimburses a provider (e.g., 20 percent of the allowable charge for services provided by PAR providers).[327] Although *Medigap* insurance is offered by private

[326] American Academy of Family Physicians, "Medicare Participation Options for Physicians," February 27, 2012, http://www.aafp.org/online/en/home/practicemgt/mcareoptions.html (accessed August , 2012).

[327] Pamela K. Carron and Nicole T. Stone, eds., *CCH Medicare Explained: ¶740* (Chicago: CCH, 2012), pp. 360–361.

insurance companies, it is regulated by federal and state agencies. Beginning in 1991, insurance companies seeking to offer *Medigap* coverage must conform to a minimum set of standards established by the *National Association of Insurance Commissioners* (NAIC), which sets forth various plan models. From 1991 to 2005, NAIC presented 10 model plans for *Medigap* coverage. This number was expanded to 12 plans under the *Medicare Modernization Act of 2003*; however, *Medigap* drug benefits were removed from all new plans. Section 3210 of the ACA requires that the NAIC review the standards set for C and F plans toward including a cost-sharing component to encourage the appropriate use of Medicare Part B (Outpatient) services.[328]

Unlike traditional Medicare coverage, beneficiaries are responsible for premiums under *Medigap* plans. These premium costs to patients have risen 3.8 percent from 2001 to 2010.[329] Approximately 20 percent of Medicare beneficiaries (9.6 million individuals) were enrolled in a *Medigap* plan in 2010.[330] The premium cost varies by plan type and state; however, the rate of growth for premium costs is correlated to state trends in Medicare spending per beneficiary.[331] Medicare beneficiaries who are enrolled in *Medicare Advantage* plans already operated by private insurance companies are not eligible for *Medigap* coverage. As such, increases in *Medicare Advantage* enrollment often coincide with reduced growth in *Medigap* premiums.[332]

2.4.2 Medicaid and CHIP

2.4.2.1 Medicaid Overview *Medicaid* is a state-administered health insurance program for low-income individuals and certain federally recognized eligible groups.[333] Even though participation in the Medicaid program is "*optional*," every state and the District of Columbia have an established

[328] "Patient Protection and Affordable Care Act," *Pub. L.* 111-148, 128 Stat 460, §3210 (March 23, 2010).

[329] Office of the Assistant Secretary for Planning and Evaluation, *ASPE Report: Variation and Trends in Medigap Premiums*, December 2011, p. 5.

[330] Ibid.

[331] Ibid.

[332] Ibid.

[333] Earl Dirk Hoffman, Jr., Barbara S. Klees, and Catherine A. Curtis, "Brief Summaries of Medicare & Medicaid: Title XVIII and Title XIX of the Social Security Act as of November 1, 2007," Centers for Medicare and Medicaid Services, http://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/MedicareProgramRatesStats/downloads/MedicareMedicaidSummaries2007.pdf (accessed August 23, 2012).

Medicaid

Medicaid is a means-tested, state-administered health insurance program for individuals below certain income thresholds predetermined by the state in which they reside. The federal government establishes coverage requirement guidelines for the categorically needy (e.g., children, pregnant women), medically needy (e.g., individuals with income above the threshold, but who have a large amount of medical bills), and special groups. Although the federal government determines the medical services that will be covered and paid for by the federal portion of the program, Medicaid programs vary widely from state to state, because the state governments are free to add additional services or expand eligibility to additional groups.

"Medicaid at a Glance, 2005: A Medicaid Information Source," Centers for Medicaid and Medicare Services, 2005, pp. 1–2, http://www.cms.hhs.gov/MedicaidGenInfo/Downloads/MedicaidAtAGlance2005.pdf (accessed June 19, 2009); "Introduction to Medicaid," in From Patient to Payment: Insurance Procedures for the Medical Office, *3rd ed., by Cynthia Newby (Columbus, OH: Glencoe/McGraw-Hill, 2002), p. 132.*

Medicaid program. Eligibility is determined based on the federal poverty guidelines published annually by HHS, within federal and state established limits.[334] For reference, the 2012 federal poverty guidelines are presented in Table 2.10.

The medium household income in 2011 was $50,054, significantly above the federal poverty guidelines.[335] In June 2011, 52.6 million individuals were enrolled in Medicaid. Medicaid enrollment growth has slowed

[334] Note: The federal poverty guidelines are published each year by HHS to determine financial eligibility for federal programs and are a simplification of the federal poverty thresholds established by the U.S. Census Bureau that are used for administrative purposes. The federal poverty guidelines are often referred to as the federal poverty level (FPL); however, this term is ambiguous, because it does not distinguish between the thresholds and the guidelines. U.S. Department of Health and Human Services, "Frequently Asked Questions Related to the Poverty Guidelines and Poverty," February 8, 2012, http://aspe.hhs.gov/poverty/faq.shtml#differences (accessed September 9, 2012).

[335] Carmen DeNavas-Walt, et al., "Income, Poverty, and Health Insurance Coverage in the United States: 2011," U.S. Census Bureau, September 2012, p. 5.

TABLE 2.10 2012 Federal Poverty Guidelines

Number in Household	Poverty Guideline (Income Limit)
1	$11,170
2	$15.130
3	$19,090
4	$23,050
5	$27,010
6	$30,970
7	$34,930
8	$38,890

"Annual Update of the HHS Poverty Guideline: Notice," *Federal Register* 77, no. 17 (January 26, 2012): 4034.

in recent years: with growth of 7.8 percent from 2009 to 2010, slowing to 4.4 percent from 2010 to 2011. Declines in the growth in Medicaid enrollment are likely a result of the increasing (albeit slow) recovery of the national economy after the *Great Recession*.[336]

Medicaid is funded by both state governments and the federal government. Although states have significant discretion regarding the specific parameters they set for the Medicaid benefits offered through each state's program to receive federal matching funds, states must operate their Medicaid programs within established parameters set by the federal government.[337] These parameters determine *mandatory eligibility groups* and *mandatory services*, that is, the groups and services the state *must* cover to receive federal Medicaid money.[338]

The *mandatory eligibility groups* set by the federal government include (1) elderly and disabled social security income beneficiaries; (2) children six and older who are in families earning below 100 percent of the federal

[336]Kaiser Commission on Medicaid and the Uninsured, "Medicaid Enrollment: June 2011 Data Snapshot," Kaiser Family Foundation, June 2012, p. 1.

[337]Kaiser Commission on Medicaid and the Uninsured, "Medicaid: An Overview of Spending on 'Mandatory' vs. 'Optional' Populations and Services," June 2005, http://www.kff.org/medicaid/upload/Medicaid-An-Overview-of-Spending-on.pdf (accessed October 6, 2009), p. 1.

[338]"State Plans for Medical Assistance," 42 U.S.C. §1396a(a)(10)(A) (2010).

poverty guidelines; (3) children under age six who are in families earning below 133 percent of the federal poverty guidelines; (4) parents who are in families earning below a state's welfare eligibility cutoff for 1996 (roughly 50 percent of the federal poverty guidelines); (5) pregnant women who are in families earning at, or below, 133 percent of the federal poverty guidelines; (6) elderly and disabled individuals who are in families earning at, or below, 74 percent of the federal poverty guidelines who are receiving *Supplemental Security Income*; (7) certain working disabled individuals; and (8) Medicare buy-in groups.[339]

The federal government also determines the standard set of *mandatory services* that will be reimbursed by the federally funded portion of the program.[340] Mandatory services include (1) *physician services*; (2) *inpatient* and *outpatient hospital care*; (3) *nursing facility care*; (4) *laboratory* and *x-ray* services; (5) early and *periodic screening*, *diagnostic*, and *treatment* services for individuals under 21; (6) *family planning* and *supplies*; (7) *federally qualified health center* services; (8) rural *health clinic* services; (9) *nurse midwife* services; (10) certified *pediatric and family nurse practitioner* services; (11) *nursing facility* services for individuals 21 and older; and (12) *home health care* services for individuals entitled to nursing facility care.[341]

States may also receive federal matching funds for covering other *optional* services and *optional* groups, which may include (1) prescription drugs, (2) dental services, and (3) medical care provided by *allied health professionals* and other *nonphysician providers*.[342] Of note is that if a state chooses to offer an *optional service* to an *optional group*, under various Medicaid parity laws, the state generally must offer that service to the *mandatory edibility group*. Each state's Medicaid coverage manual publishes which *optional groups* and *services* that state covers.

---

[339] Ibid.

[340] Cynthia Newby, *From Patient to Payment: Insurance Procedures for the Medical Office*, 3rd ed. (Columbus, OH: Glencoe/McGraw-Hill, 2002), p. 132.

[341] Kaiser Commission on Medicaid and the Uninsured, "Medicaid: An Overview of Spending on 'Mandatory' vs. 'Optional' Populations and Services," June 2005, http://www.kff.org/medicaid/upload/Medicaid-An-Overview-of-Spending-on.pdf (accessed October 6, 2009), p. 5.

[342] Ibid., p. 1; Kaiser Commission on Medicaid and the Uninsured, "Medicaid: An Overview of Spending on 'Mandatory' vs. 'Optional' Populations and Services," June 2005, http://www.kff.org/medicaid/upload/Medicaid-An-Overview-of-Spending-on.pdf (accessed October 6, 2009), p. 5.

Many states opt to extend benefits to individuals who are above the income cutoffs found in the federally established for *mandatory groups*, extending Medicaid benefits to individuals with significant *recurring* health expenses and *long-term* healthcare needs.[343] Under the 2010 ACA legislation (as modified by the June 28, 2012, U.S. Supreme Court decision), in 2014, states will have the option to expand Medicaid coverage to 133 percent of the federal poverty guidelines in exchange for federal funding for all newly eligible individuals.[344] For more information on the current debate regarding state expansion of Medicaid coverage in 2014, see Section 6.4.3.2, "ACA's Impact on the Medicaid Program," in Chapter 6, "Healthcare Reform."

2.4.2.2 Children's Health Insurance Program (CHIP, f/k/a SCHIP) Overview In addition to Medicaid, each state and territory and the District of Columbia have implemented the *Children's Health Insurance Program (CHIP)*, a state-federal partnership that provides assistance to children and pregnant women in families whose income is above the threshold for Medicaid.[345] Enacted

Children's Health Insurance Program (CHIP)

CHIP is a state-federal partnership that provides assistance to children and pregnant women in families whose income is above the threshold for Medicaid. It was formerly known as the State Children's Health Insurance Program (SCHIP).

"Medicaid at a Glance, 2005: A Medicaid Information Source," Centers for Medicaid and Medicare Services, 2005, p. 3, http://www.cms.hhs.gov/MedicaidGenInfo/Downloads/MedicaidAtAGlance2005.pdf (accessed June 19, 2009).

[343] Kaiser Commission on Medicaid and the Uninsured, "Medicaid: An Overview of Spending on 'Mandatory' vs. 'Optional' Populations and Services," June 2005, http://www.kff.org/medicaid/upload/Medicaid-An-Overview-of-Spending-on.pdf (accessed October 6, 2009), p. 2; ibid., p. 3.

[344] For more information on the U.S. Supreme Court decision regarding the constitutionality of the 2010 ACA, see Chapter 6, "Healthcare Reform"; *National Federation of Independent Business v. Sebelius*, Nos. 11-393, 11-398 and, 11-400, 2012 BL 160004, 53 EBC 1513 (U.S. June 28, 2012).

[345] Centers for Medicare and Medicaid Services, "Overview: The Children's Health Insurance Program (CHIP)," http://www.cms.hhs.gov/LowCostHealthInsFamChild/ (accessed October 6, 2009).

Factoid

CHIP covered approximately 7.7 million children in 2010, in addition to the 34.4 million children enrolled in Medicaid.

"Appendix 1: FY 2010 Number of Children Ever Enrolled in Medicaid and CHIP," Centers for Medicaid and Medicare Services, http://www.insurekidsnow.gov/professionals/reports/chipra/2010_enrollment_data.pdf (accessed August 6, 2012).

under the *Balanced Budget Act of 1997* and formerly known as the *State Children's Health Insurance Program* (SCHIP), CHIP covered approximately 7.7 million children in 2010, in addition to the 34.4 million children enrolled in Medicaid.[346]

Similar to Medicaid, CHIP services vary between states, which determine (within federal parameters) who may be eligible for CHIP funds, as well as other details, including *benefits*, *payment levels*, and *program administration*.[347] As part of their autonomy over CHIP services, states are free to set *premiums* and *copayment rates* on a *sliding scale based on income*. State funds are *matched* by the federal government up to a certain *capped* amount.[348]

After a temporary reauthorization of the program in 2007, the *Children's Health Insurance Program Reauthorization Act of 2009* (CHIPRA), most recently reauthorized CHIP through September 2013, expanding coverage to include *dental services* and requiring states offering coverage for *mental health* and *substance abuse* to have *mental health parity* with CHIP beneficiaries.[349]

---

[346] Centers for Medicaid and Medicare Services, "Appendix 1: FY 2010 Number of Children Ever Enrolled in Medicaid and CHIP," http://www.insurekidsnow.gov/professionals/reports/chipra/2010_enrollment_data.pdf (accessed August 6, 2012).

[347] Centers for Medicare and Medicaid Services, "Overview: The Children's Health Insurance Program (CHIP)," http://www.cms.hhs.gov/LowCostHealthInsFamChild/ (accessed October 6, 2009).

[348] Kaiser Commission on Medicaid and the Uninsured, "Health Coverage of Children: The Role of Medicaid and SCHIP: Key Facts," November 2008, http://www.kff.org/uninsured/upload/7698_02.pdf (accessed October 6, 2009).

[349] Kaiser Commission on Medicaid and the Uninsured, "Children's Health Insurance Program Reauthorization Act of 2009 (CHIPRA): Key Facts," http://www.kff.org/medicaid/upload/7863.pdf (accessed October 6, 2009).

2.4.2.2.1 Billing and Reimbursement Reimbursement for services provided to Medicaid patients are paid by states on either an FFS basis or under a *pre-paid managed care arrangement*.[350] For claims reimbursed on an FFS basis, providers must use a CMS-1500 claim form.[351] Due to variations among state Medicaid programs, each state's *Medicaid Managed Care Organization Billing Manual* must be consulted for the specific billing procedure for *noncapitated* managed care services. Deadlines for filing a Medicaid claim range from two months to one year from the date of treatment.[352] Federal regulation requires states to promptly pay providers for *clean claims* submitted for services rendered to Medicaid beneficiaries.[353] States must pay 90 percent of *clean claims* within 30 days, 99 percent of *clean claims* within 90 days, and all other claims within 12 months of receipt unless an exception applies, that is, retroactive adjustments to claims, the claim was also filed with Medicare, the provider is under investigations for fraud and abuse, and the payment was delayed by court order.[354]

Each state has the ability to develop its own reimbursement process and payment rates, with three exceptions:

1. For *institutional services*, payment may not exceed amounts that would be paid under Medicare payment rates (see Section 2.4.1, "Medicare");
2. For *disproportionate share hospitals* (DSH), hospitals that treat a disproportionate number of Medicaid patients, different limits apply; and,
3. For *hospice care* services, payment may not surpass amounts that would be paid under Medicare payment rates (see Section 2.4.1, "Medicare").[355]

---

[350] Andy Schneider, et al., *The Medicaid Resource Book* (Menlo Park, CA: Henry J. Kaiser Family Foundation, 2002), p. 100.

[351] Centers for Medicare and Medicaid Services, "Completing and Processing Form CMS-1500 Data Set: Health Insurance Claim Form CMS-1500," *Medicare Claims Processing Manual*, chapter 26, Section 10, March 21, 2011.

[352] Cynthia Newby, *From Patient to Payment: Insurance Procedures for the Medical Office*, 3rd ed. (Columbus, OH: Glencoe/McGraw-Hill, 2002), p. 135.

[353] "Timely Claims Payment," 42 CFR. § 447.45(d) (January 16, 1990).

[354] Ibid.

[355] Andy Schneider, et al., *The Medicaid Resource Book* (Menlo Park, CA: Henry J. Kaiser Family Foundation, 2002), p. 141.

Disproportionate Share Hospital (DSH) Payments

Disproportionate share hospital (DSH) payments are a form of additional reimbursement under Medicaid for hospitals that care for a large number of Medicaid and uninsured patients. DSH payments are allotments from the federal government that augment basic Medicaid reimbursement, and under federal law, states are required to supplement disproportionate share hospitals in order to receive this additional Medicaid funding.

"Medicaid Disproportionate Share Hospital (DSH) Payments: The Basics," by National Health Policy Forum, George Washington University, June 15, 2009, p. 1, http://www.nhpf.org/library/the-basics/Basics_DSH_06–15–09.pdf (accessed October 5, 2009)

Outside of these exceptions, states may impose *deductibles*, *coinsurance*, or *copayments* on certain recipients for particular services.[356] *Participating providers* in the Medicaid program must accept direct payments from Medicaid for services rendered as payment in full, and they may *not* bill patients the difference between their usual charge and the Medicaid reimbursement rate for covered benefits.[357] Medicaid reimburses on a lump-sum basis, that is, providers receive one payment for several submitted claims.[358]

Medicaid is often considered the "*payor of last resort*," in other words, if a Medicaid patient is also covered by another insurance plan or government program, then these plans or programs must be billed first.[359] Claims should be submitted to Medicaid only if an alternative payor (1) denies responsibility for payment, (2) reimburses at a rate that is less than Medicaid's fee schedule, or (3) if Medicaid reimburses for procedures that are not covered by the other plans or programs.[360] For more information on

[356] Ibid., p. 63.

[357] Ibid.

[358] Michelle A. Green and JoAnn C. Rowell, *Understanding Health Insurance: A Guide to Billing and Reimbursement*, 9th ed. (Clifton, NY: Delmar Cengage Learning, 2008), p. 479.

[359] Centers for Medicare and Medicaid Services, "Deficit Reduction Act: Important Facts for State Policymakers," December 11, 2007, http://www.cms.gov/Regulations-and-Guidance/Legislation/DeficitReductionAct/downloads/TPL.pdf (accessed August 23, 2012).

[360] Ibid.

TABLE 2.11 States with Five Highest DSH Allotments in 2011

State	DSH Allotment ($ in Billions)	DSH Allotment (Percentage of Total National Allotment—$11.3 Billion)
New York	$1.6	14.2%
California	$1	9.7%
Texas	$1	8.5%
Louisiana	$0.7	6.4
New Jersey	$0.6	5.7

"Federal Medicaid Disproportionate Share Hospital (DSH) Allotments," Kaiser Family Foundation, 2011, http://www.statehealthfacts.org/comparetable.jsp?ind=185&cat=4 (accessed August 6, 2012).

primary and secondary billing, see Section 2.2.5, "Step 5: Primary Insurance Billing," and Section 2.2.6, "Step 6: Secondary Insurance Billing," and Section 2.4.3 on "Dual Eligibles," following.

Disproportionate Share Hospital (DSH) Payments *Disproportionate share hospital (DSH) payments* are a form of *additional* reimbursement under Medicaid for hospitals that care for a large number of Medicaid and uninsured patients.[361] Under federal law, states are required to supplement reimbursements to DSHs in order to receive augmented funding allotments from the federal government.[362] DSH payments are intended to supplement hospital revenue when the large proportion of Medicaid and CHIP beneficiaries' results in their costs not being adequately covered by traditional Medicaid and Medicare payments, by CHIP payments, or by other payors.[363]

DSH payments are calculated differently for each state according to a statutory formula; however, no state receives more than 12 percent of its annual total Medicaid benefits in DSH allotments.[364] In 2011, $11.3 billion was allotted for DSHs. The states with the highest DSH allotments in 2011 are set forth in Table 2.11.

[361] Christie Provost Peters, "The Basics: Medicaid Disproportionate Share Hospital (DSH) Payments," National Health Policy Forum, George Washington University, June 15, 2009, http://www.nhpf.org/library/the-basics/Basics_DSH_06-15-09.pdf (accessed October 5, 2009), p. 1.

[362] Ibid.

[363] Ibid.

[364] Ibid.

In order to receive its DSH allotment, a state must submit an *annual report* and *certified audit* documenting payments made to DSH; however, each state has discretion over which hospitals will receive DSH distributions.[365] The only *limit on this discretion* is that the state *may not* distribute DSH payments to any hospital with a *Medicaid utilization rate* of less than 1 percent, and the state *must* distribute DSH payments to all hospitals that have either a Medicaid *inpatient utilization rate* exceeding one standard deviation of the mean for all hospitals in the state or have a *low-income utilization rate* of more than 25 percent.[366] If the state wants to distribute DSH payments to additional hospitals, it is free to do so; however, the state must distribute payments in a similar manner to the *Medicaid DSH payment methodology* or based on a hospital's *low-income utilization rate*.[367]

Long-Term Care Reimbursement Medicaid is the primary payor for *long-term care* services, accounting for 43 percent of nursing home expenditures.[368] Six percent of the Medicaid population, that is, 4 million individuals, require Medicaid coverage for long-term care. Approximately 45 percent ($54.9 Billion) of Medicaid funding covered home- and community-based services, including nursing home care, in 2010. Due, in part, to states' continual cuts to Medicaid funding, Medicaid reimbursement rate increases have not kept pace with the nursing home cost inflation.[369]

To qualify for Medicaid services, beneficiaries requiring *skilled nursing care* must have monthly incomes equal to or below the *Supplemental Security Income* (SSI), which had an eligibility level of $698 per month in

[365] "Adjustment in Payment for Inpatient Hospital Services Furnished by Disproportionate Share Hospitals," Social Security Act §§ 1923(a)(2)(D), 1923(j) (42 U.S.C. § 1396r-4); Christie Provost Peters, "The Basics: Medicaid Disproportionate Share Hospital (DSH) Payments," National Health Policy Forum, George Washington University, June 15, 2009, http://www.nhpf.org/library/the-basics/Basics_DSH_06-15-09.pdf (accessed October 5, 2009), pp. 3–4.

[366] Christie Provost Peters, "The Basics: Medicaid Disproportionate Share Hospital (DSH) Payments," National Health Policy Forum, George Washington University, June 15, 2009, http://www.nhpf.org/library/the-basics/Basics_DSH_06-15-09.pdf (accessed October 5, 2009), p. 3.

[367] Ibid. pp. 3–4.

[368] Kaiser Commission on Medicaid and the Uninsured, "Medicaid and Long-Term Care Services," Kaiser Family Foundation, Medicaid Facts, June 2012, http://www.kff.org/medicaid/upload/2186-09.pdf (accessed August 31, 2012).

[369] Eljay, LLP, "A Report on Shortfalls in Medicaid Funding for Nursing Home Care," American Health Care Association, December 2011, p. ii.

2012, an increase from 2005, which set eligibility at $603.00 per month.[370] While these levels are set by the federal government, many states chose to set higher *SSI limits* for the purpose of Medicaid eligibility. Most states reimburse long-term care services under an FFS model; however, as of 2011, 11 states have opted to contract with c*apitated managed care plans* to administer Medicaid reimbursement for long-term care services.[371]

2.4.3 Dual Eligibles

Dual eligibles are those beneficiaries that are eligible for benefits under *both* the *Medicare* and the *Medicaid* programs. This population of approximately 9.9 million (in 2010) *older*, *poor* individuals generally represents more *vulnerable* and *costly* patients with *lower health status*.[372] Medicare operates as the *primary payor*, covering *acute care services* for dual eligible beneficiaries, while Medicaid, as a *secondary payor*, provides coverage for *premiums*, *cost sharing*, and *long term care services*.[373] There are varying *levels*

Dual Eligibles

Those beneficiaries who are eligible for benefits under both the Medicare and the Medicaid programs, traditionally consisting of older, poor, costly patients with lower health status.

"Medicaid's Role for Dual Eligible Beneficiaries," Kaiser Family Foundation, Kaiser Commission on Medicaid and the Uninsured, April 2012, p. 15.

[370] Kaiser Commission on Medicaid and the Uninsured, "Medicaid and Long-Term Care Services" Kaiser Family Foundation, Medicaid Facts, June 2012, http://www.kff.org/medicaid/upload/2186-09.pdf (accessed August 31, 2012); Enid Kassner, AARP, "Medicaid and Long-Term Services and Supports for Older People," February 2005, http://www.aarp.org/research/longtermcare/programfunding/aresearch-import-894-FS18R.html (accessed July, 17, 2005).

[371] Kaiser Commission on Medicaid and the Uninsured, "Medicaid and Long-Term Care Services," Kaiser Family Foundation, Medicaid Facts, June 2012, http://www.kff.org/medicaid/upload/2186-09.pdf (accessed August 31, 2012).

[372] Medicare Payment Advisory, R*eport to Congress: Medicare and the Health Care Delivery System*, June 2012, p. 61; Kaiser Commission on Medicaid and the Uninsured, "Medicaid's Role for Dual Eligible Beneficiaries," Kaiser Family Foundation, April 2012, p. 15.

[373] Medicare Payment Advisory, *Report to Congress: New Approaches in Medicare*, June 2004, pp. 82–83.

TABLE 2.12 Levels of Dual Eligibility

Eligibility Level	Medicare Coverage	Medicaid Coverage	Requirements of Eligibility
Full Dual Eligibles	Full	Full	Incomes ≤ 73 percent of poverty guidelines and assets < $2,000 for individuals and $3,000 for couples
Medicare Savings Programs (QMB)	Full	Premiums and Cost Sharing	Incomes ≤ 100 percent of poverty guidelines and assets < $4,000 for individuals and $6,000 for couples
Medicare Savings Programs (SLMB)	Full	Medicare Part B Premiums	Incomes btw 100–120 percent of poverty guidelines and assets < $4,000 for individuals and $6,000 for couples
Medicare Savings Programs (QI)	Full	Medicare Part B Premiums	Incomes btw 120–135 percent of poverty guidelines and assets < $4,000 for individuals and $6,000 for couples

"Medicaid's Role for Dual Eligible Beneficiaries," Kaiser Family Foundation, Kaiser Commission on Medicaid and the Uninsured, April 2012, p. 3.

of dual eligibility: (1) *full dual eligibles* and (2) *Medicare savings programs*, which include programs for (a) *qualified Medicare beneficiaries* (QMB), (b) *specified low-income Medicare beneficiaries* (SLMB), and (c) *qualifying individuals* (QI).[374] The various *levels of coverage* for Medicare and Medicaid for dual eligibles are set forth in Table 2.12.

The dual eligible population presents various concerns to both the Medicare and the Medicaid programs because, as a group, the population is generally more *costly* than other patient populations. While the per capita expense for dual eligibles is much higher than the per capita expense associated with nondual eligibles, the population as a whole does report *high access to care*.[375] Therefore, the issues within this population revolve around defining the *boundaries of coverage* between the two programs, which can often be *imprecise* and *subjective*.[376] Better coordination between the two programs

[374] Centers for Medicare and Medicaid Services, "Medicaid Coverage of Medicare Beneficiaries (Dual Eligibles) at a Glance," ICN 006977, January 2012, pp. 2–3.

[375] Kaiser Commission on Medicaid and the Uninsured, "Medicaid's Role for Dual Eligible Beneficiaries," Kaiser Family Foundation, April 2012, p. 1.

[376] Medicare Payment Advisory, *Report to Congress: Medicare and the Health Care Delivery System*, June 2012, p. 61; *Report to Congress: New Approaches in Medicare*, June 2004, p. 83.

regarding the proper location of care and medically necessary services may provide more control over which payor must reimburse for the services rendered. There is a general perception that some *financial tensions* between the two programs could be relieved through various *special managed care programs'* attempt to coordinate the delivery of services for dual eligibles by aligning incentives between the two payors using Medicare Advantage plans or other programs, such as the *Program of All-Inclusive Care for the Elderly* (PACE) and *dual eligible special needs plans* (D-SNPs).[377]

Several agencies established under the ACA have also been tasked with improving coordination between Medicare and Medicaid programs for dual eligibles, including (1) the *Federal Coordinated Health Care Office*, (2) the *Center for Medicare and Medicaid Innovation*, and (3) *various demonstrations involving dual eligible beneficiaries*.[378] A 2012 study, published in JAMA and supported by the *National Institute on Aging*, the *Robert Wood Johnson Foundation*, and the *Commonwealth Fund*, assessed the *outcomes* of the *Medicare Physician Group Practice* (*PGP*) *Demonstration* (the precursor demonstration to ACOs) and noted the possible benefits of *coordinated care initiatives* for the *dual eligible population*. The study found that although the mean *annual per beneficiary savings* for the *participating provider* entities was *modest* ($114), the mean *annual per beneficiary savings for dual eligibles* was *significant* ($532), especially as compared to *non-dual eligible mean annual savings per beneficiary* ($59), which was not statistically significant.[379] Overall, almost all significant savings were achieved by PGP participants through the *dual eligible population*.[380]

2.4.4 TRICARE (CHAMPUS)

2.4.4.1 Overview *TRICARE*, formerly known as the *Civilian Health and Medical Program of the Uniformed Services* (*CHAMPUS*), is the *U.S.*

[377] Medicare Payment Advisory, *Report to Congress: Medicare and the Health Care Delivery System*, June 2012, p. 67.

[378] "Patient Protection and Affordable Care Act," *Pub. L.* 111-148, §2602, §3021, 2601 (March 23, 2010).

[379] Carries H. Colla, et al., "Spending Differences Associated with the Medicare Physician Group Practice Demonstration," *Journal of the American Medical Association* 308, no. 10 (September 12, 2012): 1015, 1019–1020.

[380] Ibid., 1015.

TRICARE

TRICARE is the Department of Defense's healthcare program for active duty military personnel, members of the National Guard and Reserves, retirees, their dependents, survivors, and certain former spouses. The program uses military healthcare as the main provider of services, supplemented by civilian healthcare providers, facilities, pharmacies, and suppliers. TRICARE covers approximately 9.7 million beneficiaries worldwide through a variety of plans.

"What Is TRICARE?" TRICARE Management Activity, June 12, 2012, http://tricare.mil/mybenefit/ProfileFilter.do;jsessionid=QTLTRCBSJ6PhsQNnzh9hf0XfnDKh2bcDKgMZPF3xH4M66twQF0TX!875501913?puri=%2Fhome%2Foverview%2FWhatIsTRICARE (accessed September 14, 2012);"TRICARE Facts and Figures," TRICARE Management Activity, 2012, http://www.tricare.mil/pressroom/press_facts.aspx (accessed September 14, 2012).

Department of Defense's healthcare program for *active duty* military personnel, members of the *National Guard* and *Reserves*, retirees, their *dependents*, *survivors*, and certain *former spouses*.[381] The program uses *military* healthcare providers as the main provider of services, supplemented by *civilian* healthcare providers, facilities, pharmacies, and suppliers.[382] As of March 2012, TRICARE covered approximately 9.7 million beneficiaries worldwide.[383]

[381]"What Is TRICARE?" TRICARE Management Activity, June 12, 2012, http://tricare.mil/mybenefit/ProfileFilter.do;jsessionid=QTLTRCBSJ6PhsQNnzh9hf0XfnDKh2bcDKgMZPF3xH4M66twQF0TX!875501913?puri=%2Fhome%2Foverview%2FWhatIsTRICARE (accessed September 14, 2012).

[382]Lt. Rick Schobitz, "Licensed Mental Health Counselors and the Military Health System," TRICARE Management Activity, Institute of Medicine, http://www.iom.edu/~/media/Files/Activity%20Files/MentalHealth/TRICAREMentalHealth/SchobitzLicensedmentalhealthcounselorsandtheMHS.pdf (accessed August 23, 2012); "What Is TRICARE?" TRICARE Management Activity, June 12, 2012, http://tricare.mil/mybenefit/ProfileFilter.do;jsessionid=QTLTRCBSJ6PhsQNnzh9hf0XfnDKh2bcDKgMZPF3xH4M66twQF0TX!875501913?puri=%2Fhome%2Foverview%2FWhatIsTRICARE (accessed September 14, 2012).

[383]"TRICARE Facts and Figures," TRICARE Management Activity, 2012, http://www.tricare.mil/pressroom/press_facts.aspx (accessed September 14, 2012).

Civilian Health and Medical Program of the Uniformed Services (CHAMPUS)

CHAMPUS is the former name for TRICARE.

"What Is TRICARE?" TRICARE Management Activity, June 12, 2012, http://tricare.mil/mybenefit/ProfileFilter.do;jsessionid=QTLTRCBSJ6PhsQNnzh9hf0XfnDKh2bcDKgMZPF3xH4M66twQF0TX!875501913?puri=%2Fhome%2Foverview%2FWhatIsTRICARE (accessed September 14, 2012).

2.4.4.2 Billing and Reimbursement TRICARE reimburses providers for services rendered to beneficiaries using both FFS and managed care arrangements.[384] The payment rate is determined using Medicare's RBRVS system, although TRICARE uses a slightly higher *conversion factor* and has established minimal modifications to the *geographic regions*.[385] TRICARE renders payment only for services provided by *authorized providers*, that is, those providers that meet licensing and certification requirements and have been certified to treat TRICARE beneficiaries.[386] Providers seeking reimbursement must submit claims using the CMS-1500 claim form within one year from the date the services were rendered.[387] TRICARE claims to pay more than 99 percent of claims within 30 days and all claims within 60 days.[388]

---

[384] Cynthia Newby, *From Patient to Payment: Insurance Procedures for the Medical Office*, 3rd ed. (Columbus, OH: Glencoe/McGraw-Hill, 2002), pp. 152–153.

[385] Michelle A. Green and JoAnn C. Rowell, *Understanding Health Insurance: A Guide to Billing and Reimbursement*, 9th ed. (Clifton, NY: Delmar Cengage Learning, 2008), p. 514.

[386] Cynthia Newby, *From Patient to Payment: Insurance Procedures for the Medical Office*, 3rd ed. (Columbus, OH: Glencoe/McGraw-Hill, 2002), p. 155; "TRICARE—Authorized Providers," TRICARE Management Activity, TRICARE.mil, July 8, 2009, http://www.tricare.mil/mybenefit/home/Medical/FindingAProvider/AuthorizedProviders (accessed August 11, 2009).

[387] Centers for Medicare and Medicaid Services, "Completing and Processing Form CMS-1500 Data Set: Health Insurance Claim Form CMS-1500," *Medicare Claims Processing Manual*, chapter 26, Section 10, March 21, 2011; Cynthia Newby, *From Patient to Payment: Insurance Procedures for the Medical Office*, 3rd ed. (Columbus, OH: Glencoe/McGraw-Hill, 2002), pp. 155, 157.

[388] "Things to Consider: What TRICARE Pays to Providers," TRICARE Management Activity, TRICARE.mil, http://tricare.mil/tma/thingstoconsider.aspx (accessed August 11, 2009).

Beginning on April 1, 2013, the TRICARE regional contractor for the west region, *TriWest*, will begin limiting providers to participating in *UnitedHealthcare provider network* as a means of implementing a *managed care* reimbursement model into the TRICARE system. To continue, or begin, offering services to TRICARE beneficiaries in the west region, certified providers must join the *UnitedHealthcare provider network*.[389] The managed care arrangement with the private payor, worth $1.4 billion, will affect 2.9 million active duty and retired military personnel and their families and is designed to improve the quality of care provided to beneficiaries and, consequently, their health outcomes, while also lowering costs.[390]

TRICARE offers a variety of programs with diverse *beneficiary cost-sharing requirements*, including coinsurance, annual enrollment fees, copays, catastrophic caps, and, deductibles.[391] Similar to Medicare, TRICARE participating providers must accept the allowable fee as payment in full for covered services, which prohibits them from *balance billing* the patient.[392] Nonparticipating providers (who have been authorized by TRICARE) may accept the allowable fee on a case-by-case basis, or they can refuse to accept the fee and bill the patient an amount not exceeding 15 percent above the TRICARE fee schedule.[393] Some services are excluded from the 15 percent *limiting charge*, including claims from independent laboratory and diagnostic laboratory companies, claims for DME, and claims from medical supply companies.[394] Providers that choose to reject the TRICARE payment accept the risk associated with having to collect the entire bill from the beneficiary.[395]

TRICARE is a *primary payor* if a beneficiary qualifies for Medicaid coverage, but assumes *secondary payor* status if the patient is covered by

---

[389] TRICARE, "Frequently Asked Questions for TRICARE Providers," http://www.tricare.mil/west_provider_transition/ (accessed September 14, 2012).

[390] United Health Group, "UnitedHealthcare Awarded the TRICARE West Region Managed Care Support Contract," March 19, 2012, http://www.unitedhealthgroup.com/newsroom/news.aspx?id=6ce9aed4-518d-432c-9a02-b204d983c098 (accessed September 14, 2012).

[391] Cynthia Newby, *From Patient to Payment: Insurance Procedures for the Medical Office*, 3rd ed. (Columbus, OH: Glencoe/McGraw-Hill, 2002), p. 153.

[392] Ibid., p. 155.

[393] Department of Defense Military Health System, "Allowable Charges—CHAMPUS Maximum Allowable Charges (CMAC)," *TRICARE Reimbursement Manual* 6010.55-M, chapter 5, Section 3, March 3, 1992, p. 3.

[394] Ibid., p. 4.

[395] Cynthia Newby, *From Patient to Payment: Insurance Procedures for the Medical Office*, 3rd ed. (Columbus, OH: Glencoe/McGraw-Hill, 2002), p. 155.

WORKERS' COMPENSATION

Workers' compensation laws provide healthcare coverage and monetary payments to employees injured at work or suffering from an occupational disease and monetary benefits for the dependents of employees killed on the job. In addition, the laws limit the financial liability of employers and nearly eliminate the financial liability of coworkers for most accidents.

"Workers' Compensation," in Understanding Health Insurance: A Guide to Billing and Reimbursement, *9th ed., by Michelle A. Green and JoAnn C. Rowell (Clifton, NY: Delmar Cengage Learning, 2008), p. 532.*

another primary health plan. In addition, TRICARE will *not* pay for *occupational* injuries or diseases covered by *workers' compensation* (see Section 2.4.6.1, "Workers' Compensation") unless these benefits have been exhausted.[396]

2.4.5 Civilian Health and Medical Program of the Department of Veteran Affairs (CHAMPVA)

2.4.5.1 Overview The *Civilian Health and Medical Program of the Department of Veteran Affairs (CHAMPVA)* is the U.S. Department of Veterans Affairs' (VA) healthcare program for the *spouses* and *children* of veterans who meet certain eligibility requirements (note that veterans are covered under TRICARE). To be eligible for the program, a *beneficiary* must be the *spouse* or *child* of a *veteran* who was declared to have a *permanent service-connected disability*; the surviving spouse or child of a veteran who *died* as a result of his or her service-related disability; the surviving spouse or child of a veteran who, at the time of his or her death, was determined to be *permanently or totally disabled* due to his or her service-connected disability; or, in certain instances, the surviving spouse or child of a service member who *died in the line of duty.*[397]

[396] Ibid., p. 156.

[397] Department of Veterans Affairs Health Administration Center, "CHAMPVA," December 31, 2008, http://www.va.gov/hac/forbeneficiaries/champva/champva.asp (accessed August 10, 2009).

Civilian Health and Medical Program of the Department of Veteran Affairs (CHAMPVA)

The Civilian Health and Medical Program of the Department of Veteran Affairs is the Department of Veterans Affairs' (VA) healthcare program for the spouses and children of veterans who meet certain eligibility requirements.

"CHAMPVA," by Department of Veterans Affairs Health Administration Center, VA.gov, December 31, 2008, http://www.va.gov/hac/forbeneficiaries/champva/champva.asp (accessed August 10, 2009).

The CHAMPVA program and its beneficiaries are both responsible for a portion of the beneficiaries' healthcare costs.[398]

2.4.5.2 Billing and Reimbursement The CHAMPVA program reimburses providers for services rendered on a FFS basis up to the CHAMPVA *allowable fee*, which is equal to Medicare's and TRICARE's allowable fee for similar services.[399] All claims for reimbursement must be submitted to the CHAMPVA *Health Administration Center* within one year from the date of service.[400] Claims submitted by providers should use the CMS-1500 or the UB-04 (institutional providers) form, and an itemized list of charges for each service must accompany every claim.[401]

CHAMPVA typically *does not sign contracts with providers*.[402] Instead, providers elect to participate in the program by either submitting a claim

[398]Department of Veterans Affairs Health Administration Center, "CHAMPVA," April 7, 2011, http://www.va.gov/hac/forbeneficiaries/champva/champva.asp (accessed August 16, 2012).

[399]Department of Veterans Affairs Health Administration Center, "Fact Sheet 01-11: Payment Methodology," CHAMPVA, July 2008, http://www.va.gov/hac/factsheets/factsheets.asp (accessed on August 18, 2009).

[400]Cynthia Newby, *From Patient to Payment: Insurance Procedures for the Medical Office*, 3rd ed. (Columbus, OH: Glencoe/McGraw-Hill, 2002), p. 157.

[401]Department of Veterans Affairs Health Administration Center, "Payments: Chapter 3, Section 1.1," in *Policy Manual*, VA.gov, http://www.va.gov/hac/forbeneficiaries/champva/policymanual/index.asp (accessed August 11, 2009).

[402]Department of Veterans Affairs Health Administration Center, "Fact Sheet 01-15: Participating Providers VA Health Administration Center," July 2008, http://www.va.gov/hac/factsheets/factsheets.asp (accessed August 18, 2009).

or agreeing to treat a CHAMPVA beneficiary and then must accept the CHAMPVA *allowable fee* as payment in full, that is, they cannot *balance bill* the patient for the difference between their usual charge and the CHAMPVA allowable amount.[403] A provider is not restricted to accepting the CHAMPVA allowable rate if he or she makes this fact clear to the patient before treatment is rendered.[404] In these instances, the patient is responsible for paying the entire bill and submitting a claim to CHAMPVA for reimbursement up to the allowable amount.[405] CHAMPVA reimburses more than 95 percent of patients' claims within 30 days.[406]

CHAMPVA assumes the role of both *primary* and *secondary* payor, reimbursing 75 percent of a patient encounter if *primary* and 25 percent if *secondary.*[407] If a CHAMPVA beneficiary is eligible for Medicaid, has a Medicaid or CHAMPVA *supplemental insurance policy*, or is eligible for a *State Victims of Crime Compensation Program*, CHAMPVA assumes the role of *primary* payor. However, if a CHAMPVA beneficiary is enrolled in Medicare, is covered by a workers' compensation policy, or has private health insurance, the other health insurance plan should be billed first, and CHAMPVA assumes the role of *secondary* payor.[408]

2.4.6 Other Public Payors

2.4.6.1 Workers' Compensation Federal and state governments have enacted legislation establishing *workers' compensation* programs.[409] *Workers' compensation laws* provide healthcare coverage and monetary payments to

---

[403] Ibid.; CFR 38 17.272 (b) (2) and (3).

[404] Department of Veterans Affairs Health Administration Center, "Obtaining Medical Care: Non-VA Medical Providers," in *A Handbook for the CHAMPVA Program: Helping You Take An Active Role In Your Health Care*, http://www.va.gov/hac/forbeneficiaries/champva/handbook.asp (accessed August 18, 2009).

[405] Ibid.

[406] Department of Veterans Affairs Health Administration Center, "Fact Sheet 01-16: For Outpatient Providers and Office Managers," CHAMPVA, July 2009, http://www.va.gov/hac/factsheets/factsheets.asp (accessed August 18, 2009), p. 3.

[407] Military Benefits Services, "CHAMPVA Supplemental Insurance Plan," 2012, http://www.champva.us/ (accessed August 6, 2012).

[408] Cynthia Newby, *From Patient to Payment: Insurance Procedures for the Medical Office*, 3rd ed. (Columbus, OH: Glencoe/McGraw-Hill, 2002), p. 156.

[409] Ishita Sengupta, et al., *Workers' Compensation: Benefits, Coverage, and Costs, 2010* (Washington, DC: National Academy of Social Insurance, August 2012), pp. 2, 5.

employees *injured* at their place of employment or suffering from an *occupational disease* and offer *monetary benefits* for the dependents of employees killed as a result of such injury or disease.[410] In addition, these laws *limit* the *financial liability* of employers and nearly *eliminate* the financial liability of coworkers for most accidents.[411]

The *U.S. Department of Labor's Office of Workers' Compensation Programs* (OWCP) oversees four workers' compensation programs covering federal employees: *The Energy Employees Occupational Illness Compensation Program*, the *Federal Employees' Compensation Program*, the *Longshore and Harbor Workers' Compensation Program*, and the *Black Lung Benefits Program*.[412]

On the state level, every state has an established *workers' compensation board* or *commission* that is tasked with administering workers' compensation programs that cover employees of *private companies* and *state and local governments*.[413] In every state, except Texas, and including the District of Columbia, Guam, Puerto Rico, and the U.S. Virgin Islands, *workers' compensation* coverage is mandatory. Texas permits employers to opt out of *workers' compensation* coverage but does not shield them from *tort liability*.[414] Depending on the state, employers can obtain workers' compensation coverage, in compliance with the state's regulation, through several sources:

1. *State Insurance* (*or Compensation*) *Funds*—Agencies that provide workers' compensation insurance coverage to both public and private employers;
2. *Self-Insurance Plans*—Plans under which employers set aside a percentage of capital funds to cover expenses that may arise;
3. *Commercial Workers' Compensation Insurance*—Policies purchased from commercial insurance companies; or
4. *Combination Programs*—Programs under which employers cover their workers through a combination of any of the aforementioned methods.[415]

---

[410] Ibid., pp. 1–2.

[411] Ibid., p. 2.

[412] United States Department of Labor, "Workers' Compensation," DOL.gov, http://www.dol.gov/dol/topic/workcomp/ (accessed August 10, 2009).

[413] Ishita Sengupta, et al., *Workers' Compensation: Benefits, Coverage, and Costs, 2010* (Washington, DC: National Academy of Social Insurance, August 2012), p. 2.

[414] Ibid., p. 6.

[415] Michelle A. Green and JoAnn C. Rowell, *Understanding Health Insurance: A Guide to Billing and Reimbursement*, 9th ed. (Clifton, NY: Delmar Cengage Learning, 2008), p. 535.

2.4.6.1.1 Billing and Reimbursement Providers treating ill or injured employees covered under one of the four *federal workers' compensation acts* are reimbursed according to the OWCP's fee schedule; however, a modified version of the fee schedule is used to reimburse providers treating patients covered under the *Federal Black Lung Benefits Act*.[416] The OWCP's schedule is based, in part, on the MPFS with some program-specific adjustments.[417] Claims for reimbursement must be submitted to the U.S. Department of Labor using the UB-04 form for inpatient hospital charges and the CMS-1500/OWCP-1500 form for physician services.[418] Bills must be submitted to OWCP by December 31 of the year following services provided, or by December 31 of the year following the year when the condition was first accepted as covered by the workers' program, whichever is later.[419]

State workers' compensation programs reimburse providers using either an FFS model established by the state compensation board or commission or a managed care plan.[420] The required claims forms, progress reports, and supplemental reports, as well as the filing deadlines, vary from state to state.[421] Providers treating patients eligible for coverage under a workers' compensation program must accept that program's allowable fee as payment in full.[422] Furthermore, patients covered by workers' compensation programs pay no deductible and no copayment, and the patient's employer *must* pay *all* premiums.[423]

---

[416] Hilda Solis, "Office of Workers' Compensation Program Medical Fee Schedule 2009," United States Department of Labor, May 12, 2009, http://www.dol.gov/esa/owcp/regs/feeschedule/fee/fee09/fs09instructions.htm (accessed August 19, 2009), pp. 2–3.

[417] Ibid., p. 3.

[418] Ibid., p. 6.

[419] Cynthia Newby, *From Patient to Payment: Insurance Procedures for the Medical Office*, 3rd ed. (Columbus, OH: Glencoe/McGraw-Hill, 2002), p. 163.

[420] Michelle A. Green and JoAnn C. Rowell, *Understanding Health Insurance: A Guide to Billing and Reimbursement*, 9th ed. (Clifton, NY: Delmar Cengage Learning, 2008), p. 544.

[421] Cynthia Newby, *From Patient to Payment: Insurance Procedures for the Medical Office*, 3rd ed. (Columbus, OH: Glencoe/McGraw-Hill, 2002), p. 164.

[422] Denise L. Knaus, *Medicare Rules & Regulations: A Survival Guide to Policies, Procedures and Payment Reform* (Los Angeles: PMIC, 1998), p. 3.

[423] Michelle A. Green and JoAnn C. Rowell, *Understanding Health Insurance: A Guide to Billing and Reimbursement*, 9th ed. (Clifton, NY: Delmar Cengage Learning, 2008), p. 544.

2.4.6.2 Indian Health Services (IHS) The *Indian Health Services* (*IHS*) *Agency* is located within HHS.[424] The agency serves approximately 2 million American Indians and Alaska Natives, directly through tribal healthcare programs, and indirectly, using contract health services, discussed later, for services provided by private healthcare professionals.[425] Most of the agency's resources go toward caring for *American Indians* or *Native Alaskans* living on or near reservations or Alaskan villages. However, Congress has provided some funding for programs for eligible individuals in urban areas.[426]

2.4.6.2.1 Billing and Reimbursement On occasion, IHS will need to purchase healthcare services from private providers.[427] IHS contracts with non-IHS facilities and providers to deliver healthcare services when the following criteria are met:

1. No IHS facility exists;
2. The direct care entity is incapable of providing the required emergency and/or specialty care;

INDIAN HEALTH SERVICES (IHS)

The Indian Services Agency is located within the Department of Health and Human Services. The agency provides healthcare services to approximately 1.9 million American Indians and Alaska Natives, directly through tribal healthcare programs and indirectly through purchases from private providers.

Indian Health Service Introduction," by Indian Health Services, IHS.gov, June 2009, http://www.ihs.gov/PublicInfo/PublicAffairs/Welcome_Info/IHSintro.asp (accessed August 10, 2009); "IHS Fact Sheets" by Indian Health Service, IHS.gov, June 2009, http://info.ihs.gov/QuickLook09.asp (accessed August 10, 2009).

[424] Indian Health Service, "Indian Health Service: A Quick Look," August 2009, http://info.ihs.gov/QuickLook09.asp (accessed August 26, 2009).

[425] Indian Health Services, "Indian Health Service Introduction," IHS.gov, June 2009, http://www.ihs.gov/PublicInfo/PublicAffairs/Welcome_Info/IHSintro.asp (accessed August 10, 2009); Indian Health Services, "Indian Health Service: A Quick Look," January 2012 http://www.ihs.gov/PublicAffairs/IHSBrochure/QuickLook.asp (accessed August 29, 2012).

[426] Indian Health Services, "Indian Health Service: A Quick Look," August 2009, http://info.ihs.gov/QuickLook09.asp (accessed August 26, 2009).

[427] Ibid.

3. The direct care entity has an overflow of medical care workload; or
4. To supplement alternate resources.[428]

Typically, IHS pays providers for these services in accordance with the terms of a contract health service agreement.[429] When these services are purchased from hospitals participating in the Medicare program, the *Medicare Modernization Act* (MMA) of 2003 provides IHS with the authority to limit reimbursement rates to be similar to those established for the Medicare program.[430] Providers submit billing claims to the IHS fiscal intermediary, *Blue Cross Blue Shield of New Mexico*, using the appropriate claim form.[431]

IHS is considered a *payor of last resort*, that is, if a patient has alternative insurance, it will be billed first, "notwithstanding any state or local law or regulation to the contrary."[432] Under its contract with HIS, *Blue Cross Blue Shield of New Mexico* must pay 95 percent of *clean claims* submitted to the IHS fiscal intermediary within 21 days.[433]

2.5 PRIVATE PAYORS

Private health insurance payors consist of *for-profit commercial insurers*, *not-for-profit commercial insurers*, and *self-funded plans*. In 2010, private

[428] Contract Health Services Data Quality Work Group, "CHS 101," HIS.gov, http://www.ihs.gov/NonMedicalPrograms/dqwg/dqwg-section1-home.asp (accessed August 27, 2009).

[429] Indian Health Services, "Indian Health Services Fact Sheet: Contract Health Services," IHS.gov, June 2009, http://info.ihs.gov/CHS.asp (accessed August 26, 2009).

[430] "Section 506 of the Medicare Prescription Drug, Improvement, and Modernization Act of 2003—Limitation on Charges for Services Furnished by Medicare Participating Inpatient Hospitals to Individuals Eligible for Care Purchased by Indian Health Programs," *Federal Register*, 72 no. 106 (June 4, 2007): 30706.

[431] Blue Cross Blue Shield of New Mexico, "About the Fiscal Intermediary (FI)," http://www.bcbsnm.com/ihsfi/about_fi.html (accessed August 15, 2012).

[432] Contract Health Services Data Quality Work Group, "CHS 101," HIS.gov, http://www.ihs.gov/NonMedicalPrograms/dqwg/dqwg-section1-home.asp (accessed August 27, 2009).

[433] Blue Cross Blue Shield of New Mexico, "IHS/CHS Fiscal Intermediary: What Can It Do for Tribes," 2007, npaihb.org, http://www.npaihb.org/images/policy_docs/medicarelike/FI%20Overview%20for%20Tribes%20-Brenda%20Smith%20-%20Sept%20%202007.ppt#304,18,FI Timeline (accessed August 28, 2009).

health insurance accounted for $848.7 billion, or 32.7 percent of the total national expenditures.[434]

Reimbursement prices and policies in the private insurance market are significantly influenced by the level of competition in the market. Large-scale consolidations in the insurance market have created price and profit pressures on similar private payors. In addition to the current focus on *value-based reimbursement*, new products and entrants may be required to address increasingly competitive factors in the insurance market.[435] For more information regarding competition in the insurance market and its impact on the healthcare delivery system, see Chapter 4, "Competition."

Similar to the *National Provider Identifier* (NPI) used to identify providers within the Medicare program, the *Health Plan Identifier* (HPID) was implemented on August 24, 2012, by a Final Rule, as mandated by §1104 of the ACA, which required HHS to streamline healthcare administrative transactions. The HPID final rule requires all health plans to obtain an HPID by 2015 and all covered entities to obtain an HPID by 2016. The HPID is used in HIPAA standards transactions to identify the health plan being billed. This Final Rule also established the *other entity identifier* (OEID) that identifies those parties to a transaction that are not *providers*, *health plans*, or *individuals*.[436] These new HPID and OEID identification numbers were the final portion of the implementation of the ACA simplification mandate.

The ACA also implemented several *transparency initiatives*, several of which concerned the pricing of insurance premiums. These transparency initiatives are supported by free publications available to consumers that report insurance pricing, for example, the *Healthcare Blue Book*.[437] *Transparency* and *price comparison* information are anticipated to be further available via the state *health insurance exchanges* in 2014.

---

[434] Centers for Medicare and Medicaid Services, "Table 3: National Health Expenditures; Aggregate and per Capital Amounts, Percent Distribution and Annual Percent Change by Source of Funds: Calendar Years 2006—2021," in *National Health Expenditure Projections 2011–2021*, January 2012, http://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/NationalHealthExpendData/Downloads/Proj2011PDF.pdf (accessed July 6, 2012).

[435] James C. Robinson, "Consolidation and the Transformation of Competition in Health Insurance" *Health Affairs* 23, no. 6 (2004): 11.

[436] "Administrative Simplification: Adoption of a Standard for a Unique Health Plan Identifier: Final Rule," 45 CFR Part 162 (August 24, 2012).

[437] CAREOperative, Inc., "Blue Book Information," 2012, http://healthcarebluebook.com/page_AboutHCBB.aspx (accessed September 3, 2012).

2.5.1 For-Profit Commercial Insurers

2.5.1.1 Overview *Commercial health insurance* refers to those healthcare plans offered by *life insurance* companies, *casualty insurance* companies, and companies that were formed for the sole purpose of offering *health insurance*.[438] *Commercial insurers* are taxable entities organized as either *mutual* or *stock insurers*. *Mutual insurance companies* are owned by their policyholders, whereas *stock insurance companies* are owned by their stockholders.[439] Commercial insurers offer a variety of health insurance plans, which offer varying trade-offs between costs, the variety of the services covered, the flexibility to see the provider of one's choice, and the risk shared between the payor and the provider. Lists of the 10 largest for-profit health plans by enrollment, in 2010, are set forth in Table 2.13.

2.5.1.1.1 Billing and Reimbursement Commercial insurers offer a variety of *plan options*, with different *copays* and *deductibles*, reimbursement methods, *claim form requirements*, *claims submission deadlines*, *remittance schedules*, and *policies*. It is uncommon for commercial insurers to publish their billing manuals or to inform providers in advance of changes to their claims process, further complicating any generalizations regarding commercial insurance billing.[440]

COMMERCIAL INSURERS

Plans that are offered by life insurance companies, casualty insurance companies, and companies that were formed for the sole purpose of offering health insurance.

"The Financial Environment," in Healthcare Finance: An Introduction to Accounting and Financial Management*, 3rd ed., by Louis C. Gapenski (Chicago: Health Administration Press/Arlington, VA: Association of University Programs in Health Administration, 2005), p. 35.*

[438] Louis C. Gapenski, *Healthcare Finance: An Introduction to Accounting and Financial Management*, 3rd ed. (Chicago: Health Administration Press, 2005), p. 35.

[439] Alma Koch, *Introduction to Health Services* (Clifton Park, NY: Thomson Delmar Learning, 2008), p. 114.

[440] Michelle A. Green and JoAnn C. Rowell, *Understanding Health Insurance: A Guide to Billing and Reimbursement*, 9th ed. (Clifton, NY: Delmar Cengage Learning, 2008), p. 393.

TABLE 2.13 Ten Largest For-Profit Health Plans by Total Enrollment

Rank	Company	2011–2012 Total Enrollment
1	UnitedHealthcare	34,675,651
2	WellPoint, Inc.	29,576,763
3	Aetna	18,636,285
4	Cigna	11,499,083
5	Humana	6,741,375
6	Coventry Health and Life Insurance Company	3,609,930
7	Health Net, Inc.	2,574,000
8	AMERIGROUP Community Care	1,997,000
9	Molina Healthcare, Inc.	1,883,900
10	Centene Corporation	1,626,300

"AIS's Directory of Health Plans: 2012," by Susan Namovicz-Peat (Washington, DC: Atlantic Information Services, 2012), pp. 3–10; "Basic Facts and Figures: Nonprofit Health Plans," Alliance for Advancing Nonprofit Health Care, 2012, pp. 1–4.

Commercial payors can offer insurance plans across the *risk spectrum*, that is, from *FFS* to full *capitation*. For more information on the various models of healthcare delivery reimbursement, see Section 2.6, "Methods of Reimbursement." One payment type of commercial insurance plan is commonly referred to as *managed care*.

2.5.1.2 Managed Care

2.5.1.2.1 Overview *Managed care* plans integrate the *financing* (i.e., insurance) and *provision* of health services under the administration of a *managed care organization* (*MCO*).[441] Under *managed care*, costs are contained by holding providers *accountable* for the quality of services and care to a population at *predetermined levels of reimbursement*, using several means of monitoring, including:

1. *Clinical practice standardization*;
2. *Selective contracting*;
3. *Low-cost settings*;

[441] Louis C. Gapenski, *Healthcare Finance: An Introduction to Accounting and Financial Management*, 3rd ed. (Chicago: Health Administration Press, 2005), p. 4.

4. Reduced *discretionary hospital admissions*; and
5. Effective *staff* use.[442]

Managed Care

Managed care plans integrate the financing (i.e. insurance) and provision of health services under the administration of one organization in an effort to contain costs.

"Introduction to Healthcare Finance," in Healthcare Finance: An Introduction to Accounting and Financial Management, *3rd ed., by Louis C. Gapenski (Chicago: Health Administration Press/Arlington, VA: Association of University Programs in Health Administration, 2004), p. 4.*

FEE ALLOWANCE SCHEDULE

A managed care reimbursement scheme by which the fees for procedures are explicitly laid out and the physician agrees to accept those fees as full payment, unless the discounted charges are less than the fee schedule, in which case the plan pays the lesser of the two.

The Managed Health Care Handbook, *3rd ed., Peter R. Kongstvedt (Gaithersburg, MD: Ernst & Young, 1996), pp. 140–141.*

These mechanisms ensure that financial risk is shared by both the *managed care plan* and the *participating providers*, incentivizing both parties to be *accountable* for the *delivery*, *cost*, and *quality* of services provided to beneficiaries.

Typically, *managed care plans* are established by a *payor* who also controls its own *provider network*, or by a *payor* who creates a network via contracts with *independent providers*.[443] The various managed care plans available on the market each share risk between *payors* and *providers* in different degrees, creating a *risk continuum*. The various divisions of *risk sharing* for managed care plans are illustrated in Exhibit 2.12.

[442] Robert James Cimasi, *A Guide to Consulting Services for Emerging Healthcare Organizations* (New York: John Wiley & Sons, 1999), p. 12.

[443] Louis C. Gapenski, *Healthcare Finance: An Introduction to Accounting and Financial Management*, 3rd ed. (Chicago: Health Administration Press, 2005), p. 37.

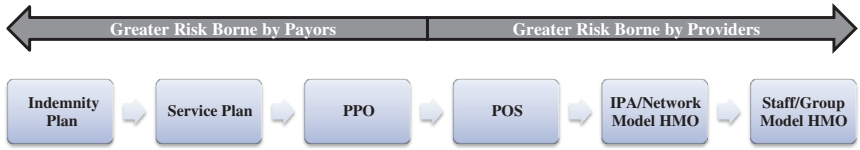


EXHIBIT 2.12 Managed Care Plan Options
Essentials of Managed Health Care, by Peter R. Kongstvedt, 6th ed. (Burlington, MA: Jones and Bartlett Learning, 2013), p. 25.

PERFORMANCE-BASED FEE-FOR-SERVICE

Performance-based fee-for-service is a managed care reimbursement scheme using a scale that adjusts fees based on individual medical specialties. In this approach, each specialty has a per-member-per-month budget (e.g., $2.00 per member per month for OB/GYN), and actual costs are measured against that budget. If costs exceed the budget, then fees are lowered, but only for that specialty, and vice versa if costs are better than budget. This system requires a highly sophisticated tracking system and a large enough patient base to make the analysis statistically significant, which makes it well suited for independent practice associations.

The Managed Health Care Handbook*, 3rd ed., Peter R. Kongstvedt (Gaithersburg, MD: Ernst & Young, 1996), p. 181.*

As indicated earlier, *managed care plans* are structured in a variety of ways, although three of the more popular models of managed care plans are (1) *health maintenance organizations* (HMOs), (2) *preferred provider organizations* (PPOs), and (3) *point of service plans* (POS).

2.5.1.2.2 Health Maintenance Organizations (HMO) *Health maintenance organizations* (HMOs) are responsible for either *providing* or *arranging* for the provision of healthcare services, including *preventive care*, for plan enrollees via *contractual arrangements with providers*.[444] The HMO structure includes benefits for both health plan enrollees and participating

[444]Daniel J. Schwartz, *Fundamentals of Health Law*, 4th ed. (Washington, DC: American Health Lawyers Association, 2008), p. 247.

Health Maintenance Organization (HMO)

HMOs are responsible for providing, or arranging for the provision of, healthcare services (including preventative care) for plan enrollees via contractual arrangements with providers. HMO enrollees must receive all of their care from the plan's participating providers, except for care provided in emergency situations or in instances in which the plan offers a point of service option.

"Regulation of Insurance," in Fundamentals of Health Law, *4th ed., by Daniel J. Schwartz (Washington, DC: American Health Lawyers Association, 2008), p. 247.*

providers. Health plans are able to limit their *financial risk* by contracting with providers to care for a specified enrolled population for a *fixed payment amount per member per month* (PMPM). The PMPM reimbursement model allows providers to more easily rely on a steady stream of income, regardless of how often enrollees seek care. The benefit for enrollees is little or no liability for *deductibles* and nominal or no liability for *copayments* for the care they receive.[445]

The limitation associated with HMOs is that enrollees must receive *all* of their medical care from the plan's *participating providers* or from providers with whom the health plan has contracted, except for care provided in emergency situations or in instances in which the plan offers a *point of service* option (discussed later).[446] Under some HMO models, enrollees must select a *primary care physician* to operate as a *gatekeeper*, to oversee and coordinate their healthcare with specialists.[447] The *gatekeeper* model was prevalent in the HMO plans of the 1990s (discussed later and in Section 1.7.2, "Backlash against HMOs and Managed-Care Plans," in Chapter 1, "The Chronology of U.S. Healthcare Delivery"). The four common models of HMOs are described in Table 2.14.

Significant consumer backlash ensued following the rapid and widespread incursion of managed care and the imposition of the *gatekeeper function* in the early 1990s, wherein providers were accused of diminishing

[445] Alma Koch, *Introduction to Health Services* (Clifton Park, NY: Thomson Delmar Learning, 2008), p. 126.

[446] Daniel J. Schwartz, *Fundamentals of Health Law*, 4th ed. (Washington, DC: American Health Lawyers Association, 2008), p. 247.

[447] Louis C. Gapenski, *Healthcare Finance: An Introduction to Accounting and Financial Management*, 3rd ed. (Chicago: Health Administration Press, 2005), p. 38.

TABLE 2.14 Common Forms of HMOs

HMO Model	Description
Staff Model HMO	Directly employs all the physicians who provide healthcare services to plan enrollees
Group Model HMO	Contracts with one physician practice to provide care to plan enrollees
Network Model HMO	Contracts with many independent physician practices who may also treat other patients who are not enrolled in the plan
Independent Physician Model (IPA) HMO	Contracts with an association of independent physicians who maintain their own private practices, but who have jointly entered into an agreement to treat the plan's enrollees

"Employers: Understanding HMOs," Pacific Care Health Systems, Inc., 2004, http://www.pacificareasia.com/English/employers/E_4_4_1.htm (accessed August 15, 2009).

or deferring care in an effort to lower costs for their own financial benefit and contrary to the best interests of their patients.[448] The result was a slight decline in overall HMO enrollment; however, since the 1990s, HMOs have continued to be used as a means of controlling costs, although restructured to limit restrictions on provider preference.[449] The boom in HMOs in the

Independent Practice Association (IPA)

An IPA is an association of independent physicians who maintain their own private practices but have joined together to enter into an agreement to treat the plan's enrollees.

"Employers: Understanding HMOs" Pacific Care Health Systems, Inc., Pacificcareasia .com, 2004, http://www.pacificareasia.com/English/employers/E_4_4_1.htm (accessed July 10, 2009).

[448] Kaiser Public Opinion Spotlight, "The Public, Managed Care, and Consumer Protections," Kaiser Family Foundation, January 2006, pp. 1, 4, 7; Robert J. Blendon, et al., "Understanding the Managed Care Backlash," *Health Affairs* 17, no. 4 (July/August 1998): 91.

[449] Susan Marquis, Jeannette A. Rogowski, and José J. Escarce, "The Managed Care Backlash: Did Consumers Vote with Their Feet?" *Inquiry* 41, no. 4 (Winter 2004/2005): 376–390.

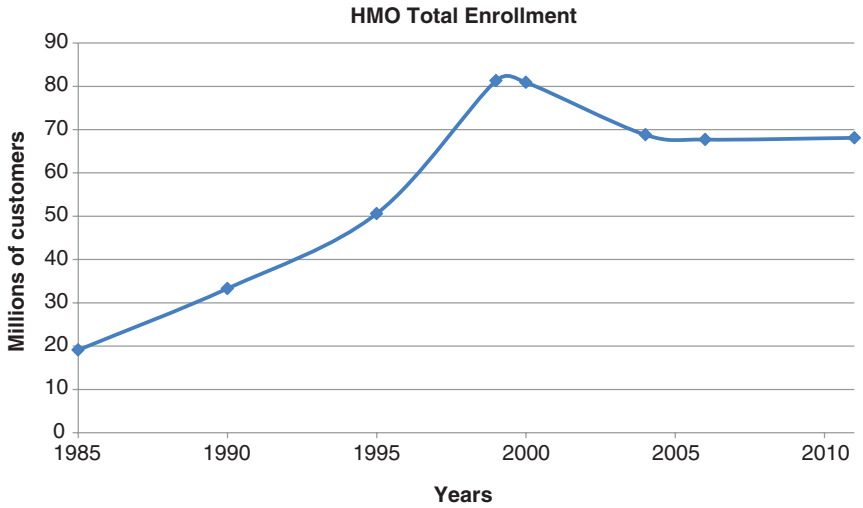


EXHIBIT 2.13 National HMO Enrollment: 1987–2011
"Managed Care Museum Time Line: The History of Managed Care and More" (Modesto, CA: Managed Care Museum, February 2011, http://www.managedcaremuseum.com/timeline.htm (accessed April 10, 2012).

late 1990s, and their subsequent decline but ultimate staying power, is illustrated in Exhibit 2.13.

2.5.1.2.2.1 Billing and Reimbursement Patients in HMOs (*covered lives*) generally pay a *fixed premium*, typically monthly, to be enrolled in a plan and *copayments* at the time of treatment, unless the *copayment* is waived due to a *coinsurance payment* requirement (i.e., a fixed percentage of the bill the patient is required to pay after meeting his or her deductible). It

Factoid

The HMO came into existence in Los Angeles in 1923 with the founding of the Ross-Loos Clinic. The clinic, founded by two physicians, Donald E. Ross and H. Clifford Loos, provided medical and hospital care to Los Angeles Department of Water and Power employees and their families in exchange for monthly payments.

"Private Health Insurance and Managed Care," in Introduction to Health Services, *7th ed., by Alma Koch (Clifton Park, NY: Thomson Delmar Learning, 2008), p. 115, http://www.economicexpert.com/a/Ross:Loos:Medical:Group.htm.*

should be noted that providers, even those providers *directly employed* by the HMO and or compensated on a *capitated* basis, are typically required to file claims with all appropriate *procedure codes* for services rendered to HMO enrollees. HMOs use those submitted claims to *adjust rates* and *track the quality of care* provided, based on readmissions and other indicators of *poor quality*.[450]

2.5.1.2.3 Preferred Provider Organizations (PPO) A *Preferred Provider Organization* (*PPO*) is a hybrid of an HMO and a health insurance plan and is currently the most popular model of managed care.[451] A PPO is a *managed care plan* that allows members to choose from an array of *participating healthcare providers* that have *contracted* with the *health plan* to provide services at a *discount*.[452] PPOs manage costs by incentivizing enrollees to choose to receive services from a select panel of providers on a *preferred provider list*, also referred to as *in-network providers*. Limiting access to a *preferred provider network panel* provides health plans with greater *purchasing power*, which allows them to negotiate lower prices. Members benefit from PPOs due to lower *coinsurance* and *deductibles* when they see

Preferred Provider Organization (PPO)

The PPO, a hybrid of an HMO and a traditional health insurance plan, is a managed care plan that allows members to choose from an array of healthcare providers that have contracted with the plan to provide services on a discounted basis.

"Introduction to Healthcare Finance," in Healthcare Finance: An introduction to Accounting and Financial Management, *3rd ed., by Louis C. Gapenski (Chicago: Health Administration Press/Arlington, VA: Association of University Programs in Health Administration, 2004), p. 38; "Private Health Insurance and Managed Care," in* Introduction to Health Services, *7th ed., by Alma Koch (Clifton Park, NY: Thomson Delmar Learning, 2008), p. 124.*

[450] Cynthia Newby, *From Patient to Payment: Insurance Procedures for the Medical Office*, 3rd ed. (Columbus, OH: Glencoe/McGraw-Hill, 2002), p. 113.

[451] Peter R. Kongstvedt, *Essentials of Managed Health Care*, 6th ed. (Burlington, MA: Jones and Bartlett Learning, LLC, 2013), p. 28.

[452] Louis C. Gapenski, *Healthcare Finance: An Introduction to Accounting and Financial Management*, 3rd ed. (Chicago: Health Administration Press, 2005), p. 38; Alma Koch, *Introduction to Health Services* (Clifton Park, NY: Thomson Delmar Learning, 2008), p. 124.

in-network providers. Providers benefit from the increased probability and stability of plan enrollees choosing them when seeking medical treatment, due to their *preferred provider status*.[453]

Unlike the HMO models of the 1990s, PPO members are not required to have a *gatekeeper* physician authorize the care they receive, nor are PPO members *required* to use the *preferred providers* on their plan's list, although going outside the network will result in higher *coinsurance rates* and *deductibles*.[454] PPOs also do not transfer *financial risk* to their *preferred providers,* through the *PMPM* reimbursement model used by HMOs.[455]

Concerns regarding the *restrictive practice of managed care plans* toward provider participation have prompted many states to introduce *any willing provider* legislation. *Any Willing Provider* laws are state statutes that require that a payor accept into its network *any* health care provider that is willing to *agree to all the plan's terms and conditions*, including reimbursement rates. Currently, 22 states have some form of an *Any Willing Provider* statute, which affects any reimbursement plan that includes a *preferred provider network* and is designed to increase patient access and limit anticompetitive behavior by payors.[456]

Factoid

The PPO evolved in California in 1982 in response to the legislature's desire to have a system that "would allow selective contracting for Medicaid through private insurers."

"Understanding Health Insurance and the PPO," by Shiela Guilloton, Examiner, *June 15, 2009, http://www.examiner.com/x-11804-Health-Care-Examiner~y2009m6d15-Understanding-health-insurance-and-the-PPO (accessed July 10, 2009).*

[453] Alma Koch, *Introduction to Health Services* (Clifton Park, NY: Thomson Delmar Learning, 2008), pp. 124–125.

[454] Louis C. Gapenski, *Healthcare Finance: An Introduction to Accounting and Financial Management*, 3rd ed. (Chicago: Health Administration Press, 2005), p. 38; Alma Koch, *Introduction to Health Services* (Clifton Park, NY: Thomson Delmar Learning, 2008), p. 125.

[455] Daniel J. Schwartz, *Fundamentals of Health Law*, 4th ed. (Washington, DC: American Health Lawyers Association, 2008), p. 245.

[456] National Conference of State Legislatures, "Managed Care State Laws and Regulations, Including Consumer and Provider Protections," September 2011, http://www.ncsl.org/issues-research/health/managed-care-state-laws.aspx (accessed August 31, 2012).

A submodel of a PPO is the *exclusive provider organization* (EPO). Most often using the *preferred provider network* established for an existing PPO, the EPO *limits* the benefits offered by the PPO to only those services provided by *participating providers* and eliminates the *out-of-network option*, except for emergency services. Recently, EPOs have gained some popularity (while maintaining a small presence in the insurance market) as an option for *self-funded employer plans* (discussed later) as a means of cost savings.[457]

Billing and Reimbursement Health plans create a PPO by contracting with providers to render services to the plan's enrollees on a reduced fee basis.[458] As mentioned earlier, most patients enrolled in a PPO are permitted to receive care from providers outside the plan's *preferred provider network*, with the trade-off of higher out-of-pocket expenses. Even when receiving care from an *in-network provider*, PPO enrollees tend to pay higher *premiums*, *deductibles*, and *copayments* than those paid by HMO enrollees for similar services; however, these payments are generally lower than those seen in typical FFS reimbursement models.[459]

2.5.1.2.4 Point-of-Service (POS) Plans *Point-of-Service (POS) plans* combine many of the elements of HMOs and PPOs. POS plans are generally an addition to an HMO product that allows enrollees the benefit of seeking care from *nonparticipating* providers.[460] Similar to the incentives within an HMO model, when POS enrollees seek care from *in-network providers*, they typically pay no *deductible* or *coinsurance*.[461] However, similar to a PPO, POS enrollees may receive services *out-of-network*, subject to higher *cost-sharing* in the form of *deductibles* and *coinsurance*.[462] This *freedom of choice*, along with the incentive of *no cost sharing* for *in-network services*, is why POS plans are considered to be one of the *least restrictive* forms of managed care.[463]

---

[457] Peter R. Kongstvedt, *Essentials of Managed Health Care*, 6th ed. (Burlington, MA: Jones and Bartlett Learning, 2013), p. 29.

[458] Cynthia Newby, *From Patient to Payment: Insurance Procedures for the Medical Office*, 3rd ed. (Columbus, OH: Glencoe/McGraw-Hill, 2002), p. 113.

[459] James A. Hester, Annemarie Wouters and Norman Wright, "Evaluation of a Preferred Provider Organization," *The Milbank Quarterly* 65, no. 4 (1987): 599–602.

[460] Daniel J. Schwartz, *Fundamentals of Health Law*, 4th ed. (Washington, DC: American Health Lawyers Association, 2008), p. 258.

[461] Ibid.

[462] Ibid.

[463] Cynthia B. Sullivan and Thomas Rice, "The Health Insurance Picture in 1990," *Health Affairs* 10, no. 2 (May 1991): 107–108.

Point-of-Service Plans (POS)

POS plans combine many of the elements of HMOs and PPOs. POS plans are usually an addition to an HMO product that allows members the benefit of seeking care from nonparticipating providers. As with an HMO, when members seek care from in-network providers, they typically pay no deductible or coinsurance. However, similar to a PPO, members are free to seek services outside the network, subject to higher cost sharing in the form of deductibles and coinsurance.

"Regulation of Insurance," in Fundamentals of Health Law, *4th ed., by Daniel J. Schwartz (Washington, DC: American Health Lawyers Association, 2008), p. 258; "Private Health Insurance and Managed Care," in* Introduction to Health Services," *by Alma Koch (Clifton Park, NY: Thomson Delmar Learning, 2008), p. 127.*

Similar to the *gatekeeper* model used within some HMOs, enrollees in 1990s POS plans *had* to choose a *primary care physician* from a list of *in-network providers* to oversee the provision of healthcare services and facilitate referrals to *specialists* and *hospitals*, that is, the *gatekeeper function.*[464] Although POS plans expanded along with HMOs in the 1990s, their prevalence has contracted in recent years, due in part to lackluster evidence of significant cost savings.[465]

Billing and Reimbursement Providers in POS plans are generally reimbursed according to the terms of their contract with the managing health plan, with specialty services traditionally being paid on an FFS basis and the *primary care gatekeeper* typically receiving a *capitated* per person fee.[466] Patients enrolled in a *POS plan* generally pay only a small *copayment*, with no *coinsurance* and no *deductibles* for care received from *in-network providers* and *out-of-network providers* to whom they have obtained a referral

[464] Ibid., pp. 107–108.

[465] Peter R. Kongstvedt, *Essentials of Managed Health Care*, 6th ed. (Burlington, MA: Jones and Bartlett Learning, 2013), p. 30.

[466] Cynthia Newby, *From Patient to Payment: Insurance Procedures for the Medical Office*, 3rd ed. (Columbus, OH: Glencoe/McGraw-Hill, 2002), pp. 112–113; International Foundation of Employee Benefit Plans, Inc., "Point-of-Service Plans," 2003, http://www.ifebp.org/pdf/harker/POS_Plans.pdf (accessed September 14, 2012).

TABLE 2.15 Ten Largest Not-for-Profit Health Plans by Total Enrollment

Rank	Company	2011–2012 Total Enrollment
1	Health Care Service Corporation	12,783,198
2	Kaiser Permanente	8,959,294
3	Blue Cross Blue Shield of Michigan	4,436,836
4	Highmark, Inc.	4,387,427
5	AmeriHealth Mercy/Independent Blue Cross	3,528,574
6	BlueCross BlueShield of Tennessee	3,499,743
7	CareFirst Blue Cross Blue Shield	3,496,446
8	Blue Cross and Blue Shield of Alabama	3,043,985
9	Medical Mutual of Ohio	2,811,059
10	Blue Cross and Blue Shield of Florida, Inc.	2,801,087

AIS's Directory of Health Plans: 2012, by Susan Namovicz-Peat (Washington, DC: Atlantic Information Services, 2012), pp. 3–10; "Basic Facts and Figures: Nonprofit Health Plans," Alliance for Advancing Nonprofit Health Care, 2012, pp. 1–4.

from their *primary care provider.* However, when a *POS plan enrollee* seeks treatment from a *non-network specialist*, without first obtaining a referral from his or her primary care physician, the enrollee will often be subject to higher *out-of-pocket expenses* in the form of a large *deductible* and a 20 to 25 percent increase in *coinsurance* charges.[467]

2.5.2 Not-for-Profit Commercial Insurers

Non-for-profit commercial insurers encompass a majority of the large health plans in the United States. In 2011, these plans represented 63 percent of all health plans with at least 100,000 enrollees and accounted for 45 percent of the insurance market, covering 104 million enrollees.[468] A list of the 10 largest *not-for-profit health plans* by size is set forth in Table 2.15.

[467] Michelle A. Green and JoAnn C. Rowell, *Understanding Health Insurance: A Guide to Billing and Reimbursement*, 9th ed. (Clifton, NY: Delmar Cengage Learning, 2008), p. 39.

[468] Susan Namovicz-Peat, "Basic Facts and Figures: Nonprofit Health Plans," Alliance for Advancing Nonprofit Health Care, calculated from *AIS's Directory of Health Plans: 2012* (Washington, DC: Atlantic Information Services, 2012), pp. 3–10.

2.5.2.1 Health System Plans

2.5.2.1.1 Overview A *hospital system health plan* is controlled by the health system that also manages the delivery of medical services, for example, *Kaiser Permanente* and *Geisinger Health Plan*, with the size and scope of the *health system* generally determined by the size and scope of the *health plan*. Of note is that *Kaiser Permanente* was officially founded as a healthcare organization in 1945, after serving as a *health benefits program* for *industrial workers* in the 1930s and 1940s.[469] The organization offers a large assortment of not-for-profit healthcare plans for its enrollees and their dependents, with a nationwide market presence. In contrast, *Geisinger Health Plan* operates exclusively in Pennsylvania.[470] However, both health systems offer similar innovative services and programs, including *patient-centered medical homes* and *electronic health records* (EHRs).[471] In 2011, *Geisinger* and *Kaiser Permanente* combined resources with three other health systems to form the *Care Connectivity Consortium*, which provided a medium through which the organizations could *collaborate* and *securely exchange their data*.[472]

2.5.2.1.2 Billing and Reimbursement By serving as the *primary payor* for those services provided at their own healthcare facilities, health system plans can *streamline billing* and *reimbursement* departments, limiting the cost and complexity of their payment systems. This model of plan also offers various benefits for *care coordination efforts*, that is, *accountable care organizations* (ACOs).

Health systems with internal health plans may be able to better align *financial incentives* and *clinical operations* in an *ACO arrangement* by

---

[469] Kaiser Permanente, "Kaiser Permanente: More than 60 Years of Quality," http://xnet.kp.org/newscenter/aboutkp/historyofkp.html (accessed August 20, 2012).

[470] Geisinger Health Plan, "NCQA's Health Insurance Plan Rankings Released," September 21, 2011, http://www.thehealthplan.com/news/2011/ncqarankings.cfm (accessed July 18, 2012).

[471] Danie Maeng et al., "Reducing Long-Term Cost by Transforming Primary Care: Evidence from Geisinger's Medical Home Model," *American Journal of Managed Care* 18, no. 3 (2012), http://www.ajmc.com/publications/issue/2012/2012-3-vol18-n3/Reducing-Long-Term-Cost-by-Transforming-Primary-Care-Evidence-From-Geisingers-Medical-Home-Model (accessed August 20, 2012).

[472] Kaiser Permanente, "Five Leading Health Systems Create New Care Connectivity Consortium," Press Release (April 6, 2011), http://xnet.kp.org/newscenter/pressreleases/nat/2011/040611interoperability.html (accessed July 18, 2012).

having one entity represent both the *provider* and the *payor.* Furthermore, entities where the ACO and payor are under the same overall organizational structure may be more apt to implement *pay-for-performance* (P4P) initiatives to improve *cost* and *quality outcomes*, because they are more able to monitor and influence the performance of individual providers by incorporating *physician compensation* into *incentive programs*. The existence of the internal payor function may also permit these entities to *control the scope* of a potential ACO, allowing for the option to focus either on (1) *all providers* or (2) a *single service line*.

2.5.2.2 Blue Cross Blue Shield (BCBS)

2.5.2.2.1 Overview In 1977, the independent boards of directors of the *Blue Cross and Blue Shield* accrediting associations merged to form a single not-for-profit, *Blue Cross Blue Shield Association (BCBSA)*.[473] Prior to this merger, *Blue Cross* (created in 1929) provided private health insurance for *hospital* expenses and *Blue Shield* (created in 1939) provided insurance for *physician services*.[474] Today, the BCBSA consists of 38 independent BCBS companies.[475] The BCBSA coordinates these nationwide plans by establishing *standards* for new plans and programs; assisting local plans with *enrollment activities*, *national advertising*, *public education*, *professional relations*, and *statistical* and *research activities*; and, serving as the *primary contractor* for processing *Medicare hospital*, *hospice*, and *home health* claims.[476]

Although BCBSA includes several of the largest not-for-profit insurance plans, not all BCBS plans are not-for-profit. During the 1990s, many *not-for-profit BCBS plans* required additional capital in order to compete with *for-profit insurers* and requested permission from their respective state governments to convert to *for-profit corporations*. In the instances in which the plans were allowed to convert to a for-profit entity, the transitions were

---

[473] Robert Cunningham III and Robert M. Cunningham Jr., *The Blues: A History of the Blue Cross and Blue Shield System* (DeKalb, IL: Northern Illinois University Press, 1997), pp. 196–199.

[474] Alma Koch, *Introduction to Health Services* (Clifton Park, NY: Thomson Delmar Learning, 2008), p. 114. For more information on the history of BCBS, see Section 1.2.2, "Introduction of Health Insurance," in Chapter 1, "The Chronology of U.S. Healthcare Delivery."

[475] Blue Cross Blue Shield Association, "About the Blue Cross and Blue Shield Association," BCBS.com, http://www.bcbs.com/about-the-association (accessed August 15, 2012).

[476] Robert Cunningham III and Robert M. Cunningham Jr., *The Blues: A History of the Blue Cross and Blue Shield System* (DeKalb, IL: Northern Illinois University Press, 1997), p. vii.

BlueCross BlueShield

BlueCross provides beneficiaries with health insurance to cover hospital expenses, while BlueShield provides insurance to cover expenses associated with physician services. Together, they form BlueCross BlueShield, and the BlueCross Blue Shield Association (BCBSA) works to coordinate the nationwide plans by establishing standards for new plans and programs; assisting local plans with enrollment activities, national advertising, public education, professional relations, and statistical and research activities; and serving as the primary contractor for processing Medicare hospital, hospice, and home health claims.

"Private Health Insurance and Managed Care," in Introduction to Health Services, *7th ed., by Alma Koch (Clifton Park, NY: Thomson Delmar Learning, 2008), p. 114; "Blue Cross Blue Shield," in* Understanding Health Insurance: A Guide to Billing and Reimbursement, *9th ed., by Michelle A. Green and JoAnn C. Rowell (Clifton, NY: Delmar Cengage Learning, 2008), p. 399.*

closely monitored by state agencies in order to protect the plans' *charitable assets*.[477] For a further discussion of conversions, see Section 3.2.2, "501(c)(3) Exempt Organizations," in Chapter 3, "Regulatory Environment."

BCBS plans represent a multibillion-dollar industry offering coverage to millions of individuals. In the 83 years since the establishment of its two original component organizations, BCBSA has become the largest *managed care network* in the United States.[478]

2.5.2.2.2 Billing and Reimbursement BCBS reimburses providers using a *FFS reimbursement model* and various *managed care arrangements*. The *allowable fee* varies based on the plan, with some plans using the MPFS to determine the amount commonly reimbursed to providers in a given region, for a given service, under a specific plan. BCBS requires participating providers to accept the *allowable fee* as payment in full. Similar to the system used by Medicare, *nonparticipating providers* may collect the full *allowable fee* from the patient, who will in turn receive payment *directly* from the BCBS plan in which he or she is enrolled.[479]

[477] Ibid., pp. 224–247.

[478] Ibid., p. vii.

[479] Michelle A. Green and JoAnn C. Rowell, *Understanding Health Insurance: A Guide to Billing and Reimbursement*, 9th ed. (Clifton, NY: Delmar Cengage Learning, 2008), pp. 402–408.

For billing purposes, the CMS-1500 claim form is accepted by most BCBS plans and typically must be filed within one year from the date of service unless the provider's contract states otherwise.[480] Although reimbursement for claims processed by BCBS varies by plan, some plans pay electronically submitted claims within 15 days.[481]

2.5.2.3 Consumer-Driven Health Plans To combat the problem of ever-increasing premiums for *employee health insurance*, many employers have begun to implement *defined contribution* health insurance plans, modeled after *defined contribution* pension programs, such as 401(k), instead of the traditional *defined benefit* plans.[482] Unlike a *defined benefit* system, where an employer has the obligation to contribute the necessary premium for a specified package of health insurance benefits, a *defined contribution* system allows the employer to contribute a designated amount of funding and gives the employee significant freedom to choose how to spend it, leaving substantial decision making to the employee.[483] For example, employers will occasionally present employees with a *voucher* to purchase insurance on their own. More often, employers will create an account for each employee into which the employer, the employee, or both, will contribute funds and from which the employee will be able to draw to purchase his or her selection of health services, for example, a *health savings account*.[484]

2.5.2.4 Health Savings Accounts (HSA) One of the most common models of *defined contribution* health insurance is a *health savings account* (*HSA*), coupled with enrollment in a *high deductible health plan* (HDHP), whereby employers and employees both contribute to a special account from which

[480] Centers for Medicare and Medicaid Services, "Completing and Processing Form CMS-1500 Data Set: Health Insurance Claim Form CMS-1500," *Medicare Claims Processing Manual*, chapter 26, Section 10, March 21, 2011.

[481] Regence BlueCross BlueShield of Utah, "About the BlueCard Program," http://www.ut.regence.com/physician/blueCard (accessed August 31, 2009); American Medical Association, "How the Blue Cross Blue Shield Settlement Agreement Helps the Physician Practice," ama-assn.org, 2008, http://www.ama-assn.org/ama1/pub/upload/mm/368/bcbsflyer.pdf (accessed August 31, 2009).

[482] Greg Scandlen, "Defined Contribution Health Insurance," National Center for Policy Analysis, October 26, 2000, http://www.ncpa.org/pdfs/bg154.pdf (accessed September 10, 2009), p. 7.

[483] E. Haavi Morreim, "Defined Contribution: From Managed Care to Patient-Managed Care," *Cato Journal* 22, no. 1 (Spring/Summer 2002): 110–112.

[484] Ibid., 111.

Health Savings Accounts (HSA)

HSAs are special accounts into which employers and employees both contribute, and from which the employee can draw funds to pay for health services. If the employer contributes, the value of those contributions is not taxable to the employee. Similarly, if the employee makes contributions, they count as "above-the-line" deductions.

"All about HSAs," U.S. Treasury Department, July 22, 2007, p. 14, http://www.treas.gov/offices/public-affairs/hsa/pdf/all-about-HSAs_072208.pdf (accessed July 1, 2009).

the employee can draw funds to pay for health services.[485] One driver of HSA implementation is that funds contributed by an employer are not taxable to the employee. Similarly, contributions made by the employee count as *above-the-line* deductions, meaning they are subtracted from an individual's total income, lowering the amount of income tax owed.[486]

Individuals excluded from HSA eligibility include (1) those covered by insurance other than an HDHP; (2) those who can be claimed as a *dependent* on another's tax return, (3) *veterans* who have received medical care or prescription drugs from a *Veterans Administration facility* within the last three months, (4) active duty *military personnel*, and (5) *Medicare recipients* who did not have an HSA prior to enrolling in Medicare.[487] However, individuals are *not* precluded from enrolling in HSAs if they have automobile, dental, vision, disability, or long-term care insurance or are covered by their employer's wellness plan, as long as the wellness plan does not pay for a significant portion of the individual's medical care.[488] In addition, enrollees are allowed to have insurance coverage for a specific disease or illness, as long as the coverage, when invoked, pays only a set monetary amount.[489]

[485] U.S. Treasury Department, "All about HSAs," July 22, 2007, http://www.treas.gov/offices/public-affairs/hsa/pdf/all-about-HSAs_072208.pdf (accessed July, /209), p. 14.

[486] Ibid.

[487] Department of Treasury, "Frequently Asked Questions," Office of Public Affairs, May 15, 2007, http://www.ustreas.gov/offices/public-affairs/hsa/faq_eligibility.shtml (accessed May 21, 2010).

[488] Ibid.

[489] Ibid.

Factoid

According to a 2012 census conducted by America's Health Insurance Plans (AHIP), the number of individuals covered by HSAs/HDHPs has increased steadily every year since their inception, with more than 13.5 million individuals covered under a HSA in January 2012.

"January 2012 Census Shows 13.5 Million People Covered by Health Savings Account/High-Deductible Health Plans (HSA/HDHPs)," America's Health Insurance Plans, May 2012, p. 1.

Legislative support of HSAs has largely focused on setting tighter limits for contributions and increased oversight of how the money is spent.[490] In 2006, President George W. Bush signed into law the *Health Opportunity Patient Empowerment Act of 2006*, which provided new opportunities for HSA participants to build their funds. One provision of the act was an allowance for employers to transfer funds from *Flexible Spending Arrangements* (FSA) or *Health Reimbursement Arrangements* (HRA) to an HSA plan for employees wishing to switch. The act also (1) increased the maximum HSA contribution amount to a statutorily defined quantity that was indexed for inflation, (2) eliminated the system of pro-rating HSA contributions based on the number of months that an individual was eligible, and (3) replaced it with a system allowing individuals who enrolled in a month other than January to make a contribution equal to a full year's enrollment. In addition, the act (1) allowed for a onetime transfer from an *Individual Retirement Arrangement* (IRA) to an HSA, which avoided early withdrawal and income taxes; (2) eliminated FSA coverage previously deemed as disregarded coverage, which reduced HSA contributions for a given year; (3) set an earlier date for cost of living index adjustments; and (4) allowed greater employer contributions for lower-paid employees.[491]

In 2010, the ACA also affected the regulation of HSAs by increasing the *penalty* for *noneligible services* from 10 percent to 20 percent and limiting

[490] Victoria E. Knight, "Health Savings Accounts Come Under Fire," *Wall Street Journal Online*, June 26, 2009, http://blogs.wsj.com/wallet/2009/06/26/health-savings-accounts-come-under-fire/ (accessed July 1, 2009).

[491] U.S. Department of the Treasury, "President Bush Signs Bill to Make Health Care More Affordable, Accessible," Press Release, December 20, 2006, http://www.treas.gov/press/releases/hp209.htm (accessed July 1, 2009).

drug eligibility to prescription drugs (with the exception of *insulin*).[492] Noneligible services are any service not included in the benefits approved for coverage under an HSA, as established by legislation. If an individual chooses to remove money from an HSA account for a noncovered service, he or she is charged a *penalty* (described earlier), designed to provide a disincentive for financially insecure individuals from using their HSA as a bank account.

2.5.2.4.1 Billing and Reimbursement Providers may receive reimbursement from an individual with an HSA in a variety of forms, including *debit card*, *checks*, and *automatic claims forwarding*.[493] Even though patients with HSAs generally pay with these cash alternatives, providers do not necessarily receive payment on the same day that services are provided, because some HSAs encourage their enrollees not to pay for the provider's services until the plan informs the patient of the *allowable fee* amount.[494] This delay may generate concerns for providers regarding nonpayment and *bad debt*. As with any form of insurance, billing departments should be aware of patient's *copayments*, *deductibles*, and the presence of *secondary insurance* to ease payment-related concerns.[495]

2.5.2.5 Employer Self-Insurance *Self-insurance plans*, often referred to as *self-funded* plans, have been one of the leading trends in the health insurance industry since the late 1970s.[496] Self-insuring employers make a conscious choice to undertake at least a portion of the risks associated with the cost of

---

[492] "Patient Protection and Affordable Care Act, Sec. 9003, 9004," *Pub. L.* 111-148, 124 Stat 119 (March 23, 2010), p. 854; "Health Savings Accounts," I.R.C. § 223(f)(4)(a).

[493] CIGNA, "CIGNA Choice Fund Health Savings Account: Frequently Asked Questions about a Health Savings Account," 2009, http://www.cigna.com/our_plans/medical/hsa/for_you.html#3a (accessed August 28, 2009).

[494] Suz Redfearn, "Healthonomics: How to Handle Health Savings Accounts—HSAs Are Becoming More Popular with Patients—and That's a Problem for Your Billing Staff," physicianspractice.com, February 2008, http://www.physicianspractice.com/index/fuseaction/articles.details/articleID/1115/page/1.htm (accessed August 28, 2009).

[495] Ibid.

[496] Self-Insurance Institute of America, Inc., "Self-Insured Group Health Plans," siaa.org, 2012, http://www.siia.org/i4a/pages/Index.cfm?pageID=4546 (accessed August 20, 2012); Alma Koch, *Introduction to Health Services* (Clifton Park, NY: Thomson Delmar Learning, 2008), p. 113.

Self-Insurance

Self-insuring employers make a conscious choice to undertake the risks associated with the cost of healthcare and set aside money to pay these costs as they arise. Often, a self-insurer will hire a commercial insurer or a third-party administrator to run the firm's medical benefits program and adjudicate claims.

"The Financial Environment," in Healthcare Finance: An Introduction to Accounting and Financial Management*, 3rd ed., by Louis C. Gapenski (Chicago: Health Administration Press/Arlington, VA: Association of University Programs in Health Administration, 2005), p. 36; "Private Health Insurance and Managed Care,"* in Introduction to Health Services*, by Alma Koch, (Clifton Park, NY: Thomson Delmar Learning, 2008), p. 113.*

healthcare and set aside money to pay these costs as they arise.[497] Often, a self-insurer will hire a commercial insurer or a third-party administrator to administer the firm's medical benefits program and adjudicate claims.

Self-insurance plans vary by the amount of risk the employer is willing to assume.[498] In a *fully self-funded plan*, the employer undertakes the responsibility for 100 percent of the healthcare expenses submitted for reimbursement.[499] Typically, this type of funding is limited to employers or groups of 5,000 or more, because medical expenses for large groups can be reasonably predicted. In contrast, employers with fewer than 5,000 employees are often unwilling to assume the risk of funding their entire health insurance program and may opt for a *partially self-funded plan*, the most common type of partially self-funded plans being the "*minimum premium plan.*"[500] Under a minimum premium plan, the employer covers claims up to a predetermined amount, and an insurance policy assumes liability for claims thereafter. Another popular form of partially self-funded plan involves combining self-funding with *stop-loss insurance*.[501] Under these plans, the employer covers employee claims up until a predetermined amount per employee or

[497] Louis C. Gapenski, *Healthcare Finance: An Introduction to Accounting and Financial Management*, 3rd ed. (Chicago: Health Administration Press, 2005), p. 36.

[498] Alma Koch, *Introduction to Health Services* (Clifton Park, NY: Thomson Delmar Learning, 2008), p. 113.

[499] Ibid.

[500] Ibid.

[501] Ibid.

per claim period, at which time *stop-loss insurance* covers any payment that exceeds the predetermined maximum.

Employers choose to self-insure as an alternative to purchasing health insurance policies for several reasons. First, self-insurers avoid the charges, fees, and profits that insurance companies build into the price of insurance premiums. In addition, because *self-insurance* is technically not insurance, state taxes assessed on premium revenue may be avoided. Perhaps the most important benefit of *self-insurance* is the fact that the *Employee Retirement Income Security Act of 1974* (ERISA) exempts self-insured plans from state regulation.[502] This exemption provides employers with considerable flexibility to design *self-insurance benefit programs* as they see fit and provides them with the opportunity to save considerable money by avoiding *state mandates* requiring the *coverage* of particular services.

Self-insured employers typically contract directly with providers and reimburse them according to the terms of their specific contract or contract with managed care plans to *rent* (gain access to) their credentialed provider panel. Employers have designed self-insurance programs to provide coverage for their employees using a variety of plans, including indemnity, HMOs, PPOs, and POS. However, some states may prohibit a *self-insured employer* from signing capitated contracts with physicians.[503] The forms and the claims process used will likely vary by employer and by the provider contract established, as will the coverage, coinsurance amount, and length of time for remittance. Although *self-insurance* may limit the employer's negotiating leverage, the flexibility allows the employer more latitude for designing the firm's plan in accordance with its particular needs.

2.5.2.6 Self-Pay Individuals may pay out of pocket for their own healthcare costs for a number of reasons, including (1) a lack of certain health insurance benefits, (2) a desire to keep a medical condition from their health insurer, or (3) the conscious, or forced, decision not to purchase health insurance.

2.5.2.6.1 Billing and Reimbursement Services provided to a *self-pay patient* are reimbursed by the patient and are paid in a variety of ways, primarily determined by the provider. Providers must establish what *form of payment* they will accept for their services, what they will *charge* for these services, and, how they will *collect* the payment due. Lacking the *bargaining power* to negotiate

[502] Ibid.

[503] Jon R. Gabel, Gail A. Jensen, and Samantha Hawkins, "Self-Insurance in Times of Growing and Retreating Managed Care," *Health Affairs* 22, no. 3 (March/April 2003): 203.

discounts, most *self-pay patients* lack the knowledge, ability, or market leverage to negotiate lower charges in establishing their payment amount. As a result, self-payors may be presented with charges for care up to two and a half times higher than what public or commercial payors would pay for the same procedure.[504] This billing practice has led to multiple class action lawsuits against providers and has resulted in settlements under which the providers offer both *prospective* and *retrospective* discounts to their *self-pay patients*.[505] To avoid costly litigation at a later date, some providers may choose to offer all self-pay patients discounts similar to those negotiated by other payors.

Self-pay patients may also present issues regarding collection of payment for services rendered, causing many providers to require that self-pay patients pay their bill in full at the time of service to reduce the chance that a provider will have to write off a patient encounter as bad debt.[506] In addition, some providers require self-pay patients to give both their driver's license and social security number to ensure that they are more readily pursuable should collection become an issue.[507]

2.6 METHODS OF REIMBURSEMENT

As mentioned earlier, there are many types of payors, each with its own methods of reimbursement. In recent years, with the increased focus on transparency and accountability due to rising healthcare costs and various ACA provisions (e.g., *value-based purchasing*), there has been an expanded level of options and choices across the *continuum of reimbursement models* based on the level of risk-sharing each offers. An illustration of this *continuum* is set forth in Exhibit 2.14.

---

[504] Gerard F. Anderson, "From 'Soak the Rich' to 'Soak the Poor': Recent Trends in Hospital Pricing," *Health Affairs* 26, no. 3 (May/June 2007): 780.

[505] One example of this is a settlement between BJC HealthCare and a class of uninsured patients that called for a "Self-Pay Discount Policy" to be implemented at the system's hospitals. The discount is to apply prospectively for at least four years for all self-pay patients, regardless of income level. In addition, on request, the discount is to be available retroactively to all uninsured patients with bills dating back to January 1, 1999. "Settlement in Uninsured Billing Lawsuit," *BJC HealthCare*, March 3, 2008, http://www.bjc.org/?id=5557&sid=1 (accessed July 31, 2009).

[506] Philip Betzez, "Hospitals Find Solutions for the No-Pay Self-Pay Patient," HealthLeaders Media, May 2012, http://www.healthleadersmedia.com/content/MAG-279729/Solutions-for-the-NoPay-SelfPay-Patient (accessed September 17, 2012).

[507] Suz Redfearn, "Pay Up, Self-Payor: Getting the Most from Patients Who Pay Out-of-Pocket," *Physicians Practice* 12, no. 5 (March 15, 2002): 2.

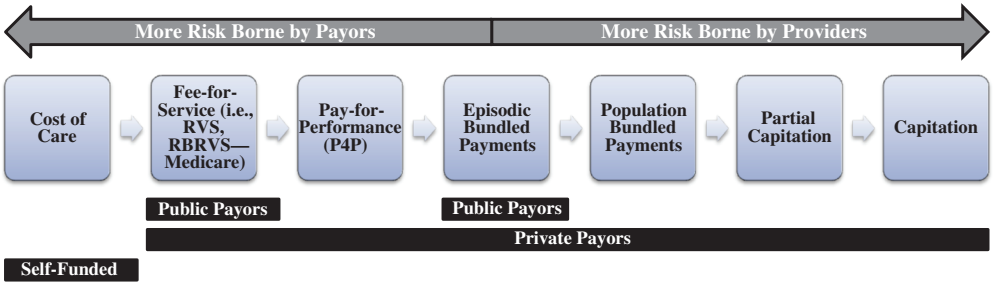


EXHIBIT 2.14 U.S. Health Insurance Reimbursement Options

HOURLY AND SALARY REIMBURSEMENT

Hourly and salary reimbursement pays physicians at an hourly rate or a salary for performing services. This type of arrangement is common in emergency departments or other settings when a physician needs to be available for a defined period of time. This arrangement also works when buying on-call coverage to back up an in-house physician.

The Managed Health Care Handbook, *3rd ed., by Peter R. Kongstvedt (Gaithersburg, MD: Ernst & Young, 1996,) p. 186.*

RETAINER

A retainer is a managed care reimbursement scheme that involves a set monthly payment amount for each physician, reconciled at periodic intervals based on actual utilization, either as a prenegotiated discount on charges or on some other objective measure. This ensures the availability of physicians to members and provides for the steady income desired by physicians, while still allowing payment on the basis of actual use.

The Managed Health Care Handbook, *3rd ed., by Peter R. Kongstvedt (Gaithersburg, MD: Ernst & Young, 1996), p. 186.*

SINGLE FEE REIMBURSEMENT

Single fee reimbursement is a scheme under which fees are paid for a procedure no matter how much time and effort is required. There are two applications of this method:

Case Rates/Flat Rates. The same rate is paid for a procedure no matter what choice of treatment is used; for example, a physician is reimbursed the same amount for delivering a baby regardless of whether it was a vaginal birth or delivery via a cesarean section surgery.

Global Fees. A flat rate encompassing more than a single type of service. For example, a global fee for surgery may include all preoperative and postoperative care, as well as one or two follow-up office visits. A global fee for obstetrics may include all prenatal and postnatal care.

The Managed Health Care Handbook, *3rd ed., by Peter R. Kongstvedt (Gaithersburg, MD: Ernst & Young, 1996), pp. 186–187.*

PERIODIC INTERIM PAYMENTS (PIPs) AND CASH ADVANCES

PIPs and cash advances are a managed care reimbursement plan that advances the provider a set amount of cash equivalent to a defined time period's expected reimbursable charges. As claims come in from a physician, the claims are subtracted from the PIP, which is routinely replenished. In this way, the physician has a positive cash flow, as well as the use of the plan's money, interest free. This method may be employed in a plan with a heavy POS enrollment.

The Managed Health Care Handbook, *3rd ed., by Peter R. Kongstvedt (Gaithersburg, MD: Ernst & Young, 1996), p. 187.*

2.6.1 Cost of Care

This reimbursement model is determined by the provider and is *equal to its charge* for a given procedure. In contrast to Fee for Service (FFS), *cost of care reimbursement* is not set by legislation or a private company. *Cost of care* is not a typical reimbursement model because it does not offer any of the benefits or discounts seen under public or private payors. Furthermore, a provider may charge more for procedures under a *cost of care model* to offset perceived losses or reimbursement cuts under public options. *Cost of care models* may increase the likelihood of bad debt because they are most often used under self-payors.

2.6.2 Fee-for-Service (FFS)

Fee-for-service (FFS) health coverage occurs when healthcare providers receive *separate compensation* for each service they provide, such as an *office visit* or a *procedure*.[508] Critics condemn *FFS systems*, stating that physicians tend to *over-treat* patients or *upcode* and *unbundle* services in order to receive higher reimbursements.[509] Nonetheless, and despite current initiatives to move away from FFS arrangements, FFS systems are the most common form of reimbursement used in the current healthcare environment. The current shift away from traditional FFS arrangements is discussed further in Section 2.7.1, "The Shift from Fee-for-Service."

FFS arrangements were previously used as an incentive for healthcare providers to join a *managed care organization* (MCO) in markets where managed care penetration was low.[510] MCOs, due to their size, may have

Fee-for-Service (FFS)

FFS is a payment policy under which providers receive a fee for each service provided (e.g., an office visit, a test, a procedure, etc.).

"Insurance Programs: Glossary," U.S. Office of Personnel Management, http://www.opm.gov/insure/glossary/index.asp#f (accessed October 5, 2009).

[508] U.S. Office of Personnel Management, "Insurance Programs: Glossary," http://www.opm.gov/insure/glossary/index.asp (accessed August 24, 2012).

[509] Peter R. Kongstvedt, *The Managed Health Care Handbook* (Gaithersburg, MD: Aspen Publishers, 1996), pp. 139, 143–144.

[510] Ibid., p. 139.

been able to negotiate discounts with providers, based directly on charges or on volume, including:

1. **Straight discount on charges.** Discounting a specific amount off the reimbursement rate for every procedure code;
2. **Discount based on volume or a sliding scale.** The degree of discount was based on a pre-agreed set of procedural volume ranges. For example, if the provider performed five or less of a specific procedure per month, there was a 10 percent discount. However, should the provider perform six to ten procedures per month, there would be a 15 percent discount. Many plans combined a discount arrangement with a *fee maximum*, that is, a fee schedule, whereby the plan paid the lesser of the *discounted charge* or the *fee maximum*.[511]

While these modified FFS arrangements are still in use in some geographic areas, they are steadily being replaced with other reimbursement models.[512]

2.6.3 Pay-for-Performance (P4P)

Pay-for-performance (*P4P*) is a remuneration system in which part of the payment is dependent on performance, as measured against a defined set of criteria.[513] Although a P4P system can be structured in several ways, the common elements of all systems include (1) a set of *targets* or *objectives* that defines what will be evaluated, (2) *measures and performance standards* for establishing the *target criteria*, and (3) *rewards* (typically, financial incentives) that are at risk, including the amount and the method for *allocating the payments* among those who meet or exceed the *reward threshold*.[514] Proponents of *P4P remuneration systems* argue that they have the potential to *improve the quality of care* and *slow the growth* in healthcare costs through improvements in quality and provider efficiency.[515]

---

[511] Ibid., pp. 179–187.

[512] Peter R. Kongstvedt, *The Managed Health Care Handbook* (Gaithersburg, MD: Aspen Publishers, 1996).

[513] Jim Hahn, "Pay-for-Performance in Health Care," Congressional Research Service, November 2, 2006, p. 2.

[514] Ibid., p. 4.

[515] Ibid., pp. 1, 13.

Pay-for-Performance (P4P)

Pay-for-performance (P4P) is a remuneration system in which part of the payment is dependent on performance, as measured against a defined set of criteria. Although a P4P system can be structured in several ways, the common elements of all systems are (1) a set of targets or objectives that defines what will be evaluated, (2) measures and performance standards for establishing the target criteria, and (3) rewards—typically, financial incentives—that are at risk, including the amount and the method for allocating the payments among those who meet or exceed the reward threshold.

"Pay-for-Performance in Health Care," by Jim Hahn, Congressional Research Service, Library of Congress, November 2, 2006, pp. CRS-2–4.

2.6.3.1 P4P's Impact on Practice Revenue The potential positive impact of P4P on *quality outcomes* has been suggested by two distinct studies. A study conducted in 2007 by researchers from the *University of California, Los Angeles* (UCLA), and supported by the *Hawaii Medical Service Association* in Honolulu, showed improved quality of care among P4P providers in PPO settings, as well as an increased number of patients choosing to receive care from P4P physicians.[516] The study analyzed 11 *quality indicators* for patients enrolled in PPOs over six years and found that the patients who visited only physicians who were participating in the study had significantly higher odds of receiving *recommended* care, as measured by the specified indicators.[517]

The results of the *Hospital Quality Incentive Demonstration* (HQID) conducted from 2003 to 2009 by CMS and Premier, Inc., concluded that the participating hospitals improved their *quality average* 18.3 percent over the five-year demonstration and earned $12 million in *incentive payments* from CMS.[518] Of note, contradictory assessments of the HQID have indicated

[516] Amanda S. Gilmore, et al., "Patient Outcomes and Evidence-Based Medicine in a Preferred Provider Organization Setting: A Six-Year Evaluation of a Physician Pay-for-Performance Program," *Health Services Research* 42, no. 6, part I (December 2007): 2140–2159.

[517] Ibid.

[518] Alven Weil, "Hospitals in demonstration project continue to improve patient outcomes, provide lessons learned for health reform value-based purchasing program," Premier Inc. Press Release, December 17, 2010, https://www.premierinc.com/about/news/10-dec/hqid121710.jsp (accessed September 17, 2012).

limited impact of P4P on reducing *mortality* or *cost growth*.[519] Further, initial positive findings, such as a 2012 study released by the *Harvard School of Public Health,* indicate that to date, there is scant evidence that hospital participation in P4P incentive programs has produced meaningful improvements in *patient outcomes*.[520] The 252 hospitals that participated in Premier Inc.'s HQID and treated more than 2.7 million patients during the course of six years failed to achieve lower 30-day mortality rates when compared to their *nonparticipating counterparts*.[521] In addition, the Harvard study did *not* reveal *any significant differences in mortality trends* between the conditions whose outcomes were explicitly *linked to payment incentives* and the outcomes for those *conditions that were not*.[522] Although the study did indicate some impact of financial incentives on *process improvement*, it may cast at least some level of doubt on the enthusiasm for current *value-based purchasing strategies*. Similar *Congressional Budget Office* (CBO) evaluations appear to indicate that in nearly every program involving *disease management* or *care coordination* spending either *increased* or remained *unchanged* when incentive costs were included.[523]

Factoid

Recent findings suggest that pay-for-performance initiatives may not have a significant impact on quality outcomes.

"The Long-Term Effect of Premier Pay for Performance on Patient Outcomes," by Ashish K. Jha, et al., New England Journal of Medicine *(March 28, 2012): 9.*

[519] Andrew M. Ryan, "Effects of the Premier Hospital Quality Incentive Demonstration on Medicare Patient Mortality and Cost," *Health Services Research* 44, no. 3 (June 2009): 821.

[520] Ashish K. Jha, et al., "The Long-Term Effect of Premier Pay for Performance on Patient Outcomes," *New England Journal of Medicine* (March 28, 2012): 9.

[521] Cheryl Clark, "Pay-for-Performance Study Results 'Sobering,'" HealthLeaders Media, April 2, 2012, http://www.healthleadersmedia.com/content/QUA-278409/PayforPerformance-Study-Results-Sobering (accessed April 17, 2012); Daniel Cook, "Will Pay-for-Performance Work?" *Outpatient Surgery Magazine*, April 17, 2012, http://www.outpatientsurgery.net/newsletter/eweekly/2012/04/17#1 (accessed May 3, 2012).

[522] Ashish K. Jha, et al., "The Long-Term Effect of Premier Pay for Performance on Patient Outcomes," *New England Journal of Medicine* (March 28, 2012): 6–7.

[523] Lyle Nelson, "Lessons from Medicare's Demonstration Projects on Disease Management, Care Coordination and Value Based Payment," Congressional Budget Office, January 18, 2012, http://www.cbo.gov/publication/ 42860 (accessed May 3, 2012), p. 1.

Beyond these uncertainties regarding quality improvements, providers have expressed concern that the transition from an *FFS payment system* to a *P4P model* could have a profound impact on *practice revenue*, due to (1) the time required to *collect* and *review* the data needed to satisfy *reporting requirements*, or (2) the potential *capital investment* required to implement an *electronic health records system*.[524] In addition, it has yet to be established if providers that practice in *low income*, *minority communities* can benefit from *P4P incentive programs*, because the patients treated are associated with *lower-quality scores*.[525] While there is growing concern regarding the efficacy of current P4P initiatives to transition from FFS, the jury is still out on a final assessment and widespread acceptance of the P4P model.[526]

2.6.4 Capitation

In order to reduce healthcare service *utilization and cost*, *payors* have historically transitioned some of their *risk* to *providers* in the form of *capitated payments*.[527] *Capitation* is a *prepaid reimbursement method* that reimburses providers a set price for providing medical services to a *defined population* for a *defined set of services*, regardless of service *utilization*. The capitated fee rate is determined on a *per member per month* (PMPM) basis, whereby the provider is paid a predetermined PMPM amount for each beneficiary (member). Providers are accountable for managing the *financial risk* of providing adequate care by calculating (1) the *expected volume of referrals*, (2) the *average cost per beneficiary*, and (3) their ability to *control utilization*.[528] Capitated contracts offer providers both financial risk and potential rewards. By *controlling* and *accepting responsibility* for utilization, providers may maximize the amount of the capitated payment they retain versus

[524] Elliot S. Fisher, "Paying for Performance-Risks and Recommendations," *New England Journal of Medicine* 355, no. 18, (November 2, 2006): 1846.

[525] Lawrence P. Casalino and Arthur Elster, "Will Pay-for-Performance and Quality Reporting Affect Health Care Disparities?" *Health Affairs* 26, no. 3, Web Exclusive (April 2007): w406–w407.

[526] Ezekiel Emanuel, et al., "A Systemic Approach to Containing Health Care Spending," *New England Journal of Medicine* 367, no. 10 (September 6, 2012).

[527] Robert James Cimasi, *A Guide to Consulting Services for Emerging Healthcare Organizations* (New York: John Wiley & Sons, 1999), p. 11.

[528] Gayle L. Zieman, *The Complete Capitation Handbook: How to Design & Implement At-Risk Contracts for Behavioral Healthcare* (Tiburon, CA: CentraLink Publications, 1995), pp. 30, 294.

Capitation

Capitation is a prepaid reimbursement method that pays a provider a set price for providing medical services to a defined population for a defined set of services, regardless of service utilization. Providers must manage the financial risk of providing adequate care by calculating the expected volume of referrals, the average cost, and their ability to control utilization.

The Complete Capitation Handbook: How to Design and Implement At-Risk Contracts for Behavioral Healthcare, *by Gayle L. Zieman (Tiburon, CA: CentraLink Publications, 1995), pp. 30, 294.*

the amount they need to spend on providing care.[529] Payors may offer providers either a *full* or a *partial* (blended) *capitated model of reimbursement.*

2.6.4.1 Full Risk Capitation *Full risk capitation,* also referred to as *global capitation,* occurs when a *health plan*, *facility*, or *provider* accepts the *entire financial risk* for a plan's members and is responsible for payments, for example, for all medical services, including physician visits and outpatient procedures, as well as the cost of impatient hospitalization.[530] However, due to the significant risk involved, any entity undertaking *full risk capitation* must have strong financial management skills and management information systems, most likely available in large groups or an organized system of providers.[531] In the absence of such safeguards, many payors may refuse such arrangements in order to avoid the risk of failure.[532]

Full risk capitation models have been historically associated with HMO plans and the perceived failures of 1990s managed care plans (discussed earlier). However, more recent surveys suggest that providers believe new, *improved* models of *global payments* may overcome the errors of the past and be effective at lower costs, while not impeding quality of care by *aligning payment and quality incentives.* Furthermore, experts have estimated

[529]Peter Boland, *The Capitation Sourcebook: A Practical Guide to Managing At-Risk Arrangements* (Berkeley, CA: Boland Healthcare, 1996), p. 107.

[530]David Edward Marcinko and Hope Rachel Hetico, *Dictionary of Health Insurance and Managed Care* (New York: Springer, 2006), p. 126.

[531]Peter Boland, *The Capitation Sourcebook: A Practical Guide to Managing At-Risk Arrangements* (Berkeley, CA: Boland Healthcare, 1996), p. 107.

[532]Ibid.

that new global payment models could lower healthcare costs by 20 to 30 percent for participating providers.[533] The renewed interest in capitation models of reimbursement is discussed further in Section 2.7.1, "Shift from Fee-for-Service."

2.6.4.2 Blended Capitation *Blended capitation* is a payment method that combines *PMPM rates* and *FFS remuneration*, based on the *service* being provided. These models of reimbursement were designed to counterbalance the perceived faults identified with a *pure FFS payment system* or a *pure capitated system*, that is, *overincentivizing* the volume of services provided or *underincentivizing* the quality of services provide. While a *pure capitated form of reimbursement* is more likely to encourage *cooperation among providers* and *cost reductions*, the rewards associated with *high clinical quality* and *customer service* may not be greater than the rewards associated with *withholding, or limiting, care*. Furthermore, providers may be incentivized to refuse high-cost patients due to the fear of *financial burden*.[534] As a result, organizations have moved toward *blended capitation models* for specified procedures in an attempt to better balance the multiple objectives of encouraging "*individual productivity and clinical cooperation.*"[535]

Some of the current *value-based purchasing* initiatives use a form of *blended capitation* known as *population-based payments*. *Pioneer Accountable Care Organizations* (ACO), developed by the *Centers for*

BLENDED CAPITATION

Blended capitation is a payment method that combines PMPM rates and FFS remuneration, designed to counterbalance the perceived faults identified with a pure FFS payment system or a pure capitated system.

"Blended Payment Methods in Physician Organizations Under Managed Care," by James C. Robinson, Journal of the American Medical Association 282*, no. 13 (October 6, 1999): 1262.*

[533] Ann Robinow, "The Potential of Global Payment: Insights from the Field," The Commonwealth Fund, February 2010, p. v.

[534] James C. Robinson, "Blended Payment Methods in Physician Organizations Under Managed Care," *Journal of the American Medical Association* 282, no. 13 (October 6, 1999): 1262.

[535] Ibid., 1263.

Medicare and Medicaid Innovation (CMI) to incentivize provider participation in ACOs, use *population-based payments* to tie *quality outcomes* to *partial capitation payments* for a *specified population*. Under the Pioneer ACO model, after the first two years of an ACO's *contract term*, the entity is given the option to transition from a *volume-based FFS reimbursement model* to a *population-based payment model* that incentivizes the *value* of services provided. The *population-based payment* model resembles a *capitated reimbursement structure*, whereby ACOs would receive a *prospective per-beneficiary monthly payment*.[536] HHS has estimated that the Pioneer ACO model participants could save up to $1.1 billion over five years through better, more coordinated care for Medicare beneficiaries.[537]

2.6.5 Payor Mix and the Effect on the Revenue Cycle

A healthcare provider's *payor mix* (i.e., the percentage mix of different payors representing the patient population served) can have a profound impact on *revenue streams* and the overall *financial performance* of a provider enterprise.

An appropriate *payor mix* may ensure *financial viability*, because Medicare, Medicaid, and major health plans often reimburse at levels that are under the full or average cost of providing the services.[538] Of note, in contrast to concerns from providers that Medicare and Medicaid reimbursement cuts will hinder their ability to *generate adequate revenue*, a 2010 study found that despite increases in the number of publicly insured patients seen by hospitals, these providers *were* able to *generate adequate revenue* in a timely manner.[539] As *healthcare expenditures* continue to rise and the *threat of physician payment cuts* grows, that is, the SGR debate, establishing

[536] Centers for Medicare and Medicaid Services, "Pioneer Accountable Care Organization Model: General Fact Sheet," Washington, DC, December 19, 2011.

[537] U.S. Department of Health and Human Services, "Affordable Care Act Helps 32 Health Systems Improve Care for Patients, Saving up to $1.1 Billion," December 19, 2011, http://www.hhs.gov/news/press/2011pres/12/20111219a.html (accessed December 27, 2011).

[538] William O. Cleverley and Andrew E. Cameron, *Essentials of Health Care Finance*, 6th ed. (Sudbury, MA: Jones and Bartlett, 2007), p. 106.

[539] Simone Rauscher and John R.C. Wheeler, "Hospital Revenue Cycle Management and Payer Mix: Do Medicare and Medicaid Undermine Hospitals' Ability to Generate and Collect Patient Revenue?" *Journal of Healthcare Finance* 37, no. 2 (2010): 82.

PAYOR MIX

The percentage mix of different payors representing the patient population served by a given provider.

Essentials of Health Care Finance, *6th ed., by William O. Cleverley and Andrew E. Cameron (Sudbury, MA: Jones and Bartlett Publishers, 2007), p. 106.*

and maintaining a beneficial *payor mix* may become an important function of maintaining *financial viability* for many providers.

The effect of a provider's *payor mix* on its *anticipated revenue stream* may also be influenced by *discounts* offered on billed charges to *health plans* and the *uninsured*, as well as the likelihood that providers may not *collect* a large portion of the charges billed to the *uninsured patients* and *private pay patients* with a *high deductible health plan* (HDHP).[540] Accordingly, to remain viable, a provider may need to offset the losses incurred on *uninsured* or *underinsured* patients by increasing the *prices charged* to *insured* patients, specifically marketing their services to attract more reliable and lucrative payors, and the patients enrolled in those plans, which traditionally reimburse at a *more favorable level*. Alternatively, providers may have to limit the number of patients they will accept from *lower-reimbursing payors*.

In addition to having an appropriate *payor mix*, the *financial viability* of providers may depend on its mix of payment methods. Too many or too few of one type of method may *negatively* affect practice revenue because complementary reimbursement models incentivize and reward providers for various activities. For example, when providers are reimbursed on an *FFS basis*, practice revenues *increase* as patient visits and the intensity of the services provided increase.[541] However, under a *capitation* payment method, a provider's margins are higher if his or her patients require *minimal medical services* and have few, if any, chronic conditions.[542] Significantly, the impact of *self-pay* and *uninsured* patients, that is, the likelihood of the costs

[540] William O. Cleverley and Andrew E. Cameron, *Essentials of Health Care Finance*, 6th ed. (Sudbury, MA: Jones and Bartlett, 2007), p. 106.

[541] Judi Binderman, "Variables Affecting the Financial Viability of Your Practice," in *Basics of Financial Management for the Medical Practice* (Phoenix, MD: Greenbranch Publishing, 2003), p. 24.

[542] Ibid.

associated with providing care to these patients being converted to *bad debt*, may require a provider to be aware of the patient's *socioeconomic status*, *financial condition*, and *stability* prior to providing care. If a majority of the *self-pay* and *uninsured* patients are *affluent* and have the means to reimburse providers at the time of service, a provider's revenue may *increase*, because they can avoid the billing and collection process altogether and are not subject to any *limiting charge rules*. However, if these patients are experiencing *financial hardships*, it is likely that the provider's revenue will *decrease*, due to failed attempts to receive payment through the billing and collection process or from writing off the debt altogether.

The challenge of less than optimal *payor mix* has been a growing concern regarding the efficacy of *safety net hospitals*, that is, those hospitals that serve a high proportion of low-income, uninsured patients, because the revenue from *insured patients* is insufficient to offset the losses incurred through *bad debt* and *charity care*, resulting from serving *uninsured* and *underinsured* patients. There are several programs, for example, Medicaid DSH payments (as discussed earlier) and legislative funding from the *American Recovery and Reinvestment Act of 2009*, that are designed to augment the revenues of these provider entities to ensure continued *access* for this vulnerable population.[543] Many providers have also implemented internal policies, such as upgrading facilities to attract more *insured patients*, expanding into more *profitable service lines*, and instituting *patient fees* and *donations*, to enhance their ability to manage the challenges of a diminished revenue stream and the resulting financial losses.[544]

Variations in *payor mix* have been shown to have an impact on the tendency of providers to implement those *technological advances* necessary to track patient data for *efficient claims reporting* and to participate in various *value-based purchasing initiatives*, such as *electronic health records* (EHR) and *computerized physician order entry* (CPOE). A 2010 study found that providers with a high percentage of patients covered by Medicare were significantly more likely to *e-prescribe*, that is, submit *drug prescriptions*

[543]Thomas Rundall, et al., "Success Under Duress: Policies and Practices Managers View as Keys to Profitability in Five California Hospitals with Challenging Payer Mix," *Journal of Healthcare Management* 57, no. 2 (March/April 2012): 95; Laurie E. Felland, et al., "The Economic Recession: Early Impacts on Health Care Safety Net Providers" Center for Studying Health System Change, Research Brief no. 15, December 2010, pp. 1–2.

[544]Thomas Rundall, et al., "Success Under Duress: Policies and Practices Managers View as Keys to Profitability in Five California Hospitals with Challenging Payer Mix," *Journal of Healthcare Management* 57, no. 2 (March/April 2012): 96.

E-Prescribing

Submitting drug prescriptions to pharmacies via an electronic system.

"The Influence of Payer Mix on Electronic Prescribing by Physicians," by David W. Au, et al., Health Care Management Review *36, no. 1 (2011): 99.*

Factoid

Primary Care Providers are 48 percent more likely to e-prescribe than other physicians in an outpatient setting.

"The Influence of Payer Mix on Electronic Prescribing by Physicians," by David W. Au, et al., Health Care Management Review *36, no. 1 (2011): 99.*

to pharmacies via an *electronic system*, in an outpatient setting, especially among *primary care providers*.[545]

2.7 EMERGING REIMBURSEMENT TRENDS AND THE IMPACT OF HEALTHCARE REFORM

The ACA includes many provisions that aim to use *financial incentives* and *policies* to (1) address the rising *cost* of services, (2) improve *health outcomes*, and (3) improve *access* to healthcare services. Federal policy debates, for example, the repeal of the SGR (see the earlier discussion regarding the SGR), also have the potential to change the way reimbursement is *provided* and affect provider *compensation*. Many of these reimbursement initiatives share the common trend of *shifting away* from traditional *FFS models*.

2.7.1 Shift from Fee-for-Service

The current trend toward *value-based reimbursement* (VBR) initiatives is not new, and neither is the policy movement away from FFS arrangements. As the two extremes of the reimbursement spectrum, the pendulum has swung between *FFS* and *capitation* throughout the years. In the 1990s, under several managed care plan models, *capitation* flourished. However, a

[545] David W. Au, et al., "The Influence of Payer Mix on Electronic Prescribing by Physicians," *Health Care Management Review* 36, no. 1 (2011): 99.

study released by the *Center for Studying Health System Change* showed that the shift from *FFS* remuneration toward *capitation* as a method of physician reimbursement waned after the mid-nineties.[546] According to the data, the number of physicians accepting *capitated payments* fell from 54.2 percent of providers in 1996 to 44.7 percent of providers in 2004.[547]

Beginning in 2008, the pendulum swung back, and *capitation* as a replacement for *FFS* once again began to increase, due in part to the implementation of the *Blue Cross Blue Shield of Massachusetts Alternative Quality Contract*.[548] Unlike earlier generations of *capitation plans*, designed by insurance companies to place a substantial portion of the risk on providers, while offering little or no rewards for improved quality of care, the *Alternative Quality Contract* offers providers the opportunity to earn substantial *rewards* in return for improved *quality*.[549] This new type of contract reimburses providers on a *PMPM basis*, with yearly increases for inflation, combined with "performance incentives tied to the latest nationally accepted measures of quality, effectiveness, and patient experience of care."[550] In many respects, the *Alternative Quality Contract* was one of the first modern day steps toward *VBR*.

Driven by many of the provisions of 2010 healthcare reform, especially ACOs (discussed later), *capitation* (in this instance referenced as *population-based payment*) and other reimbursement models that *shift risk to providers* in exchange for potential financial gains, have been gaining acceptance throughout the healthcare delivery market. Unlike the demise of the capitated model in the 1990s, commentators have suggested that the new trend toward *capitated* and *VBR models* would likely persist, despite any fallout, although with greater provider hardships, in contrast to the decreased prevalence of these payment methodologies, as experienced in the early 2000s.[551]

---

[546] Center for Studying Health System Change, "Community Tracking Report, CTSonline Physician Survey Results," http://ctsonline.s-3.com/displaytable.asp?xtopic=18!4&xrow=4&xYrSel=&xpcp=&xother= (accessed August 9, 2009).

[547] Ibid.

[548] Emily Berry, "Can the Massachusetts Blues Revive Capitation? New Twist Includes Quality Bonus," *American Medical News*, February 11, 2008, http://www.ama-assn.org/amednews/2008/02/11/bil10211.htm (accessed August 4, 2009).

[549] Ibid.

[550] BlueCross BlueShield Massachusetts, "Alternative Quality Contract," 2009, http://www.qualityaffordability.com/solutions/alternative-quality-contract.html (accessed August 4, 2009).

[551] Jonathan W. Pearce, "The Return of Capitation: Preparing for Population-Based Health," Healthcare Financial Management Association, July 2, 2012.

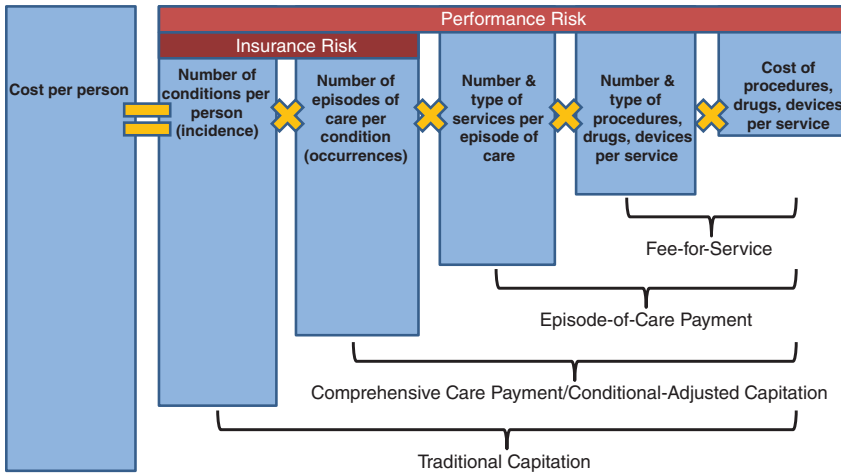


EXHIBIT 2.15 Variable Provider Risk under Alternative Payment Systems
"From Volume to Value: Better Ways to Pay for Health Care," by Harold D. Miller, *Health Affairs* 28, no. 5 (2009): 1418–1428.

Factoid

Commentators have suggested that in contrast to the decreased prevalence of managed care plans in the early 2000s, any fallout from the new trend toward capitated and VBR models would likely plead to greater provider hardships, but the models will ultimately persist.

"The Return of Capitation: Preparing for Population-Based Health," by Jonathan W. Pearce, Healthcare Financial Management Association, July 2, 2012.

As mentioned earlier, the *continuum of reimbursement models*, from fee-for-service to capitation, must be assessed based on the level of *risk allocated to the provider* versus the *payor.* This risk may be calculated, considering *performance risk* and insurance risk, as illustrated in Exhibit 2.15.

Many of the reimbursement initiatives supported by healthcare reform efforts use the cost management requirements associated with *capitated models* and add a *value-based purchasing* (VBP) component, placing many initiatives at the middle of the *reimbursement continuum*, that is, *episode-of-care payments.*

2.7.1.1 Episode-of-Care Payments *Episode-of-care payment* refers to one reimbursement payment made to providers for at least a portion of the medical

services provided within a *particular course of treatment*. These reimbursement models are designed to lower the occurrence of *fraud and abuse* (e.g., double billing and unnecessary care) and to incentivize the *value of care* provided, in contrast to the *volume of care* incentives produced under traditional *FFS reimbursement models*. *Episode-of-care payments* represent the larger umbrella encompassing many of the current healthcare reform initiatives designed to improve the *quality of care*, while lowering the *cost of care*, and can be modeled in two ways: *episode-based payments* (*episodes of care* are defined by a series of services) or *value-based purchasing* (*episodes of care* are defined by a population, either patients or providers). The distinction between *episode-based* and *value-based episode-of-care* structures is illustrated in Exhibit 2.16.

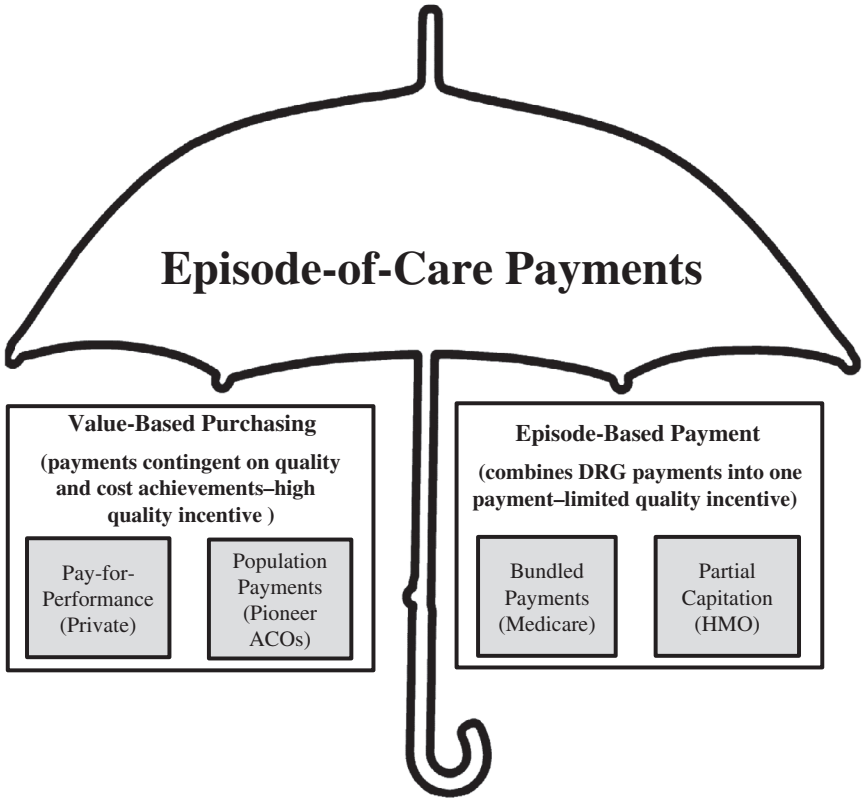


EXHIBIT 2.16 Episode-of-Care Payment Models
"Opportunities and Challenges for Episode-Based Payment," by Robert E. Mechanic, *New England Journal of Medicine* 365, no. 9 (September 1, 2011): 777.

Of note, the construct of either subgroup (i.e., *value-based* or *episode-based*) can expand beyond the scope of a single *episode of care* and therefore beyond the umbrella definition of *episode-of-care payments*; however, two established models of *episode-of-care payments* currently being used are (1) the *Prometheus payment model*, and (2) the *Geisinger Health system* model, known as *ProvenCare*. The *Prometheus payment model* is based on the acronym PROMETHEUS: *Provider Payment Reform for Outcomes, Margins, Evidence, Transparency Hassle-Reduction, Excellence, Understandability, and Sustainability.*[552] The system was developed under a 2007 grant for $6 million from the *Robert Wood Johnson Foundation,* by leading experts in (1) *health care law*, (2) *quality measurement*, (3) *economics*, (4) *benefits*, (5) *operations*, and (6) related fields. There are currently two programs testing pilots of the *Prometheus payment model*: (1) *Aligning Forces for Quality program* and (2) *Bridges to Excellence Inc.*, supported by the *Colorado Health Foundation.*[553] The system itself is an "[e]pisode-based payment model that defines global case rates for given conditions (e.g., acute myocardial infarction, diabetes, and knee replacement); payment amounts informed by cost of adhering to clinical standards of care; risk stratification and complication allowance; performance incentives based on comprehensive score card."[554]

---

[552]Health Care Incentives Improvement Institute, "What Is Prometheus?" http://www.hci3.org/what_is_prometheus (accessed September 10, 2012).

[553]Aligning Forces for Quality is operated by the Robert Wood Johnson Foundation to improve the quality of care provided across ethic groups in targeted communities and develop models to be implemented to aid national reforms. The Aligning Forces for Quality program is currently operating in 16 geographic locations. Aligning Forces for Quality, "About Us," Robert Wood Johnson Foundation, 2012, http://forces4quality.org/about-us (accessed September 18, 2012). The Colorado Health Foundation offers grants to health reform projects in Colorado. The company gave $250,000 to Bridges to Excellence Inc., a company that develops financial incentive programs that promote quality improvements and lower costs using evidence-based medicine and benchmarks. Rebecca Jones, "What's Working: Reducing the Waste Line: PROMETHEUS Tackles Avoidable Health Costs," Colorado Health Foundation, Summer 2010, http://www.coloradohealth.org/yellow.as http://www.coloradohealth.org/yellow.aspx?id=4602 px?id=4602 (accessed September 18, 2012); Health Care Incentives Improvement Institute, "What Is Bridges to Excellence?" http://www.hci3.org/what_is_bte (accessed September 18, 2012); Health Care Incentives Improvement Institute, "History of Prometheus Payment," http://www.hci3.org/what_is_prometheus (accessed September 10, 2012)

[554]Meredith B. Rosenthal, "Beyond Pay for Performance—Emerging Models of Provider-Payment Reform," *New England Journal of Medicine* (September 18, 2008): 1198–1199.

EPISODE-OF-CARE PAYMENT MODEL

A reimbursement model where one reimbursement payment is made to providers for at least a portion of the medical services provided within a particular course of treatment.

"Beyond Pay for Performance—Emerging Models of Provider-Payment Reform," by Meredith B. Rosenthal, New England Journal of Medicine *(September 18, 2008): 1198–1199.*

A slightly more developed model is *ProvenCare*, which was established in February 2006 by the *Geisinger Health System* for use under its *health system insurance plan.*[555] *ProvenCare* uses an "episode-based payment for elective coronary-artery bypass grafting; 90-day global fee paired with high-reliability process improvements to achieve 40 best-practice standards."[556] Although only 34 percent of those beneficiaries enrolled in the *Geisinger Health plan* are eligible to participate in *ProvenCare* (due to limitations on those services covered under the reimbursement model, for example, on cardiac surgery), the program has already established positive findings. The average total length of stay for *ProvenCare* patients fell by 0.5 days (6.2 days for other beneficiaries versus 5.7 days for *ProvenCare* beneficiaries), and the 30-day readmission rate fell by 44 percent.[557]

Bundling initiatives most often remain under the umbrella of *episode of care payments* (because they are traditionally linked to procedural and diagnostic codes for services that are generally performed together during one episode of care), explaining why the two terms are sometimes *incorrectly* categorized as being synonymous.

2.7.1.1.1 Bundled Payments A *bundled payment* (also referred to as an *episode-based payment*) occurs when payments for multiple *related procedures or diagnoses* are combined, or *bundled*, to reimburse for the entirety of one *episode of care.* One of the first instances of *episode-based payments* occurred in 1991, when CMS proposed to *bundle* payments for coronary

[555] Please see Section 2.5.2.1, "Health System Plans," for more information on health system insurance plan models.

[556] Deloitte Development, "Episode-Based Payment: Perspectives for Consideration," white paper, http://www.deloitte.com/assets/Dcom-UnitedStates/Local%20Assets/Documents/us_chs_EpisodeBasedPayment_PerspectivesforConsideration_091609.pdf.

[557] Geisinger, "ProvenCare by the Numbers" http://www.geisinger.org/provencare/numbers.html (accessed September 12, 2012).

bypass surgery patients who were readmitted within 72 hours of discharge. Although this program was never fully adopted, due to provider opposition, CMS has continued to establish bundling demonstrations.[558] On April 29, 2009, as part of the *Proposals to Improve Patient Care and Reduce Health Care Costs Report*, the *Senate Finance Committee* released a plan to bundle payments for *inpatient* and *post-discharge care* to reduce Medicare spending by $16 billion.[559] In addition, Medicare has established *DRG bundling* for certain services, such as *end stage renal disease* (ESRD), whereby if two procedures are *inextricably linked*, then reimbursement cannot be claimed for each procedure separately but only for one *episode of care*.[560]

While bundling initiatives are designed to *lower costs* and increase *efficient and high-quality* care, not everyone is optimistic about the potential success of this reimbursement model. Critics have articulated concerns regarding the *level of cost savings* and *patient care improvement* that a

Bundling

A form of reimbursement that combines institutional and professional charges into a single payment, including all staff for preoperative and postoperative care. Bundled payment schemes generally include outlier provisions for cases that become catastrophic.

The Managed Health Care Handbook*, 3rd ed., by Peter R. Kongstvedt (Gaithersburg, MD: Ernst & Young, 1996), p. 187.*

Episode-Based Payment

A form of episode of care payment that is synonymous with bundling.

"Opportunities and Challenges for Episode-Based Payment," by Robert E. Mechanic, New England Journal of Medicine *365, no. 9 (September 1, 2011): 777.*

[558] Robert E. Mechanic, "Opportunities and Challenges for Episode-Based Payment," *New England Journal of Medicine* 365, no. 9 (September 1, 2011): 777.

[559] "Administration News—President Obama's Budget Request Includes $828B for HHS," May 8, 2009. http://www.kaisernetwork.org/daily_reports/print_report.cfm?DR_ID=58379&dr_cat=3 (accessed May 14, 2009), p. 2.

[560] Statement by the HHS Office of Inspector General Daniel R. Levinson, "End Stage Renal Disease Drugs: Facility Acquisition Costs and Future Medicare Payment Concerns," September 2010, pp. i–iv.

blanket bundling of payments could actually generate. The AMA expressed concern with the 2009 *Senate Finance Committee*'s proposal, stating that the method of *bundling* that was proposed could result in the *withholding* or the *limiting* of appropriate *post-discharge* or *inpatient* services.[561] The AMA also noted issues regarding (1) the appropriate *distribution* of payments to individual providers, (2) the *risk-adjustment* for patients whose care exceeds an established *bundled payment target*, and (3) *safeguards* to ensure that patient care decisions remain in the hands of individual providers.[562] Similarly, in a letter to the *Senate Finance Committee*, the AHA stated that the administration's approach to *bundling payments* was "problematic" and would require a "paradigm shift in health service delivery," resulting in the necessary revision or withdrawal of numerous *regulations* implemented to manage the current healthcare system.[563] While there is some debate as to whether *bundling* will be *effective* and *accepted* by *providers*, *hospitals*, and *beneficiaries*, there appears to be *universal agreement* that *bundled payments* will increasingly be a feature of healthcare reform.

On August 23, 2011, as mandated by the ACA, CMS announced the *Bundled Payments for Care Improvement Initiative* (*Bundled Payments*

BUNDLED CASE RATES/PACKAGE PRICING

Bundled case rates/package pricing is a form of reimbursement that combines institutional and professional charges into a single payment; for example, a plan may negotiate a bundled case rate of $20,000 for cardiac bypass surgery, which covers all staff for preoperative and postoperative care. There are usually outlier provisions for cases that become catastrophic.

The Managed Health Care Handbook, *3rd ed., by Peter R. Kongstvedt (Gaithersburg, MD: Ernst & Young, 1996), p. 187.*

[561] American Medical Association, "Statement of the American Medical Association to the Committee on Ways and Means Subcommittee on Health," September 11, 2008, p. 6.

[562] Ibid.

[563] American Hospital Association, "Statement of the American Hospital Association to the Senate Finance Committee Roundtable on Health Care Delivery System Reform," Washington, DC, April 21, 2009, p. 7.

Initiative).[564] The *Bundled Payments Initiative* includes four approaches to *bundled payments*. *One model* is based on a *single prospective payment* for all services provided during a single *inpatient stay*, while the remaining *three models* are based on a *retrospective payment system* that sets a *target cost* for an established *episode of care*.[565] The *Bundled Payments Initiative* aims to improve patient care through a *patient-centered approach*, emphasizing care *coordination* and *quality*.[566] Though *evidence-based literature* regarding the efficacy of *bundled payments* is still limited, currently available data indicates (1) that *bundled payments* may *reduce spending* for an *episode of care*, (2) that some *providers are ready* to participate in a *bundled payments program*, and (3) that *bundled payments* can promote *quality improvements*. Each of the four models presented by CMS is designed to incentivize *coordination of care* and *lower costs* by allowing providers to *share in any cost savings achieved* based on a historic *fee for service payment rate* and a *discounted target price per episode of care*.[567] The key features of the four models offered under the *Bundled Payments Initiative* are described in Table 2.16.

---

[564] U.S. Department of Health and Human Services, "Affordable Care Act Initiative to Lower Costs, Help Doctors and Hospitals Coordinate Care," August 23, 2011, http://www.hhs.gov/news/press/2011pres/08/20110823a.html (accessed October 24, 2011); Centers for Medicare and Medicaid Services, "Bundled Payments for Care Improvement Initiative," August 23, 2011, http://www.innovations.cms.gov/areas-of-focus/patient-care-models/bundled-payments-for-care-improvement.html (accessed October 24, 2011).

[565] "CMS Announces ACA Bundled Payment Demonstration," AHANews, August 23, 2011, http://www.ahanews.com/...p/jsp/display.jsp?dcrpath=AHANEWS/AHANewsNowArticle/data/ann_082311_bundled&domain=AHANEWS (accessed October 24, 2011); Centers for Medicare and Medicaid Services, "Bundled Payments for Care Improvement Initiative," August 23, 2011, http://www.innovations.cms.gov/areas-of-focus/patient-care-models/bundled-payments-for-care-improvement.html (accessed October 24, 2011); U.S. Department of Health and Human Services, "Affordable Care Act Initiative to Lower Costs, Help Doctors and Hospitals Coordinate Care," August 23, 2011, http://www.hhs.gov/news/press/2011pres/08/20110823a.html (accessed October 24, 2011).

[566] Center for Medicare and Medicaid Innovation, "Bundled Payments for Care Improvement," http://www.innovations.cms.gov/areas-of-focus/patient-care-models/bundled-payments-for-care-improvement.html (accessed October 24, 2011); U.S. Department of Health and Human Services, "Affordable Care Act Initiative to Lower Costs, Help Doctors and Hospitals Coordinate Care," August 23, 2011, http://www.hhs.gov/news/press/2011pres/08/20110823a.html (accessed October 24, 2011).

[567] Centers for Medicare and Medicaid Services, "Bundled Payments for Care Improvement Initiative," August 23, 2011, http://www.innovations.cms.gov/areas-of-focus/patient-care-models/bundled-payments-for-care-improvement.html (accessed October 24, 2011), p. 3.

TABLE 2.16 Key Features of Bundled Payment Models Compared

Model Feature	Model 1 Inpatient Stay Only	Model 2 Inpatient Stay Plus Postdischarge Services	Model 3 Postdischarge Services Only	Model 4 Inpatient Stay Only
Eligible Awardees	Physician group practices; acute care hospitals paid under the IPPS, health systems Physician-hospital organizations, and conveners of participating health care providers	Physician group practices; acute care hospitals paid under the IPPS, health systems physician-hospital organizations, post-acute providers, and conveners of participating health care providers	Physician group practices; acute care hospitals paid under the IPPS; health systems, long-term care hospitals, inpatient rehabilitation facilities, skilled nursing facilities; home health agency, physician-owned hospital organizations, and conveners of participating healthcare providers	Physician group practices; acute care hospitals paid under the IPPS; health systems; physician-hospital organizations; and conveners of participating healthcare providers
Payment of Bundle and Target Price	Discounted IPPS payment; no separate target price	Retrospective comparison of target price and actual FFS payment	Retrospective comparison of target price and actual FFS payment	Prospectively set payment
Clinical Conditions Targeted	All MS-DRGs	Applicants to propose based on MS-DRG for inpatient hospital stay	Applicants to propose based on MS-DRG for inpatient hospital stay	Applicants to propose based on MS-DRG for inpatient hospital stay

Types of Services Included in Bundle	Inpatient hospital services	Inpatient hospital and physician services, related post-acute care services, related readmissions, and other services defined in the bundle	Post-acute care services, related readmissions, and other services defined in the bundle	Inpatient hospital and physician services and related admissions
Expected Discount Provided to Medicare	To be proposed by applicant; CMS requires minimum discounts increasing from 0% in first 6 mos. to 2% in year 3	To be proposed by applicant; CMS requires minimum discount of 3% for 30–89 days postdischarge episode; 2% for 90 days or longer episode	To be proposed by applicant	To be proposed by applicant; subject to minimum discount of 3%; larger discount for MS-DRGs in ACE Demonstration
Payment from CMS to Providers	Acute care hospital: IPPS payment less predetermined discount, and physician: traditional fee schedule payment (not included in episode or subject to discount)	Traditional fee-for-service payment to all providers and suppliers, subject to reconciliation with predetermined target price	Traditional fee-for-service payment to all providers and suppliers, subject to reconciliation with predetermined target price	Prospectively established and bundled payment to admitting hospital; hospitals distribute payments from bundled payment
Quality Measures	All hospital IQR measures and additional measures to be proposed by applicants	To be proposed by applicants, but CMS will ultimately establish a standardized set of measures that will be aligned to the greatest extent possible with measures in other CMS programs		

"Bundled Payments for Care Improvement Initiative," Centers for Medicare and Medicaid Services, August 23, 2011, pp. 5–6, http://www.innovations.cms.gov/areas-of-focus/patient-care-models/bundled-payments-for-care-improvement.html (accessed October 24, 2011).

2.7.1.1.2 Value-Based Purchasing The definition of *value-based purchasing* (VBP) encompasses any model of *provider payments* that links *reimbursement* or *incentive bonus payments* to the *quality* and the *cost of care* that a provider can achieve for a *defined patient population*. Most often, these *rewards* are offered to providers who meet (1) established standards for *patient health outcomes*, and (2) set *percentage reductions* in actual *patient expenditures*.[568] One example of VBP is the *Medicare Shared Savings Program* (MSSP), mandated under the ACA, which links *shared savings incentive payments* to ACO participants that achieve established *quality metrics* and *expenditure reductions* for Medicare beneficiaries.[569] There is some recent evidence that results from past VBP demonstrations have been *inconclusive*, with most *demonstrations* indicating that no *significant reductions in healthcare expenditures were achieved*, while others were able to achieve statistically significant reductions in expenditures, for example, the *Medicare Participating Heart Bypass Center Demonstration*,[570] which indicated a 10 percent *reduction*.[571]

VALUE-BASED PURCHASING (VBP)

Any reimbursement model that links reimbursement or incentive bonus payments to quality of care.

"Lessons from Medicare's Demonstration Projects on Disease Management, Care Coordination and Value-Based Payment," by Lyle Nelson, Congressional Budget Office, January 2012, p. 1.

[568] Lyle Nelson, "Lessons from Medicare's Demonstration Projects on Disease Management, Care Coordination and Value-Based Payment," Congressional Budget Office, January 2012, p. 1.

[569] "Medicare Program; Medicare Shared Savings Program: Accountable Care Organizations," *Federal Register* 76, no. 212 (November 2, 2011).

[570] The Medicare Participating Heart Bypass Center Demonstration used bundled payments for all inpatient hospital care for coronary artery bypass graft surgeries at seven hospitals to lower the amount spent on each patient. Lyle Nelson, "Lessons from Medicare's Demonstration Projects on Disease Management, Care Coordination and Value-Based Payment," Congressional Budget Office, January 2012, p. 5.

[571] Lyle Nelson, "Lessons from Medicare's Demonstration Projects on Disease Management, Care Coordination and Value-Based Payment," Congressional Budget Office, January 2012, p. 2.

VBP initiatives that *determine provider reimbursement*, based on *quality outcome achievements*, may also be referred to as *value-based reimbursement* initiatives, in contrast to initiatives that merely provide a *bonus payment* for quality and cost achievements, which fall under the larger definition of VBP. The most significant *value-based reimbursement* initiative currently being undertaken is the CMS *Hospital Value-Based Purchasing* program. This *value-based reimbursement* initiative, mandated under the ACA, is set to distribute, beginning in October 2012, approximately $850 million to hospitals, based on *self-reported quality performance measurements,*.[572] Various ACA provisions also require that similar *CMS VBP programs* be developed for *home health agencies* and *ambulatory service centers*.[573] An illustration of the differences between two current VBP programs, that is, *ACOs* and the *Hospital Value-Based Purchasing program*, is set forth in Exhibit 2.17.

In order to *record* and *report* the requisite *quality* and *cost* data to participate in *VBP initiatives,* providers will likely have to implement effective, compliant *health information technology.*

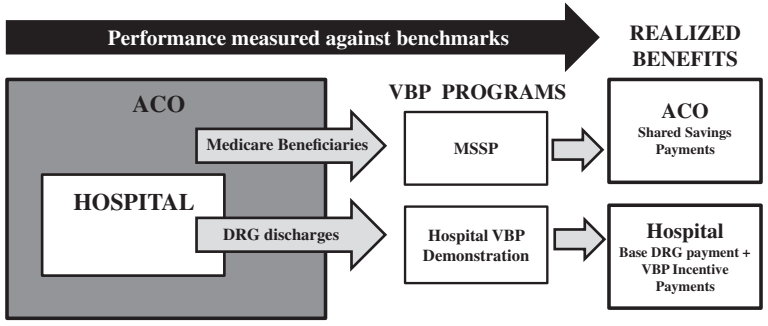


EXHIBIT 2.17 Illustration of Value-Based Purchasing Models

Accountable Care Organizations: A Roadmap for Success: Guidance on First Steps, 1st ed., by Bruce Flareau and Joe Bohn (Virginia Beach, VA: Convergent Publishing, LLC, 2011), p. 22.

[572] Nathaniel Weixel, "CMS Final Rule Implements $850 Million Hospital Value-Based Purchasing Program," *Health Law Reporter*, May 5, 2011, http://healthlawrc.bna.com/hlrc/display/batch_print_display.edp (accessed June 16, 2011).

[573] "Patient Protection and Affordable Care Act, Section 3201," *Pub. L.* 111-148, 124 Stat 372 (March 23, 2010), pp. 372–373.

VALUE-BASED REIMBURSEMENT (VBR)

VBP initiatives that quantify provider reimbursement based on quality outcome achievements are known as value-based reimbursement initiatives.

Nathaniel Weixel, "CMS Final Rule Implements $850 Million Hospital Value-Based Purchasing Program," Health Law Reporter, *May 5, 2011, http://healthlawrc.bna.com/hlrc/display/batch_print_display.edp (accessed June 16, 2011).*

2.7.1.2 Increased Reimbursement to Encourage Implementation of Electronic Health Records (EHR) With the passage of the *American Recovery and Reinvestment Act of 2009* (ARRA), the government adopted, as part of the economic stimulus package, a plan to promote the *universal* implementation of *electronic health records* (EHR), through the *Health Information Technology for Economic Clinical Health* (HITECH) Act.[574] HITECH incentivizes providers to implement *health information technology* (HIT) and *certified EHR systems* that function within established *meaningful use standards*, through increased reimbursement rates.[575] For a thorough discussion of meaningful use requirements, see Section 5.2.2.2.1, "Meaningful Use," in Chapter 5, "Technology."

The ARRA provides a total of $1.5 billion in federal grants to assist providers with the capital requirements for either (1) *implementing* an EHR system or (2) *upgrading* an existing EHR system to meet *meaningful use standards*.[576] In 2011, for every *ten dollars* the federal government provided toward *state planning* and *implementation grants* to promote HIT, the state was required to provide *one dollar* toward *state planning* and *implementation grants*. In 2012, this ratio dropped to *seven to one*, and beginning in 2013, for every *three dollars* of federal grant money the state must only provide *one dollar.*[577] For more

[574] "American Recovery and Reinvestment Act of 2009," *Pub. L.* 111-5; 123 Stat 115 (Feb. 7, 2009). HITECH is a title XIII, §13001 of the ARRA.

[575] "Health Information Technology for Economic and Clinical Health Act," found in "American Recovery and Reinvestment Act of 2009," *Pub. L.* 111-5, 123 Stat 226 (February 17, 2009).

[576] *Summary of HHS Recovery Operational Plan, May 2009*, HIMSS, http://www.himss.org/content/output/A99BCB56C33E4E41B76896C29F350300.pdf (accessed June 3, 2009), p. 4.

[577] "Health Information Technology for Economic and Clinical Health Act," found in "American Recovery and Reinvestment Act of 2009," *Pub. L.* 111-5, 123 Stat 226 (February 17, 2009), p. 252.

information on EHRs, see Section 5.2.2, "Electronic Health Records (EHR)," in Chapter 5, "Technology."

2.7.2 ACOs

Accountable care organizations (ACOs), established under §3002 of the ACA, and the subsequent *CMS Final Rule* published on November 2, 2011, are the latest iteration in a dialogue that has been evolving for generations on how to *manage* the *rising cost of healthcare* in a manner that addresses both *cost* and *quality*. Specifically, ACOs are healthcare organizations in which a *set of providers*, usually physicians and hospitals, is held *accountable* under *an ACO contract* with a payor, that is, *Medicare* for *federal ACOs* and any number of *commercial payors* for *commercial ACOs*, for the *cost* and *quality* of care delivered to a specific local population.[578]

ACOs may experience *financial incentives* through two VBP models: (1) *shared savings (bonus) payments* or (2) *commercial value-based reimbursement arrangements*. The specifics of the reimbursement model implemented within the *ACO contract* will vary for both *federal ACOs and commercial ACOs*, as will the *distribution of shared risk* associated with each reimbursement model.

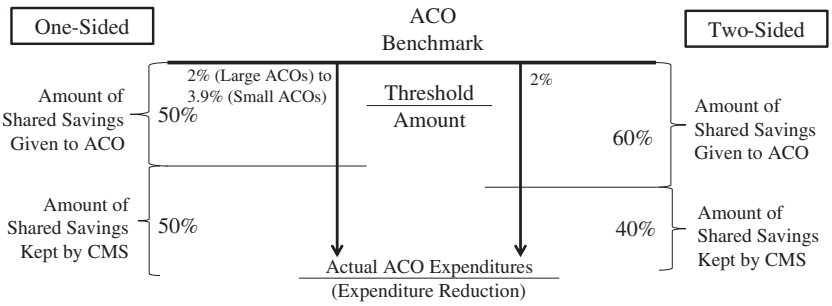
Federal ACOs are reimbursed under a *traditional FFS model*. As such, *participating providers* are likely to focus on the *volume* of services provided rather than on the *value* of services provided. While *FFS*

Accountable Care Organization

A healthcare organization in which a set of providers, usually physicians and hospitals, is held accountable under a contract with a payor(s) (i.e., Medicare for federal ACOs and any number of commercial payors for commercial ACOs) for the cost and quality of care delivered to a specific local population.

"Can Accountable Care Organizations Improve the Value of Health Care by Solving the Cost and Quality Quandaries?" by Kelly Devers and Robert Berenson, Robert Wood Johnson Foundation, Urban Institute, October 2009, http://www.rwjf.org/files/research/acosummaryfinal.pdf *(accessed January 19, 2012), p. 1.*

[578]Kelly Devers and Robert Berenson, "Can Accountable Care Organizations Improve the Value of Health Care by Solving the Cost and Quality Quandaries?" Robert Wood Johnson Foundation, Urban Institute, October 2009, p. 1, http://www.rwjf.org/files/research/acosummaryfinal.pdf (accessed January 19, 2012).



Note: The expenditure reduction is capped at 10% of Benchmark for one-sided, and 15% of Benchmark for two-sided

EXHIBIT 2.18 One- and Two-Sided Distribution Models for Federal ACOs

reimbursement places *little to no risk* on the provider, federal ACOs experience risk through their *shared savings payments*, which may be *managed* under either (1) a *one-sided distribution model* or (2) a *two-sided distribution model*. The *one-sided distribution model* allows federal ACOs to *avoid risk* (i.e., no shared losses) during their initial three-year contract in exchange for a *smaller percentage* of the achieved *shared savings* distributed to the ACO.[579] The *two-sided distribution model* offsets the additional *risk* of possible *shared losses* by allowing the ACO to partake in a *greater percentage* of the *shared savings* (i.e., patient expenditure reductions) it can demonstrate and document has been achieved.[580] The two models for shared savings distribution available to a federal ACO are illustrated in Exhibit 2.18.

To incentivize provider participation in the MSSP program, CMI created the *Pioneer ACO program*, which offers *higher rewards* than traditional federal ACOs can achieve in exchange for *higher risks*. Significantly, as discussed earlier, a *Pioneer ACO* will, after the first two years of its contract term with CMS, be given the option to *transition* from a *volume-based FFS reimbursement model* to a *population-based payment model* for its Medicare beneficiaries. In addition, by *performance year two*, at least 50 percent of a Pioneer ACO's revenue must be generated by *alternative VBP arrangements* with *non-Medicare payors* (either

[579] "Medicare Program; Medicare Shared Savings Program: Accountable Care Organizations," *Federal Register* 76, no. 212 (November 2, 2011): 67985–67986.

[580] Ibid., 67986–67987.

commercial or public).[581] By the end of its *second performance year*, the VBP models within Pioneer ACOs may more closely resemble some of the reimbursement models used within the *commercial ACO* market than used for traditional federal ACOs.

Commercial ACOs contract with *private payors* and use a variety of *value-based purchasing* arrangements. Some commercial ACOs may choose to emulate the federal MSSP, opting for a basic *FFS reimbursement model,* accompanied by a *shared savings arrangement.* Other commercial ACOs may use any number of reimbursement models, ranging from *pay-for-performance* to *capitation.*[582]

2.7.3 Patient-Centered Medical Homes

Similar to an ACO, the *patient-centered medical home* (PCMH) *model* approaches the delivery of healthcare services through *coordinated patient care*, centered on a *primary care physician* who accepts responsibility for managing across the continuum of care for a beneficiary and the spectrum of services he or she may require.[583] PCMHs are designed to improve the *quality of patient care* through the incorporation of a *value-based payment model.*[584] The *essential difference* between a PCMH and an ACO lies in the *scale of their operation.* A PCMH is limited to a *single physician practice setting*, with *one primary care physician* coordinating the patient's care (similar to the *gatekeeper* function), whereas an ACO typically operates as an *entire organization,* within which providers *coordinate care* and are *accountable* for patient *health outcomes* and *costs.*[585] However, PCMHs may be an essential component of an ACO, by using

[581] Centers for Medicare and Medicaid Services, "Pioneer Accountable Care Organization Model: Fact Sheet," December 19, 2011, pp. 6, 7.

[582] "Global Cap Dominates Some Private-Sector Payment Models; Others Seek Partial Cap," *ACO Business News* 1, no. 1 (November 2010): 1.

[583] "Joint Principles of the Patient-Centered Medical Home," American Academy of Family Physicians, American Academy of Pediatrics, American College of Physicians, and American Osteopathic Association, February 2007, http://www.aafp.org/online/etc/medialib/aafp_org/documents/policy/fed/jointprinciplespcmh0207.Par.0001.File.dat/022107medicalhome.pdf (accessed December 14, 2011).

[584] Ibid.

[585] Academy Health, "Medical Homes and Accountable Care Organizations: If We Build It, Will They Come?" 2009 Annual Research Meeting Brief, http://www.academyhealth.org/files/publications/RschInsightMedHomes.pdf (accessed January 4, 2012).

Patient-Centered Medical Home

A model of healthcare delivery that approaches the delivery of services through coordinated, centralized patient care, with an emphasis on the primary care physician as the manager of a beneficiary's care.

Medical Home Models: Improving Care and Reducing Costs in Healthcare, White Paper Analysis of HIN Monthly E-Survey Results on Trends Shaping the Healthcare Industry, *by Laura M. Greene, Healthcare Intelligence Network, May 2009*.

the function of the *primary care physician* to improve health outcomes for ACO patients.

The PCMH concept first appeared in federal legislation as a demonstration project, the *Medicare Medical Homes Demonstration Project*, created under the *Tax Relief and Health Care Act of 2006* (TRHCA).[586] Eventually, two initiatives developed by CMI superseded the *Medicare Medical Homes Demonstration Project*, that is, (1) the *Multi-payer Advanced Primary Care Practice Demonstration* (Comprehensive Primary Care Initiative) and (2) the *Federally Qualified Health Centers (FQHC) Advanced Primary Care Practice Demonstratio*n (APCP).[587]

[586] "Tax Relief and Health Care Act of 2006," H.R. 6111 (2006), Section 204.

[587] Centers for Medicare and Medicaid Services, "Medicare Demonstrations: Details for Medicare Medical Home Demonstration," https://www.cms.gov/DemoProjectsEvalRpts/MD/itemdetail.asp?itemID=CMS1199247 (accessed January 4, 2012). The Comprehensive Primary Care Initiative mimics successful financial incentives used by large employers and other private healthcare enterprises (e.g., commercial ACOs) in seven markets, chosen to represent every major U.S. region. This initiative provides bonus payments to primary care physicians who "better coordinate" their Medicare patients' care. Primary care physician practices participating in the program will have access to resources that may improve the likelihood that physicians will improve care coordination. U.S. Department of Health and Human Services, "Fact Sheet: Comprehensive Primary Care Initiative," September 28, 2011, http://innovations.cms.gov/initiatives/cpci/index.html (accessed January 4, 2012). In October 2011, CMS published the list of 500 FQHC applicants chosen to participate in the Medicare Federally Qualified Health Center Advanced Primary Care Practice (FQHC APCP), a three-year demonstration project intended to "evaluate the impact of the advanced primary care practice model, also known as the patient-centered medical home." U.S. Department of Health and Human Services, "Fact Sheet: Comprehensive Primary Care Initiative," September 28, 2011, http://innovations.cms.gov/initiatives/cpci/index.html (accessed January 4, 2012).

Furthermore, several provisions within the ACA support the further development of PCMHs, including:

1. §3502, *Establishing Community Health Teams to Support the Patient-Centered Medical Home,* which stipulates that CMS will establish a program to *spur national use* of the PCMH model through grants and/or contracts with (1) *states and/or state-designated entities*, and (2) *Indian tribes and/or tribal organizations*;
2. §2703, *State Option to Provide Health Homes for Enrollees with Chronic Conditions*, which, beginning in January 1, 2011, focused on implementing *medical home models* for *state Medicaid populations*; and
3. §5405, *Primary Care Extension Program*, which provides funding for *state organized programs* to educate *primary care physicians* on *preventative care* and *health literacy* to assist providers in providing services to their communities.[588]

In addition to the 2010 landmark passage of the ACA, and the subsequent *U.S. Supreme Court* decision upholding its *constitutionality* in 2011, several states have recently passed legislation designed to further *quality*, *access*, and *lower costs*, which is transforming their healthcare reimbursement systems through *small-scale*, incremental, *health reform initiatives*, limited, however, to the *populations of that specific state.* One of the most recent efforts in this vein is the implementation of a *single payor insurance system* in Vermont.

2.7.4 Vermont's Single Payor Insurance System

On May 26, 2011, Vermont governor Peter Shumlin signed H.202 into law, a significant step toward Vermont being able to offer the *first state-financed single-payor health insurance system* in the United States.[589] The bill lays out a framework to provide "a universal and unified health system" to each of the

[588] Amended by §10321 of the Health Care Education and Reconciliation Act; "Patient Protection and Affordable Care Act," *Pub. L.* 111-148 (March 23, 2010), p. 513; "Patient Protection and Affordable Care Act," *Pub. L.* 111-148 (March 23, 2010), p. 156; "Patient Protection and Affordable Care Act," *Pub. L.* 111-148 (March 23, 2010), p. 649.

[589] Margaret Dick Tocknell, "VT Governor Signs Single-Payer Bill," Health Leaders Media, May 27, 2011, http://www.healthleadersmedia.com/print/TEC-266668/VTGovernor-Signs-SinglePayer-Bill (accessed May 31, 2011).

SINGLE PAYOR INSURANCE MODEL

Whereby one payor provides universal insurance for a designated population. Generally operated, or monitored, by a state government or the federal government.

"VT Governor Signs Single-Payer Bill," by Margaret Dick Tocknell, Health Leaders Media, May 27, 2011, http://www.healthleadersmedia.com/print/TEC-266668/VTGovernor-Signs-Single Payer-Bill (accessed May 31, 2011).

600,000-plus Vermont residents by 2017 and aims to control rapidly growing *healthcare costs* within the state.[590] Pursuant to provisions in the ACA, the Vermont legislation *first* establishes an *initial insurance exchange*, that is, *Green Mountain Care*, and then plans to *subsequently* transfer individuals covered through *private*, *state*, or *federal* health insurance, as well as the *uninsured*, into a single *statewide insurance payor* funded by Vermont *tax dollars*, rather than by private insurance *copayments* or *premiums*.[591] In developing H.202, the Vermont legislature commissioned a report, titled *Health System Reform Design: Achieving Affordable Universal Health Care in Vermont*, authored by several *key healthcare economists*, including *Harvard Professor*

Factoid

The creator of the Medicare RBRVS was also a key designer for Vermont's single payor reimbursement system.

"Vermont Gov. Proposes Single-Payer Health Plan," by Aimee Miles, National Public Radio, February 11, 2011, http://www.npr.org/2011/02/11/133657928/vermont-govproposes-single-payer-health-plan (accessed June 15, 2011).

[590] "An Act Relating to a Universal and Unified Health System," VT LEG 264981.2 [H.202] (May 26, 2011), § 1829, pp. 1, 138; Zach Howard, "Vermont Moving toward Single-Payer Health Care," Reuters, May 26, 2011, http://www.reuters.com/article/2011/05/26/us-vermont-healthidUSTRE74P89420110526 (accessed May 31, 2011).

[591] "An Act Relating to a Universal and Unified Health System," VT LEG 264981.2 [H.202] (May 26, 2011), § 1829, p. 139; Steven Findlay, "Vermont Has a Plan for Single-Payer Health Care," *Consumer Reports*, May 26, 2011, http://news.consumerreports.org/health/2011/05/vermontestablishes-road-map-for-single-payer-health-care.html (accessed May 26, 2011).

William Hsiao, who is well known for his work in healthcare financing, specifically the development of the *resource-based relative value scale* (RBRVS) in 1988, as the basis for the *Medicare physician fee schedule* (MPFS).

Several provisions of the ACA have presented hurdles for the Vermont law, despite having similar goals, such as securing waivers from the *federal government* in order to fully implement the *single payor insurance system* and disband the *state insurance exchange*.[592] Although there has been *resistance* to the Vermont *single payor* legislation, *widespread adoption* is not inconceivable. According to Hsiao, since completing the Vermont report, six other states have approached him to develop similar *single payor systems*.[593]

2.8 CONCLUSION

The major changes taking place in the *healthcare reimbursement environment* are significant enough in scale to be accurately characterized as a *paradigm shift*. As *healthcare reform efforts*, focused on *slowing the rise of costs*, continue to gain *public attention* and *policy traction*, providers may feel *conflicted* between *competing goals and objectives*, for example, fixating on reducing the *cost of services* provided or, in the alternative, pursuing potential *value-based reimbursement incentive* payments. It is possible that this *competition* between *emphases* may result in the type of *discontent* and *dysfunction* that was experienced with the rise of *managed care* in the 1990s, described as:

> *Managed care has somewhat compromised physician's powers, leaving some senior physicians despairing about the loss of the golden age of medicine, and younger physicians feeling duped by an unfilled vision of autonomous medical practice*.[594]

---

[592] Aimee Miles, "Vermont Gov. Proposes Single-Payer Health Plan," National Public Radio, February 11, 2011, http://www.npr.org/2011/02/11/133657928/vermont-govproposes-single-payer-health-plan (accessed June 15, 2011).

[593] Michael McDonald, "Vermont's Shumlin Uses Obama Health Law to Build Bridge to State-Run Care," Bloomberg, May 26, 2011, http://www.bloomberg.com/news/2011-05-26/vermont-sshumlin-uses-obama-health-law-to-build-bridge-to-state-runcare.html (accessed May 31, 2011).

[594] Stated by Charles W. Plows, M.D., chair of the *American Medical Association's Council on Ethics and Judicial Affairs*, and Rosemary Quigley, senior associate in the *AMA Division of Ethics Standards*. John G. Day, "Managed Care and the Medical Profession: Old Issues and Old Tensions the Building Blocks of Tomorrow's Health Care Delivery and Financing System," *Connecticut Insurance Law Journal*, 3, no. 1 (1996–1997): 6.

The failure of previous attempts to restructure healthcare reimbursement is addressed in the authoritative work *Redefining Health Care: Creating Value-Based Competition on Results*, by Harvard business professor Michael E. Porter and Professor Elizabeth Olmsted Teisberg of the University of Virginia:

> *In a normal market, competition drives relentless improvements in quality and cost.... Quality adjusted prices fall, value improves, and the market expands to meet the needs of more consumers.... Health care competition could not be more different. Costs are high and rising despite the fierce struggle to control them. Quality problems persist.... Why is competition failing in health care? Why is value for patients not higher and improving faster? The reason is not a lack of competition, but the wrong kind of competition. Competition has taken place at the wrong levels, and on the wrong things. It has gravitated to a zero-sum competition, in which the gains of one system participant come at the expense of others. Participants compete to shift costs to one another, accumulate bargaining power, and limit services. This kind of competition does not create value for patients, but erodes quality, fosters inefficiency, creates excess capacity, and drives up administrative costs, among other nefarious effects.... The dysfunctional competition in health care results from misaligned incentives and a series of understandable but unfortunate strategic, organizational, and regulatory choices by each participant in the system that feed on and exacerbate each other.... The way to transform health care is to realign competition with value for patients. Value in health care is the health outcome per dollar of cost expended. If all system participants have to compete on value, value will improve dramatically."*[595]

While the *future design* of healthcare reimbursement is still uncertain, there is growing accord that the current system is *unsustainable* and the need for change is *urgent* and *unavoidable*.[596] As more emphasis is placed on *quality improvement efforts*, for example, *P4P* and *value-based purchasing*,

---

[595] Michael E. Porter and Elizabeth Olmsted Teisberg, *Redefining Health Care: Creating Value-Based Competition on Results* (Boston: Harvard Business School Press, 2006), pp. 3–4.

[596] Kenneth Kaufman and Mark E. Grube, "The Transformation of America's Hospitals: The Economics Drives New Business Model," *Futurescan 2012: Healthcare Trends and Implications 2012–2017* (2012): 6.

providers are likely to see *increased efficiency*, which should reduce the *cost of services* and give providers some degree of *reprieve* against continued *federal reimbursement cutbacks* and the *uncertain financial benefits* of *value-based purchasing initiatives*. *Financial concerns* and an increased *focus on care coordination* have also lead to an increased *consolidation* among *providers* and *payors*, in many cases *blurring* the traditional lines between *for-profit* and *not-for-profit* care, and between various *types of providers*, for example, *payors*, *hospitals*, and *physicians*.[597] These trends will, to a great extent, be influenced by the reimbursement schemes of *federal* and *state government payors*, which act as the *benchmarks* for most *healthcare reimbursement* and will likely drive the *transformation* of the overall *reimbursement environment* by influencing *new business* and *reimbursement models*.[598]

The advocates of *public responsibility* for *access to healthcare* in the United States have been fighting an intense political debate since 1915, and the passage of the ACA has not eased this struggle. Through this contentious process, the United States has fallen into a "*policy trap*," where extraordinarily *high costs* and *complex structures* hinder the healthcare industry's ability to *accept* and *accommodate* change. Although the ACA was a significant leap in the transformation of the healthcare reimbursement industry, the United States may be too ensnared in its own political struggles to resolve the problems it currently faces without *severe limitations*.[599] Only time will tell whether the current effort toward *healthcare reform* will be remembered in history as a *historic triumph* or yet another example of *failure to reach a consensus* regarding the crossroads of *morals* and *politics*.[600] For further information on healthcare reform, see Chapter 6, "Healthcare Reform."

A thorough and in-depth understanding of the *historical background*, *current environment*, and *future trends* of healthcare reimbursement models is an *essential* and *requisite* element in the development of a *valuation analysis*. Ultimately, the reimbursement environment determines the *revenue stream of enterprises*, the *foundation of asset capitalization*, and the *structure of compensation* for services that are the subject of *healthcare financial appraisal*.

---

[597] Ibid., p. 8.

[598] Ibid., p. 6.

[599] Paul Starr, *Remedy and Reaction: The Peculiar American Struggle over Health Care Reform* (New Haven, CT: Yale University Press, 2011), pp. 2, 4, 11.

[600] Ibid., pp. 279–281.

2.9 KEY SOURCES

International Classification of Diseases and Related Health Problems

Reference book for diagnostic related codes used for reimbursement. Currently in its 9th edition, but the industry will soon transition to the 10th.

United States Department of Health and Human Services (HHS)

"The Department of Health and Human Services (HHS) is the United States government's principal agency for protecting the health of all Americans and providing essential human services." HHS has 11 agencies, among which are the Centers for Medicare and Medicaid Services (CMS), Indian Health Services (IHS), the Office of the Inspector General (OIG), and the National Institutes of Health (NIH).

"About HHS," Department of Health and Human Services, http://www.hhs.gov/about/ (accessed October 6, 2009)

http://www.hhs.gov/

Centers for Medicare and Medicaid Services (CMS)

The Centers for Medicare and Medicaid Services administer the Medicare, Medicaid, and CHIP programs. CMS is responsible for setting reimbursement rates under Medicare and Medicaid. The CMS website contains important information for beneficiaries of these programs, as well as guidelines for providers.

"Mission, Vision & Goals: Overview," Centers for Medicare and Medicaid Services, U.S. Department of Health and Human Services, http://www.cms.hhs.gov/MissionVisionGoals/ (accessed September 22, 2009)

http://www.cms.hhs.gov

United States Department of Health and Human Services (HHS) Office of Inspector General (OIG)

The Office of the Inspector General of the United States Department of Health and Human Services oversees all HHS programs in order to protect the integrity of the programs and the health and welfare of beneficiaries.

"Office of the Inspector General," U.S. Department of Health and Human Services, http://oig.hhs.gov/ (accessed September 22, 2009)

http://oig.hhs.gov/

TRICARE

The TRICARE website provides useful information to program beneficiaries.

"TRICARE," www.tricare.mil (accessed October 6, 2009)

http://www.tricare.mil/

Civilian Health and Medical Program of the Department of Veteran Affairs (CHAMPVA)

The CHAMPVA page of the U.S. Department of Veterans Affairs website provides useful enrollment and benefit information for CHAMPVA enrollees.

"Department of Veterans Affairs Health Administration Center: CHAMPVA," United States Department of Veterans Affairs, http://www.va.gov/hac/forbeneficiaries/champva/champva.asp (accessed October 6, 2009)

http://www.va.gov/hac/forbeneficiaries/champva/champva.asp

Indian Health Services (IHS)

IHS is a division of HHS, and the website provides comprehensive information on the activities of IHS, as well as useful information on health programs for Native Americans and Alaska Natives.

"Indian Health Service," www.ihs.gov (accessed October 6, 2009)

http://www.ihs.gov/

BlueCross BlueShield

The website of the BlueCross BlueShield Association (BCBSA) contains information on regional BCBS carriers, as well as up-to-date news affecting the U.S. healthcare and health insurance industries.

"BlueCross BlueShield Association," http://www.bcbs.com (accessed October 6, 2009)

http://www.bcbs.com/

Department of Labor (DOL)

The DOL website includes information regarding employer-sponsored health insurance plans and the laws that govern them, such as the Employment Retirement Income Security Act (ERISA).

"Health Plans and Benefits," United States Department of Labor, http://www.dol.gov/dol/topic/health-plans/index.htm (accessed October 6, 2009)

http://www.dol.gov/

2.10 ACRONYMS

Acronym	Full Title
ACO	Accountable Care Organizations
APCP	Advanced Primary Care Practice Demonstration

AQC	Alternative Quality Contract
RUC	AMA/Specialty Society Relative Value Scale Update Committee
PPIS	AMA's Practice Information Survey
SMS	AMA's Socioeconomic Monitoring System Survey
APC	Ambulatory Payment Classifications
ASC	Ambulatory Surgery Centers
AAFP	American Academy of Family Physicians
ACP	American College of Physicians
ARRA	American Recovery and Reinvestment Act of 2009
ASTC	Ancillary Services and Technical Component
BRRA	Balanced Budget Refinement Act
BIPA	Benefits Improvement and Protection Act of 2000
BCBSA	Blue Cross Blue Shield Association
CDC	Centers for Disease Control and Prevention
CMI	Centers for Medicare and Medicaid Innovation
CMS	Centers for Medicare and Medicaid Services
CHIP	Children's Health Insurance Program
CHIPRA	Children's Health Insurance Program Reauthorization Act of 2009
CHAMPVA	Civilian Health and Medical Program of the Department of Veteran Affairs
CHAMPUS	Civilian Health and Medical Program of the Uniformed Services
CBA	Competitive Bidding Area
CR	Composite Rate
CT	Computed Tomography
CPOE	Computerized Physician Order Entry
CBO	Congressional Budget Office
CPI-U	Consumer Price Index for All Urban Consumers
CF	Conversion Factor
CBSA	Core Based Statistical Areas
CDT	Current Dental Terminology
CPT	Current Procedural Terminology
CPR	Customary, Prevailing, and Reasonable
DRA	Deficit Reduction Act of 2005
DRG	Diagnostic Related Group
DSH	Disproportionate Share Hospitals
D-SNP	Dual Eligible Special Needs Plans
DME	Durable Medical Equipment
DMEPOS	Durable Medical Equipment, Prosthetics, Orthotics, and Other Medical Supplies

EKG	Electrocardiogram
EHRs	Electronic Health Records
EMR	Electronic Medical Record
ERISA	Employee Retirement Income Security Act of 1974
ESRD	End Stage Renal Disease
EOB	Erythropoietin
E/M	Evaluation and Management
EPO	Exclusive Provider Organization
EOB	Explanation of Benefits
FQHC	Federally Qualified Health Centers
FFS	Fee-for-Service
FSA	Flexible Spending Arrangements
GPCI	Geographic Practice Cost Index
GAO	Government Accountability Office
GDP	Gross Domestic Product
HCFA	Health Care Financing Administration
HIT	Health Information Technology
HITECH	Health Information Technology for Economic Clinical Health Act
HMO	Health Maintenance Organization
HRA	Health Reimbursement Arrangements
HSAs	Health Savings Accounts
HAI	Healthcare Associated Infections
HCPCS	Healthcare Common Procedure Coding System
HDHP	High Deductible Health Plan
HPOD	Hospital Outpatient Departments
HOPPS	Hospital Outpatient Prospective Payment System
HQID	Hospital Quality Incentive Demonstration
IDTF	Independent Diagnostic Testing Facilities
IHS	Indian Health Services
IRA	Individual Retirement Arrangement
IPPS	Inpatient Prospective Payment System
ICD	International Classification of Diseases and Related Health Problems
MRI	Magnetic Resonance Imaging
MP RVU	Malpractice Expense Relative Value Unit
MCO	Managed Care Organization
MAC	Medicare Administrative Contractor
MA	Medicare Advantage
MEI	Medicare Economic Index
MIPPA	Medicare Improvements for Patients and Providers Act
HPID	Medicare Modernization Act

MMA	Medicare Modernization Act of 2003
nonPAR	Medicare nonparticipating provider
PAR	Medicare participating provider
MedPAC	Medicare Payment Advisory Commission
MPFS	Medicare Physician Fee Schedule
MMA	Medicare Prescription Drug, Improvement, and Modernization Act of 2003
MVPS	Medicare Volume Performance Standard
MSA	Metropolitan Statistical Area
NAIC	National Association of Insurance Commissioners
NCQDIS	National Coalition of Quality Diagnostic Imaging Services
NCCI	National Correct Coding Initiative
NDC	National Drug Codes
NPPES	National Plan and Provider Enumeration System
NPI	National Provider Identifier
NQF	National Quality Forum
NSC	National Supplier Clearinghouse
OMB	Office of Management and Budget
OACT	Office of the Actuary
IOG	Office of the Inspector General
OEID	Other Entity Identifier
OPPS	Outpatient Prospective Payment System
ACA	Patient Protection and Affordable Care Act
PCMH	Patient-Centered Medical Home
P4P	Pay-for-Performance
PMPM	Per Member Per Month
PDA	Personal Digital Assistants
PPRC	Physician Payment Review Commission
wRVU	Physician Work Relative Value Unit
POS	Point of Service Plans
PCI	Practice Cost Index
PE RVU	Practice Expense Relative Value Unit
PPO	Preferred Provider Organizations
PACE	Program of All-Inclusive Care for the Elderly
PPS	Prospective Payment Systems
PO	Prosthetics and Orthotics
PECOS	Provider Enrollment, Chain, and Ownership System
PTAN	Provider Transaction Access Number
QMB	Qualified Medicare Beneficiaries
QI	Qualifying Individuals
RVU	Relative Value Units
RBRVS	Resource-Based Relative Value Scale

RUG	Resource Utilization Groups
STA	Sequestration Transparency Act of 2012
SNF	Skilled Nursing Facility
SLMB	Specified Low-Income Medicare Beneficiaries
SCHIP	State Children's Health Insurance Program
SSI	Supplemental Security Income
SGR	Sustainable Growth Rate
TRHCA	Tax Relief and Health Care Act of 2006
TCG	Technical Consulting Groups
HIPAA	The Health Insurance Portability and Accountability Act of 1996
HHS	U.S. Department of Health and Human Services
DOJ	U.S. Department of Justice
OWCP	U.S. Department of Labor's Office of Workers' Compensation Programs
UPIN	Unique Physician Identification Number
VBP	Value-Based Purchasing
VBR	Value-Based Reimbursement

CHAPTER 3

Regulatory Environment

3.1 OVERVIEW AND TRENDS

> *With its choreography of public and private interests and its balance between different levels of government, America's system of health care regulation can certainly be characterized as complex. In its continual evolution, it thrives on confrontation between competing interests but survives on its ability to engender compromise. Intertwining regulatory structures can be overwhelming in their intricacy, but a more direct system would not necessarily be fairer or more effective.*
>
> —Robert I. Field[1]

With the passage of the 2010 *Patient Protection and Affordable Care Act* (*ACA)*, that is, "*Obamacare*," providers are facing even more extensive regulatory scrutiny, much of which attention is focused on increased rules and strict prosecution of *fraud and abuse* violations, the latest, in particular, as an avenue to help finance the ACA.[2] Despite the June 2012 U.S. Supreme Court decision upholding the constitutionality of the *ACA* (as discussed in Chapter 1, "The Chronology of U.S. Healthcare Delivery"), significant issues related to the regulation of healthcare enterprises, assets, and services on both a federal and a state level are yet to be resolved.[3] Regardless of how these issues are ultimately decided, the sweeping nature of the ACA will continue to drive ongoing changes in the structure, operation, and financing of many healthcare provider enterprises, likely resulting in an even further increase in hospital/physician practice integration/transactional activities, as well as an increase in the number of U.S. physicians who are currently employed by hospitals.[4] These

---

[1] Robert I. Field, *Health Care Regulation in America: Complexity, Confrontation, and Compromise* (New York: Oxford University Press, 2007), pp. 244–245.

[2] "Patient Protection and Affordable Care Act," *Pub. L.* 111-148, 124 Stat 119 (March 23, 2010), as amended by "Health Care and Education Reconciliation Act," *Pub. L.* 111-152, 124 Stat 1029 (March 30, 2010); "The Patient Protection and Affordable Care Act," Drinker Biddle & Reath, LLP: Health Government Relations Group, April 2010, http://www.drinkerbiddle.com /files/Publication/9c21e026-45cf-48de-b7c9-9abcb3f48412/Presentation/PublicationAttachment/f0364126-f959-430c-be4e-9be51aec2f4f/ACA.pdf (accessed February 11, 2011), p. 4.

[3] *National Federation of Independent Business v. Sebelius*, Nos. 11-393, 11-398 and 11-400, 2012 BL 160004 (U.S. June 28, 2012).

[4] Robert Kocher and Nikhil R. Sahni, "Hospitals' Race to Employ Physicians—The Logic behind a Money-Losing Proposition," *New England Journal of Medicine* 364, no. 19 (May 12, 2011): 1790–1791.

PATIENT PROTECTION AND AFFORDABLE CARE ACT (ACA)

Enacted March 23, 2010, and amended March 30, 2010, the ACA comprehensively reformed the U.S. healthcare delivery system, especially with regard to patient access to affordable care.

"Patient Protection and Affordable Care Act," Pub. L. *111–148, 124 Stat 119 (March 23, 2010), as amended by "Health Care and Education Reconciliation Act,"* Pub. L. *111–152, 124 Stat 1029 (March 30, 2010).*

Factoid

The IRS has developed an 11-factor test, broken out into three general categories, that is, (1) behavioral control, (2) financial control, and (3) type of relationship between the parties, for determining bona fide employment relationships.

"Employer's Supplemental Tax Guide (Supplement to Publication 15 (Circular E), Employer's Tax Guide," Publication 15-A, Department of the Treasury, Internal Revenue Service, 2012, p. 7.

increases have served as a catalyst for enhanced regulatory scrutiny from the *Office of Inspector General* (*OIG*), the *Internal Revenue Service* (*IRS*), and the *Department of Justice (DOJ*), through the development of such initiatives as the *Fraud Enforcement and Recovery Act* (*FERA*) and the *Healthcare Enforcement Action Team* (*HEAT*).[5]

Among the valuation issues arising from these regulatory concerns are (1) establishing the *very existence* of certain *tangible* and *intangible assets* within a healthcare enterprise, (2) whether (and under which circumstances) it is *legally permissible* for those assets to be acquired, and (3) the selection of the applicable *valuation methodologies, approaches, and techniques* related to establishing the *Fair Market Value* of healthcare enterprises, assets, and services, as will be discussed in (1) Chapter 8, "Valuation Approaches and

[5] Office of the Inspector General (OIG), Internal Revenue Service (IRS), Fraud Enforcement and Recovery Act (FERA), Healthcare Fraud Prevention and Enforcement Action Team (HEAT), Patient Protection and Affordable Care Act (ACA).

Methods"; (2) Chapter 11, "Inpatient Enterprises"; (3) Chapter 12, "The Valuation of Outpatient Enterprises"; (4) Chapter 14, "The Valuation of Tangible and Intangible Assets"; and (5) Chapter 15, "Healthcare Services."

In many cases, this heightened regulatory environment takes place at a state, as well as a federal, level. In fact, state legislative and regulatory enforcement measures may actually stem from federally elicited incentives or compliance standards, such as those federal regulations governing Medicaid eligibility and reimbursement. Conversely, there are matters that are federally regulated, which in turn constitutionally bind states to comply with them, for example, so that federal edicts are preserved but tailored through supplemental state laws to meet state-specific needs. As characterized by Paul Field in *Health Care Regulation in America: Complexity, Confrontation, and Compromise,*

> *State and federal public health regulators, for example, have struggled for supremacy since the earliest days of government health programs in the nineteenth century.*[6] *They did so when the first quarantine and immunization efforts to control the spread of infectious diseases were developed, when the licensure programs that control access to the health care professions were established, and when the initial regulation of health insurance was implemented. They continue to do so in many spheres, including the oversight of clinical practice, the regulation of insurance under the Employee Retirement Income Security Act (ERISA), the shared administrative structure of the Medicaid program, and the emerging regulatory apparatus to handle public health preparedness.*[7]

The framework through which this interplay between the various federal and state laws within the U.S. healthcare delivery system will be discussed throughout this chapter is within the context of the following categories of regulations: (1) *Tax*, (2) *Fraud and Abuse*, (3) *Antitrust*, (4) *Privacy*, (5) *Safety*, (6) *Corporate/Organizational*, and (7) *Licensure, Certification, and Accreditation*, as set forth in Exhibit 3.1.

---

[6]Bernard J. Turnock and Christopher Atchison, "Government Public Health in the United States: The Implications of Federalism," *Health Affairs* 21, no. 6 (November 2002): 68–78.

[7]Robert I. Field, *Health Care Regulation in America: Complexity, Confrontation, and Compromise* (New York: Oxford University Press, 2007), p. 245.

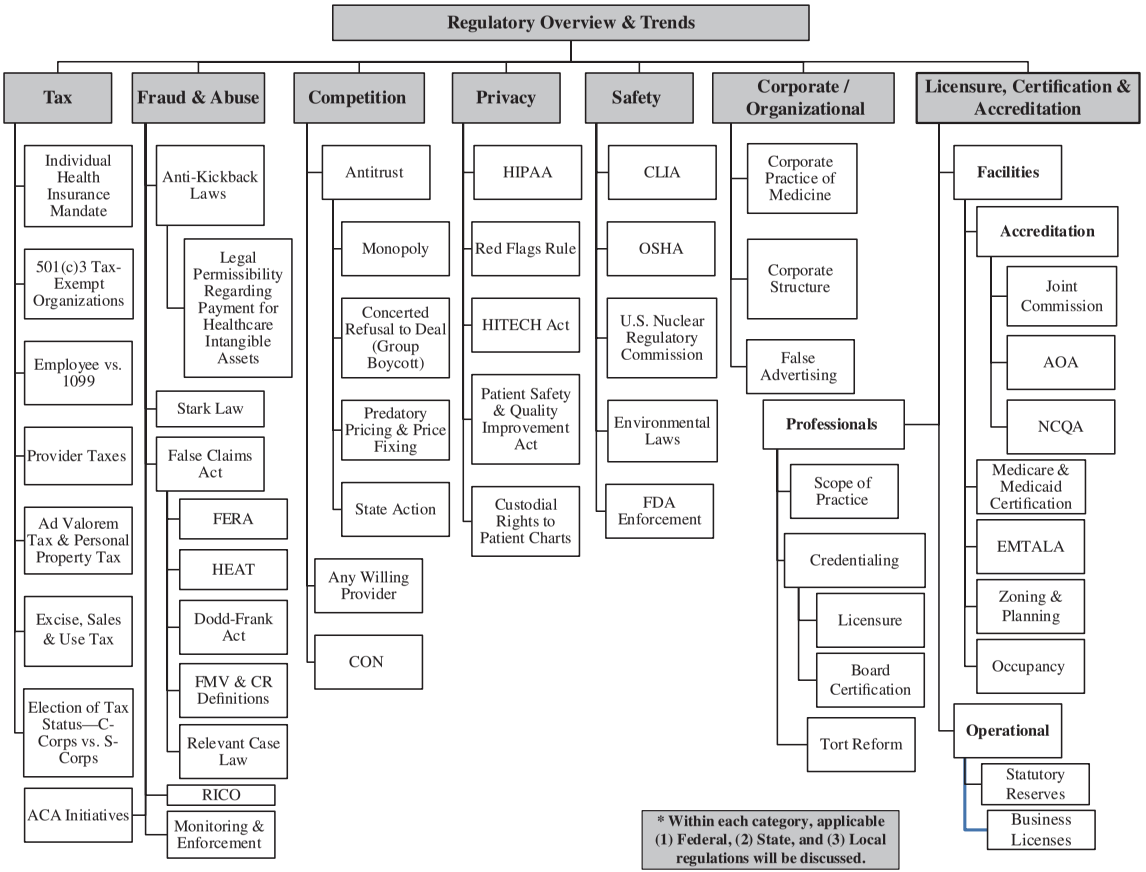


EXHIBIT 3.1 Overview of U.S. Healthcare Regulatory Scheme

3.2 TAX REGULATIONS

There are a variety of *tax regulations* that govern the healthcare transactional marketplace, including those that mandate the *Standard of Value* to be used in appraising the particular property interest, those that set the requirements for establishing the basic legal business structure of the operating healthcare enterprise, and those that establish the *commercial reasonableness* of the transaction. Furthermore, as many hospitals and health system providers have obtained tax-exempt status from the IRS, an additional layer of tax-related regulatory restrictions is applicable to transactions involving tax-exempt hospitals and health systems. These tax-exempt organizations determine which restrictions are often intertwined with, or parallel to, various *fraud and abuse* regulations, as will be discussed throughout this chapter.

3.2.1 Individual Health Insurance Mandate

Perhaps the most publicized—and criticized—provision of the ACA, known as the "*individual mandate*," is the requirement that U.S. citizens and legal residents maintain minimum amounts of health insurance coverage, that is, "*essential coverage*." *Essential coverage* includes (1) government-sponsored programs, (2) eligible employer-sponsored programs, (3) plans in the individual market, and (4) grandfathered group health plans, as well as (5) some other types of coverage.[8] Those individuals exempt from this requirement include, but are not limited to, (1) conscientiously opposed members of a recognized religion, (2) members of a healthcare sharing ministry, (3) individuals not lawfully present in the United States, (4) incarcerated individuals, (5) individuals who cannot afford coverage, (6) taxpayers who make less than 100 percent of the FPL, and (7) members of Indian tribes.[9] To assist U.S. citizens in paying for health insurance premiums purchased through a state health benefit exchange, the ACA provides a refundable "*premium tax credit*" for taxpayers whose income is 9.5 percent under the lowest-cost plan.[10] The *individual mandate* becomes effective on January 1, 2014, and individuals who are not in compliance with the law are subject to the greater

[8] "Patient Protection and Affordable Care Act, Sec. 1501," *Pub. L.* 111-148, 124 Stat 119 (March 23, 2010), pp. 242–249.

[9] Ibid., pp. 246–248.

[10] Ibid., pp. 224–231. Of note, this section was amended to include Social Security benefits in the modified adjusted gross income in order to calculate the premium tax credit. "Three Percent Withholding Repeal and Job Creation Act, Sec. 401," *Pub. L.* 112-56, 125 Stat 711 (November 21, 2011), p. 734.

Individual Mandate

An ACA requirement that U.S. citizens and legal residents maintain minimum amounts of health insurance coverage, that is, "essential coverage."

"Patient Protection and Affordable Care Act, Sec. 1501," Pub. L. *111–148, 124 Stat 119 (March 23, 2010), pp. 242–249.*

Essential Coverage

A federally mandated minimum level of coverage that every U.S. citizen must obtain, unless an exemption applies. Coverage includes government-sponsored programs, eligible employer-sponsored programs, plans in the individual market, and grandfathered group health plans, as well as some other types of coverage.

"Patient Protection and Affordable Care Act, Sec. 1501," Pub. L. *111–148, 124 Stat 119 (March 23, 2010), pp. 242–249.*

of (1) $95 per individual or (2) 1 percent of household income over the filing threshold.[11] By January 1, 2016, these penalties increase to (1) $695 per individual or (2) 2.5 percent of household income over the filing threshold, respectively.[12]

As a result of the June 28, 2012, *ACA Decision*, the U.S. Supreme Court's finding that the *individual mandate*, and its associated "*tax*," are constitutional, most U.S. citizens will be required to obtain a health insurance plan that meets the ACA's requirements in 2014.[13] Although it will not be illegal

[11] "Patient Protection and Affordable Care Act, Sec. 1501(b)," *Pub. L.* 111-148, 124 Stat 119 (March 23, 2010), pp. 242–249, as amended by "Health Care and Education Reconciliation Act, Sec. 1002," *Pub. L.* 111-152, 124 Stat 1029 (March 30, 2010), pp. 1032–1033.

[12] Ibid., pp. 242–249.

[13] *National Federation of Independent Business et al., v Sebelius*, Slip Opinion Nos. 11-393, 11-398, and 11-400 (U.S. June 28, 2012); "Patient Protection and Affordable Care Act, Sec. 1501(b)," *Pub. L.* 111-148, 124 Stat 119 (March 23, 2010), p. 249, as amended by "Health Care and Education Reconciliation Act, Sec. 1002," *Pub. L.* 111-152, 124 Stat 1029 (March 30, 2010), pp. 1032–1033.

to disregard the ACA's mandate to obtain insurance, it will be illegal to "*not buy health insurance and not pay the resulting tax*."[14] The impact of this decision was stated by Chief Justice Roberts in his opinion that

> *By requiring that individuals purchase health insurance, the mandate prevents cost-shifting by those who would otherwise go without it. In addition, the mandate forces into the insurance risk pool more healthy individuals, whose premiums on average will be higher than their health care expenses. This allows insurers to subsidize the costs of covering the unhealthy individuals the reforms require them to accept.*[15]

3.2.2 501(c)(3) Tax-Exempt Organizations

In addition to the recent SCOTUS pronouncements regarding the applicability of a "*tax*" as related to the *individual mandate,* healthcare providers may qualify for federal *tax exemption* if they meet the IRS requirements for *charitable organizations* under section *501*(*c*)(*3*) of the *Internal Revenue Code* (IRC) if the enterprise is "*organized and operated exclusively for exempt purposes*" and none of its earnings are allocated to private shareholders or individuals.[16] *Exempt purposes* include those that are *charitable*, *religious*, *educational*, and *scientific*. Most healthcare organizations that hold federal tax-exempt status qualify under this *charitable purpose* classification, which includes (1) relief of the poor, the distressed, or the underprivileged; (2) lessening the burdens of government; (3) lessening neighborhood tensions; and (4) combating community deterioration and juvenile delinquency.[17]

---

[14] *National Federation of Independent Business et al., v Sebelius*, Slip Opinion Nos. 11-393, 11-398, and 11-400 (U.S. June 28, 2012), p. 44.

[15] Ibid., p. 17.

[16] David M. Walker, "Nonprofit, For-Profit, and Government Hospitals: Uncompensated Care and Other Community Benefits," United States Government Accountability Office, May 26, 2005, http://www.gao.gov/new.items/d05743t.pdf (accessed February 8, 2010); "Exemption Requirements" I.R.C. § 501(c)(3).

[17] Thomas K. Hyatt and Bruce R. Hopkins, *The Law of Tax-Exempt Healthcare Organizations* (New York: John Wiley & Sons, 1995), p. 13; "Exempt Purposes," I.R.C. § 501(c)(3).

501(c)(3) Exemption

Healthcare providers may qualify for a federal tax exemption if they meet the Internal Revenue Service (IRS) requirements for charitable organizations under section 501(c)(3) of the Internal Revenue Code (IRC), if the enterprise is "organized and operated exclusively for exempt purposes," and none of its earnings are allocated to private shareholders or individuals. Exempt purposes include those that are charitable, religious, educational, and scientific.

"Exemption Requirements," I.R.C. § 501(c)(3).

The IRS classifies general and rehabilitative tax-exempt healthcare organization into 28 categories, assigning each a *National Taxonomy of Exempt Entities* (*NTEE*) *Code*.[18] Table 3.1 sets forth, by state, the number of each type of exempt healthcare organization, as well as the number of exempt organizations classified as "*Insurance Providers, Services*" and "*Mutual Insurance Company of Association.*"

In addition, Table 3.2 sets forth, on a national level, the cumulative number of each type of exempt healthcare organizations and those exempt organizations classified as "*Insurance Providers, Services*" and "*Mutual Insurance Company of Association.*"

3.2.2.1 "Charitable Purpose" and Community Benefit Requirements In 1969, the IRS expanded the definition of the term "*charitable*" to include the requirement that an organization must meet *community benefit* standards as described in *Revenue Ruling 69–545* in order to qualify for tax-exempt status, including (1) *operating a full-time emergency room*, offering services to all patients, despite their ability to pay; (2) using net earnings to *improve quality of care, advance medical education, and further research initiatives*; and (3) establishing a *board of trustees composed of financially disinterested community leaders.*[19]

[18] "Exempt Organization Information Available through the Statistics of Income (SOI) 'Tax Stats' Web Site," Internal Revenue Service, April 4, 2012, http://www.irs.gov/file_source/pub/irs-soi/eobk12.doc (accessed September 23, 2012).

[19] Janet E. Gitterman and Marvin Friedlander, *Health Care Provider Reference Guide*, Internal Revenue Service, 2004, http://www.irs.gov/pub/irs-tege/eotopicc04.pdf (accessed February 9, 2010), p. 2; "Exemption from Tax on Corporations, Certain Trusts, etc.," 26 USC § 501(c)(3); "Revenue Ruling 69-545," 1969-2, C.B. 117.

TABLE 3.1 Number of Tax-Exempt Healthcare Organizations per State

State	Number of Tax-Exempt Healthcare Entities	State	Number of Tax-Exempt Healthcare Entities	State	Number of Tax-Exempt Healthcare Entities	State	Number of Tax-Exempt Healthcare Entities	State	Number of Tax-Exempt Healthcare Entities
Alabama	280	Georgia	809	Maryland	643	New Jersey	801	South Carolina	319
Alaska	66	Hawaii	160	Massachusetts	853	New Mexico	172	South Dakota	135
Arizona	512	Idaho	147	Michigan	911	New York	2114	Tennessee	484
Arkansas	255	Illinois	1051	Minnesota	638	North Carolina	815	Texas	1684
California	2492	Indiana	590	Mississippi	221	North Dakota	150	Utah	164
Colorado	567	Iowa	383	Missouri	599	Ohio	1140	Vermont	155
Connecticut	401	Kansas	358	Montana	179	Oklahoma	337	Virginia	806
Delaware	78	Kentucky	373	Nebraska	244	Oregon	403	Washington	553
District of Columbia	224	Louisiana	327	Nevada	173	Pennsylvania	1567	West Virginia	209
Florida	1370	Maine	273	New Hampshire	180	Rhode Island	142	Wisconsin	638
								Wyoming	67

"Exempt Organization Information Available through the Statistics of Income (SOI) 'Tax Stats' Web Site," Internal Revenue Service, April 4, 2012; "SOI Tax Stats—Exempt Organizations Business Master File Extract (EO BMF)," Internal Revenue Service, August 13, 2012, http://www.irs.gov/uac/SOI-Tax-Stats—-Exempt-Organizations-Business-Master-File-Extract-(EO-BMF) (accessed September 23, 2012).

TABLE 3.2 Number of Tax-Exempt Entities in the United States

Exempt Entity Classification	National Taxonomy of Exempt Entities (NTEE) Code	Total Number of Entity in U.S.	Exempt Entity Classification	National Taxonomy of Exempt Entities (NTEE) Code	Total Number of Entity in U.S.	Exempt Entity Classification	National Taxonomy of Exempt Entities (NTEE) Code	Total Number of Entity in U.S.
Alliance/Advocacy Organizations	E01	233	Hospital, Specialty	E24	314	Organ and Tissue Banks	E65	132
Management & Technical Assistance	E02	226	Health Treatment Facilities, Primarily Outpatient	E30	1539	Public Health Program (Includes General Health and Wellness Promotion Services)	E70	2592
Professional Societies, Associations	E03	592	Group Health Practice (Health Maintenance Organizations)	E31	249	Health, General and Financing	E80	543
Research Institutes and/or Public Policy Analysis	E05	301	Ambulatory Health Center, Community Clinic	E32	1727	Patient Services—Entertainment, Recreation	E86	1426
Single Organization Support	E11	1653	Reproductive Health Care Facilities and Allied Services	E40	961	Nursing Services (General)	E90	245

(*continued*)

TABLE 3.2 Number of Tax-Exempt Entities in the United States (*continued*)

Exempt Entity Classification	National Taxonomy of Exempt Entities (NTEE) Code	Total Number of Entity in U.S.	Exempt Entity Classification	National Taxonomy of Exempt Entities (NTEE) Code	Total Number of Entity in U.S.	Exempt Entity Classification	National Taxonomy of Exempt Entities (NTEE) Code	Total Number of Entity in U.S.
Fund Raising and/or Fund Distribution	E12	1086	Family Planning Centers	E42	289	Nursing, Convalescent Facilities	E91	1371
Nonmonetary Support N.E.C.	E19	387	Rehabilitative Medical Services	E50	1108	Home Health Care	E92	642
Hospitals and Related Primary Medical Care Facilities	E20	949	Health Support Services	E60	1742	Health—General and Rehabilitative N.E.C.	E99	1408
Community Health Systems	E21	1109	Blood Supply–Related	E61	112	Insurance Providers, Services	Y20	301
Hospital, General	E22	3234	Ambulance, Emergency Medical Transport Services	E62	1484	Mutual Insurance Company of Association	Y23	257

"Exempt Organization Information Available through the Statistics of Income (SOI) 'Tax Stats' Web Site," Internal Revenue Service, April 4, 2012; "SOI Tax Stats—Exempt Organizations Business Master File Extract (EO BMF)" Internal Revenue Service, August 13, 2012, http://www.irs.gov/uac/SOI-Tax-Stats-Exempt-Organizations-Business-Master-File-Extract-(EO-BMF) (accessed September 23, 2012).

3.2.2.2 ACA Requirements The ACA created additional requirements for tax-exempt charitable hospitals related to (1) conducting *community health needs assessments* (CHNAs), (2) establishing *financial assistance policies* (FAPs), (3) *limiting their charges* for individuals who qualify for financial assistance, and (4) *refraining from certain collections* actions.[20]

3.2.2.2.1 Community Health Needs Assessments (CHNAs) Effective March 23, 2012, the CHNA is to be conducted every three years with the following requirements: "(i) take into account input from persons who represent the broad interests of the community served by the hospital facility, including those with special knowledge of or expertise in public health and (ii) be made widely available to the public."[21] The CHNA is an effective way to delineate how the hospital and its departments currently interact with the residents, key stakeholders, and other organizations in the community in order to maintain and streamline these relationships moving forward.[22] It may also allow hospital community outreach departments to shift into a more central role for tracking and coordinating departmental outreach programs.[23]

3.2.2.2.2 Financial Assistance Policy Tax-exempt hospital organizations must in addition adopt a written policy providing emergency medical care to individuals without discrimination or regard for their ability to pay.[24] The *financial assistance policy* must include the following:

> *(i) eligibility criteria for financial assistance, and whether such assistance includes free or discounted care; (ii) the basis for calculating*

---

[20] "Patient Protection and Affordable Care Act, Sec. 9007," *Pub. L.* 111-148, 124 Stat 119 (March 23, 2010), pp. 855–859; "Supreme Court Upholds Health Care Law; All Tax Measures Preserved," CCH, Tax Briefing, June 29, 2012, http://tax.cchgroup.com/downloads/files/pdfs/legislation/health-care-law-upholds.pdf (accessed September 10, 2012), p. 12.

[21] "Patient Protection and Affordable Care Act, Sec. 9007," *Pub. L.* 111-148, 124 Stat 119 (March 23, 2010), p. 856; "Request for Comments Regarding Additional Requirements for Tax-Exempt Hospitals," IRS Notice 2010-39, pp. 1–2.

[22] Connie J. Evashwick and Elieen L. Barsi, "Community Connections and Expanding Hospital Role Includes Community Well-Being," *FutureScan 2012: Healthcare Trends and Implications, 2012–2017 Edition* (Chicago: Health Administration Press, 2012), p. 30.

[23] Ibid.

[24] "Patient Protection and Affordable Care Act, Sec. 9007," *Pub. L.* 111-148, 124 Stat 119 (March 23, 2010), p. 856; "Additional Requirements for Charitable Hospitals: Proposed Rule," *Federal Register* 77, no. 123 (June 26, 2012): 38164.

> *amounts charged to patients; (iii) the method for applying for financial assistance; (iv) in the case of an organization which does not have a separate billing and collections policy, the actions the organization may take in the event of nonpayment, including collections action and reporting to credit agencies; and, (v) measures to widely publicize the policy within the community to be served by the organization.*[25]

3.2.2.2.3 Limiting Charges for FAP-Eligible Individuals The ACA prohibits organizations from charging uninsured *FAP-eligible* individuals any more than the lowest "*amount generally billed*" (AGB) for emergency or medically necessary care that would be charged to an individual who does have insurance.[26] In its proposed rule, "*Additional Requirements for Charitable Hospitals*," released for comments on June 26, 2012, the IRS discusses how to calculate the AGB via one of two calculation methods: the "*look back method*" and the "*prospective Medicare method.*"[27] First, the "*look back method*" calculates the AGB by multiplying the hospital's gross charges for the care to one *FAP-eligible individual* by an annually calculated "*AGB percentage.*"[28] That *AGB percentage* is determined by dividing the "*sum of all claims for emergency and other medically necessary care . . . that have been paid in full . . . during a prior 12-month period*" by the sum of all of the associated gross charges for those claims.[29]

In aggregating the claims for emergency and medically necessary care, the hospital may choose to (1) include only Medicare *fee-for-service* (FFS) as the primary payor (including beneficiaries' out-of-pocket expenses) or (2) include all private health insurers and their beneficiaries' *out-of-pocket costs* as well.[30] The less complex "*prospective Medicare method*" calculates the AGB for any *FAP-eligible individual's* emergency or medically necessary care

---

[25] "Patient Protection and Affordable Care Act, Sec. 9007," *Pub. L.* 111-148, 124 Stat 119 (March 23, 2010), p. 856; "Additional Requirements for Charitable Hospitals: Proposed Rule," *Federal Register* 77, no. 123 (June 26, 2012): 38151, 38161.

[26] "Patient Protection and Affordable Care Act, Sec. 9007," *Pub. L.* 111-148, 124 Stat 119 (March 23, 2010), p. 857; "Additional Requirements for Charitable Hospitals: Proposed Rule." *Federal Register* 77, no. 123 (June 26, 2012): 38165.

[27] "Additional Requirements for Charitable Hospitals: Proposed Rule," *Federal Register* 77, no. 123 (June 26, 2012): 38165.

[28] Ibid.

[29] Ibid.

[30] Ibid.

using existing billing and coding processes that the hospital would use if the *FAP-eligible individual* were a Medicare FFS beneficiary.[31] The proposed rule does permit a *safe harbor* for hospitals that charge *FAP-eligible individuals* more than AGB for emergency and medically necessary care if (1) the individual did not submit a complete FAP application at the time of the charge, (2) the hospital still made reasonable efforts to determine the individual's FAP status during that applicable time frame, and (3) if the individual was found to be *FAP-eligible*, the hospital corrected the billing charges.[32]

3.2.2.2.4 Extraordinary Collection Action Limitations Finally, the ACA prohibits "*extraordinary collection actions*" (ECAs) before the organization determines whether the individual qualifies for financial assistance.[33] The IRS defines ECAs as "*actions taken by a hospital facility against an individual related to obtaining payment of a bill for care covered under the hospital facility's FAP that require (1) a legal or judicial process; (2) involve selling an individuals' debt to another party; or, (3) reporting adverse information . . . to consumer credit reporting agencies or credit bureaus.*"[34] Any hospital that fails to meet these new requirements will be subject to a $50,000 excise tax under I.R.C. § 4959.[35]

Extraordinary Collection Actions

Actions taken by a hospital facility against an individual related to obtaining payment of a bill for care covered under the hospital facility's FAP that require (1) a legal or judicial process; (2) involve selling an individuals' debt to another party; or (3) reporting adverse information . . . to consumer credit reporting agencies or credit bureaus.

"Additional Requirements for Charitable Hospitals: Proposed Rule," Federal Register *77, no. 123 (June 26, 2012): 38166.*

[31] Ibid.

[32] Ibid., p. 38166.

[33] "Patient Protection and Affordable Care Act, Sec. 9007," *Pub. L.* 111-148, 124 Stat 119 (March 23, 2010), p. 857.

[34] "Additional Requirements for Charitable Hospitals: Proposed Rule," *Federal Register* 77, no. 123 (June 26, 2012): 38166.

[35] "Patient Protection and Affordable Care Act, Sec. 9007," *Pub. L.* 111-148, 124 Stat 119 (March 23, 2010), p. 857; "Taxes on Failures by Hospital Organizations," I.R.C. § 4959.

3.2.2.3 Impact of Friendly Hills Ruling on Definition of "Community Benefit" A 1993 IRS exemption ruling for the *Friendly Hills HealthCare Network* and its nonprofit branch, *Friendly Hills HealthCare Foundation*, represented a landmark determination in defining what constituted a "*community benefit*" for purposes of determining an organization's tax-exempt status. *Loma Linda University Medical Center*, a 501(c)(3) organization and the sole corporate member of the *Friendly Hills HealthCare Foundation*, was one of the first vertically *Integrated Delivery Systems* (IDS) organized under a foundation to receive 501(c)(3) tax-exemption status.[36] *Friendly Hills HealthCare Network* had acquired an acute care general hospital and several primary care clinics, as well as the assets of a medical group, through the purchase and donation by the physician owners of the medical group and financed in part through *tax-exempt bonds*.[37] To gain tax-exempt approval, the *Friendly Hills HealthCare Network* agreed to pay no more than $110 million for the hospital, the clinics, and other assets.[38]

The IRS granted the *foundation model IDS* tax-exempt status after identifying several critical elements regarding *Friendly Hills HealthCare Network*'s acquisitions and operation of the medical practice, that is, (1) the stated goal of the reorganization into the IDS was to "enhance the accessibility, quality and cost-efficiency of services rendered to the community"; (2) the *community benefit* provided by the IDS against the private benefits provided to the physicians by *Friendly Hills HealthCare Network* was considered by the IRS to be part *purchase* and part *donation*; and (3) the board of directors had established a "*20 percent safe harbor*" of physician membership on the board.[39] Finally, the IRS required the *foundation model IDS* to treat Medicaid patients, provide charity care, and engage in medical research, in addition to maintaining an open medical staff and a 24-hour emergency room.[40]

---

[36] U.S. Internal Revenue Service, "IRS Exemption Rulings (IER): Friendly Hills Healthcare Network," 7 Exempt Org. Tax Rev. 490 (March 1993), p. 490.

[37] Ibid., p. 491.

[38] Ibid.

[39] Ibid., pp. 490–491; National Health Lawyers Association, *Colloquium Report on Legal Issues Related to Tax Exemption and Community Benefit*, 1996, p. 18.

[40] "IRS Exemption Rulings (IER): Friendly Hills Healthcare Network," U.S. Internal Revenue Service, 7 Exempt Org. Tax Rev. 490 (March 1993), p. 491; National Health Lawyers Association, *Colloquium Report on Legal Issues Related to Tax Exemption and Community Benefit*, 1996, p. 18.

3.2.2.4 Exempt Organizations: Disposition of Transaction Proceeds A tax-exempt organization, such as a nonprofit hospital, is generally permitted to sell one or more of its assets to another tax-exempt organization or a for-profit entity, so long as *fair market value* consideration is received for the sale.[41] In those circumstances in which the purchaser of the tax-exempt organization's assets is an organization created by individuals related to the exempt organization, such as physicians practicing at the nonprofit hospital or members of the nonprofit hospital's board of directors, these individuals will be treated as *insiders* by the IRS, and the transaction will receive strict scrutiny by the IRS to ensure that there is no *inurement of private benefit*, as will be discussed in more detail later in this chapter.[42] It should be noted that many *tax-exempt organizations* are *nonprofit corporations* and subject to the individual *state's nonprofit corporation act*, which state regulations often have varying requirements regarding the disposition of exempt organization sale proceeds vis-à-vis the authority of the *state attorney general* to directly control the proceeds from an exempt organization's sale of assets by requiring them to be distributed to a charitable trust.[43]

3.2.2.5 Prohibition against Excess Benefit Transactions and "Inurement of Private Benefit" In addition to the requirement that a tax-exempt organization meet *charitable purpose* requirements, the IRS prohibits *excess benefit*

Excess Benefit Transaction

A transaction in which an economic benefit is provided by an applicable tax-exempt organization, directly or indirectly, to or for the use of a disqualified person, and the value of the economic benefit provided by the organization exceeds the value of the consideration received by the organization.

"Taxes on Excess Benefit Transactions," 26 U.S.C. § 4958(c)(1)(a).

[41] Bruce R. Hopkins, *The Law of Tax-Exempt Organizations*, 10th ed. (Hoboken, NJ: John Wiley & Sons, 2011), pp. 958–959.

[42] Ibid.

[43] Ibid., pp. 954–955; Michael W. Peregrine, Esq., et al., "Hot Developments in Non-Profit Corporations Law: HealthMidwest, HealthPartners and Attorney General Spitzer," American Health Lawyers Association, http://www.healthlawyers.org/News/Connections/Health%20Lawyers%20News%20Analysis/Pages/Hot_Developments_In_Non-Profit_Corporation_Law_Health_Midwest,_HealthPartners_And_Attorney_General_S.aspx (accessed October 3, 2012).

transactions and *inurement of private benefits* between tax-exempt organizations (such as a hospital) and other parties, in which "the value of the economic benefit provided exceeds the value of the consideration received for providing the benefit."[44]

According to the IRS, an "excess benefit transaction [is a] transaction in which an economic benefit is provided by an applicable tax-exempt organization, directly or indirectly, to or for the use of any disqualified person, if the value of the economic benefit provided [by the organization] exceeds the value of the consideration received for providing such benefits."[45] In addition, the IRS has strictly *prohibited the inurement of private benefits*, that is, when an exempt organization is "organized or operated for the benefit of private interests." Specifically, the IRS has stated that

> *[n]o part of the net earnings of a section 501(c)(3) organization may inure to the benefit of any private shareholder or individual[, whereby] a private shareholder or individual is a person having a personal and private interest in the activities of the organization.*[46]

It is important to note that despite the IRS prohibitions against *excess benefit transactions*, compensation arrangements involving tax-exempt organizations *may* include *financial incentives*. In *General Counsel Memorandum* (*GCM*) *35638*, published on January 28, 1974, the IRS noted that even compensation arrangements that involved *shared savings* related to quality improvements could be acceptable if they were at arm's length and were "a means of providing *reasonable* compensation to employees without

Reasonable Compensation

The amount that would ordinarily be paid for like services by the enterprises (whether taxable or tax-exempt) under like circumstances.

"Excess Benefit Transaction," 26 CFR 53.4958–4(b)(ii)(A).

[44] "Excess Benefit Transaction," 26 CFR 53.4958–4(a)(1).

[45] "Taxes on Excess Benefit Transaction," 26 U.S.C. § 4958(c)(1)(a).

[46] Internal Revenue Service, "Inurement/Private Benefit—Charitable Organizations," February 2, 2012, http://www.irs.gov/charities/charitable/article/0,,id=123297,00.html (accessed August 7, 2012); "Exemption from Tax on Corporations, Certain Trusts, etc.," 26 U.S.C. § 501(c)(3).

any potential for reducing the charitable services or benefits otherwise provided"[47] (emphasis added).

Compensation models using financial incentives may arise in certain *physician group practice* structures, such as *PODs*, whereby a group of physicians, employed by a tax-exempt organization, *combines the group's total reimbursement* dollars and distributes compensation to the *individual* physician members of the POD according to a set methodology *decided by the POD*. (See Chapter 15, "Valuation of Services," for a further discussion of POD compensation arrangements.) The IRS has provided guidance during the last several decades regarding the compensation paid to physicians by an exempt organization that is tied to achieving a certain performance level. For example, the *IRS GCM 32453*, issued in November 30, 1962, stated that a *percentage-based* compensation arrangement based on net revenues was acceptable if (among other factors) the total compensation amount had "a ceiling or reasonable maximum so as to avoid the possibility of a windfall benefit to the service provider."[48] In its 2002 *Exempt Organization CPE Text*, the IRS identified several factors that it considers when determining whether *incentive compensation arrangements* between physicians and an exempt organization are appropriate and are not in conflict with the IRS prohibitions against *excess benefit transactions* and *inurement of private benefits*, including:

1. Whether the compensation arrangement was established by an *independent board of directors* or an *independent compensation committee*.
2. Does the incentive arrangement result in a *total compensation arrangement that is reasonable*?
3. Are the exempt organization and the physician at *arm's length* (e.g., the physician does not have a significant impact on the management or control of compensation)?
4. Is a *reasonable ceiling on the amount a physician may earn* included in the arrangement?
5. Does the arrangement *reduce charitable services* or benefits of the organization?
6. Does the arrangement use *quality of care or patient satisfaction metrics*?
7. If the compensation arrangement is tied to the net revenues of a physician, does the *arrangement reflect the charitable purpose of the organization*?

---

[47] Lawrence M. Brauer and Marvin Friedlander, "Section 4958 Update," in "2000 Exempt Organization (EO) CPE Text," Internal Revenue Service, 2000, p. 29.

[48] General Counsel Memorandum 32453 (November 30, 1962).

8. Does the arrangement *create a joint venture* between the organization and a group of physicians?
9. Does the arrangement *operate as a means to distribute profits to controlling members* of the organization?
10. Does the arrangement *serve a business purpose* of the organization?
11. Would the arrangement *result in no abuse or unwarranted benefits*, or include devices to guard against such?
12. Is the compensation *incentive tied to services a physician actually performs*?[49]

The IRS echoed the previous list of criteria in a subsequent *March 29, 2002, Information Letter* related to incentive payments for cardiovascular and orthopedic services, which stated that

> *In summary, there is no prohibition or per se rule that prevents health care organizations from making incentive payments to physicians. In determining whether a health care organization utilizing an incentive compensation program for physicians complies with the proscriptions against private inurement and impermissible private benefits, the Internal Revenue Service will examine all the relevant incentive compensation factors discussed above.*[50]

3.2.2.6 IRS Enforcement: Intermediate Sanctions vs. Loss of Exempt Status Should the IRS become aware that an exempt organization has engaged in an *excess benefit transaction*, the IRS may impose as punishment an *excise tax* on the individual and/or the exempt organization. In the past, *excess benefit transactions* were considered together with other *private benefit inurements*, and violations were subject to total revocation of the organizations tax exempt status as the sole remedy.[51] In 1996, the *Taxpayer Bill of Rights 2* authorized the IRS to impose *intermediate excise taxes* (a penalty short of *exempt status* revocation) against the *disqualified person* who received the *excess*

[49] Lawrence M. Brauer and Marvin Friedlander, "Section 4958 Update," in "2000 Exempt Organization (EO) CPE Text," Internal Revenue Service, 2000, pp. 30–33.

[50] Internal Revenue Service, "Information Letter 2002-0021," Washington, DC, March 29, 2002, p. 8.

[51] Charles R. Brodbeck and Mark R. Stabile, "IRS Policing of Tax-Exempt Organizations," *Physician's News Digest*, February 1997, http://www.physiciansnews.com/finance/297.html (accessed September 24, 2012).

benefit and on the organizational manager who *knowingly* participated in the transaction.[52]

In the final regulations published on March 28, 2008, the IRS identified five factors to be considered when determining whether the organization should be subject to an *intermediate excise tax* or whether the organization's exempt status should be revoked: (1) the size and scope of the organization's *ongoing activities*; (2) the size and scope of the *excess benefit transaction* in relation to regular activities; (3) whether *excess benefit transactions* happened in the past; (4) whether the organization has implemented *safeguards* against this type of transaction; and, (5) whether the *excess benefit transaction* has been corrected, or there has been a *good faith effort* to do so.[53] These last two factors are given a greater weight when considering whether to allow EO's *tax-exempt status* to remain in those cases in which the EO has taken steps to remedy the situation.[54]

3.2.2.7 IRS Determinants of "Reasonable Compensation" Under Treasury Regulation 53.4958–4, the IRS equates reasonable compensation to the value of services provided, and further defines reasonable compensation as "the amount that would ordinarily be paid for like services by the enterprises (whether taxable or tax-exempt) under like circumstances."[55] Significantly, the valuation standard, as cited by the IRS, is that of "fair market value (i.e., the price at which property or the right to use property would change hands between a willing buyer and a willing seller, neither being under any compulsion to buy, sell or transfer property or the right to use property, and both having reasonable knowledge of relevant facts)."[56]

Items included in determining the *value* of compensation for purposes of determining *reasonableness* under the *excess benefit transaction* rule are:

> *all forms of cash and noncash compensation, including salary, fees, bonuses, severance payments and deferred and noncash*

[52] "Taxpayer Bill of Rights, Sec. 1311," *Pub. L.* 104-168, 110 Stat 1452 (July 30, 1996), pp. 1475–1479.

[53] "Standards for Recognition of Tax-Exempt Status If Private Benefit Exists or If an Applicable Tax-Exempt Organization Has Engaged in Excess Benefit Transaction(s)," *Federal Register* 73, no. 61 (March 28, 2008): 16522.

[54] Ibid.

[55] "Excess Benefit Transaction," 26 CFR 53.4958-4(b)(ii)(A).

[56] "Excess Benefit Transaction," 26 CFR 53.4958-4(b)(i).

compensation";[57] *"payment of liability insurance premiums";*[58] *and, "all other compensatory benefits, whether or not included in gross income for tax purposes, including payments to welfare benefit plans, such as plans providing medical, dental, life insurance, severance pay, and disability benefits."*[59]

Treasury Regulation 53.4958–6 further states that "payments under a compensation arrangement are *presumed to be reasonable . . . if the following conditions are satisfied:*

1. *The compensation arrangement . . . [is] approved in advance by an authorized body of the applicable tax-exempt organization composed entirely of individuals who do not have a conflict of interest with respect to the compensation arrangement;*
2. *The authorized body obtained and relied upon appropriate data as to comparability prior to making its determination; and*
3. *The authorized body adequately documented the basis for its determination concurrently with making that determination.*[60] *[Emphasis added.]*

If these three criteria are satisfied, the IRS may rebut only a presumption of reasonableness by developing "sufficient contrary evidence to rebut the probative value of the comparability of data relied on by the authorized body."[61]

3.2.2.8 IRS Updates to Form 990 In 2007, the IRS issued an updated version of *Form 990*, the return that charities and other tax-exempt organizations are required to file annually. The redesign of *Form 990* was based on three guiding principles: (1) enhancing transparency, (2) promoting tax compliance, and (3) minimizing the burden on the filing organization.[62] The most significant changes to *Form 990* include (1) adding a summary page that

[57] "Excess Benefit Transaction," 26 CFR 53.4958-4(b)(ii)(B)(1).

[58] "Excess Benefit Transaction," 26 CFR 53.4958-4(b)(ii)(B)(2).

[59] "Excess Benefit Transaction," 26 CFR 53.4958-4(b)(ii)(B)(3).

[60] "Rebuttable presumption that a transaction is not an excess benefit transaction," 26 CFR. 53.4958-6.

[61] Ibid.

[62] Internal Revenue Service, "Background Paper: Redesigned Draft Form 990," 2007, http://www.irs.gov/pub/irs-tege/form_990_cover_sheet.pdf (accessed February 9, 2010)

provides "a snapshot of the organization's key financial, compensation, governance, and operational information"; (2) "requiring governance information, including the composition of the board" and financial practices; and (3) revising and adding "schedules that will focus reporting on certain areas of interest to the public and the IRS."[63]

In 2012, the IRS made additional changes to *Form 990* in order to enhance its readability.[64] Organizations that are part of a joint venture must now *proportionately report the joint venture's activities* as their own, *based on their percentage of ownership interest* held in the joint venture using a *Form 1065-K-1*.[65] In addition, exempt organizations must demonstrate that they had certain policies in place, such as those related to the governing body, as of the last day of the tax period, rather than the filing deadline, which prevents attempts to achieve *retroactive compliance*.[66] In other areas, the new *Form 990* loosens the "*business relationship*" reporting requirements.[67] Prior to the new 990 changes, organizations were required to report *business relationships* between and among their *officers, directors, trustees, and key employees* (ODTKEs). Under the new *Form 990*, certain *business relationships* are exempt from the reporting requirements where the ODTKE is only a *key employee* of the *other organization*.[68] Other definitional changes incorporate state law considerations, for example, an exempt organization's qualification as a "*hospital*" or "*hospital facility,*" based solely on state law requirements for licensure.[69]

3.2.2.9 IRS Scrutiny of Executive Compensation Beginning in February 2010, the *Tax Exempt and Government Entities Division* of the IRS initiated

---

[63] Laura L. Folkerts, "Do Nonprofit Hospitals Provide Community Benefit? A Critique of the Standards for Proving Deservedness of Federal Tax Exemptions," *Journal of Corporation Law* 34, no. 2 (2009): 627, citing Internal Revenue Service, "Highlights of Redesigned Form 990," http://www.irs.gov/pub/irs-tege/highlightsform990redesign_061307.pdf (accessed August 30, 2012).

[64] Michael N. Fine and Mary K. Samsa, "The 2011 Form 990: More Than Simple Tinkering at the Margins," American Health Lawyers Association, February 10, 2012, http://www.healthlawyers.org/News/Health%20Lawyers%20Weekly/Pages/2012/February%202012/February%2010%202012/The2011Form990MoreThanSimpleTinkeringAtTheMargins.aspx (accessed February 28, 2012).

[65] Ibid.

[66] Ibid.

[67] Ibid.

[68] Ibid.

[69] Ibid.

random audits of tax-exempt organizations to ensure their compliance with IRS § 409A, which requires the inclusion of employee *nonqualified deferred compensation* (i.e., compensation earned in one year that is paid in a future year) in an individual's *gross income* for the tax year in which it is actually paid.[70] Approximately 1,500 exempt organizations across all industries are anticipated to be examined during a three-year time period from 2010 to 2013.[71] During the audit process, the IRS will be seeking a thorough examination of all *executive compensation and benefit arrangements*, including *executive retirement contracts* and *deferred compensation arrangements*.[72] If an exempt organization is found not to be in compliance with 409A, the IRS has the ability to impose (1) *additional payroll taxes* and interest, (2) significant *tax penalties* on individuals for failure of nonqualified deferred compensation plans to meet the requirements of 409A, and (3) *substantial monetary sanctions* if the IRS determines that the *executive compensation arrangement* constitutes an *excess benefit transaction*.[73]

3.2.2.10 ACA Establishment of the Tax Exempt Consumer Operated and Oriented Plan (CO-OP) Program The ACA created the *Consumer Operated and Oriented Plan (CO-OP) Program*, another type of tax-exempt organization under I.R.C. § 501(c)(29)[74], with the goal of incentivizing tax-exempt health insurers to offer health plans in individual and small group markets.[75] The ACA provides funding for these new plans, provided that they qualify under the

[70] "Inclusion in Gross Income of Deferred Compensation under Nonqualified Deferred Compensation Plans," 26 U.S.C. § 409A (2010); "Application of Section 409A to Nonqualified Deferred Compensation Plans: Final Regulations," *Federal Register* 72, no. 73 (April 17, 2007).

[71] "Employment Tax Audits of Exempt Hospitals Could Turn up Other Issues Attorneys Warn," *BNA Health Law Reporter* 18, no. 1653 (December 28, 2009).

[72] Candace L. Quinn and Jeffrey D. Mamorsky, "Enforcement Efforts Take Aim at Executive Compensation of Tax-Exempt Health Care Entities," *BNA Health Law Reporter* 18, no. 1640 (December 17, 2009); "Inclusion in Gross Income of Deferred Compensation under Nonqualified Deferred Compensation Plans," 26 U.S.C. §409A (2004).

[73] Ibid.

[74] "Patient Protection and Affordable Care Act, Sec. 1322," *Pub. L.* 111-148, 124 Stat 119 (March 23, 2010), pp. 187–192.

[75] Ibid.

I.R.C. § 501(c)(29) exemption and agree to the ACA's *Consumer Operated and Oriented Plan (CO-OP) Program* requirements that

1. The organization has given *notice* to the secretary that it is applying for § 501(c)(29) status;
2. *Net profits will be inured only to benefit members* of the health plan (e.g., lower premiums, improve benefits, etc.), not to private individuals;
3. It *does not propagandize or otherwise attempt to influence legislation*; and
4. It *refrains from any participation* in, on behalf of, or in opposition to any *campaign or candidate for political office*.[76]

Failure of the exempt organization to meet the above criteria under the ACA will result in a penalty mandating repayment of 110 percent of its loan or grant, plus interest.[77]

3.2.3 Bona Fide Employees vs. Form 1099 Independent Contractors

The IRS definition of "*employees*" versus "*1099 independent contractors*," as set forth in 26 U.S.C. § 312(d)(2), is significant for purposes of many *fraud and abuse* regulations governing healthcare providers.[78] For example, the term "*employee*" has the same meaning for purposes of the *Anti-Kickback Statute* and the *Stark Law* as it does for the IRS. By way of guidance, the IRS has developed an *11 factor test*, broken out into three general categories, that is, (1) *behavioral control*, (2) *financial control*, and (3) *type of*

Factoid

The IRS has developed an 11 factor test, broken out into three general categories, that is, (1) behavioral control, (2) financial control, and (3) type of relationship between the parties, for determining bona fide employment relationships.

"Employer's Supplemental Tax Guide (Supplement to Publication 15 (Circular E), Employer's Tax Guide," Publication 15-A, Department of the Treasury, Internal Revenue Service, 2012, p. 7.

[76] "CO–OP Health Insurance Issuers," 26 U.S.C. 501(c)(29).

[77] "Patient Protection and Affordable Care Act, Sec. 1322," *Pub. L.* 111-148, 124 Stat 119 (March 23, 2010), p. 188.

[78] "Effect on Earnings and Profits," I.R.C. § 312(d)(2).

TABLE 3.3 IRS Determinates of "*Employee*" Status

Behavioral Control
1. Instructions that the business gives to the worker.
2. Training that the business gives to the worker.
Financial Control
1. The extent to which the worker has unreimbursed business expenses.
2. The extent of the worker's investment.
3. The extent to which the worker makes his or her services available to the relevant market.
4. How the business pays the worker.
5. The extent to which the worker can realize a profit or a loss.
Type of Relationship
1. Written contracts describing the relationship the parties intended to create.
2. Whether the business provides the worker with employee-type benefits, such as insurance, a pension plan, vacation pay, or sick pay.
3. The permanency of the relationship.
4. The extent to which services performed by the worker are a key aspect of the regular business of the company.

"Employer's Supplemental Tax Guide (Supplement to Publication 15 [Circular E]), Employer's Tax Guide," Publication 15-A, Department of the Treasury, Internal Revenue Service, 2012, p. 7.

relationship between the parties, for determining *bona fide employment relationships*.[79] It is not necessary that all 11 factors be met, and no single factor is dispositive in determining employment status. Rather, the 11 factors, taken together in the aggregate, are evidence of a *bona fide employee* relationship.[80] See Table 3.3 for a description of the 11 factors.

Full-Time Employees

Employees who work, on average, at least 30 hours of service per week.

"Patient Protection and Affordable Care Act, Sec. 1513," Pub. L. *111–148, 124 Stat 119 (March 23, 2010), p. 255.*

[79] "Employer's Supplemental Tax Guide (Supplement to Publication 15 [Circular E]), Employer's Tax Guide," Publication 15-A, Department of the Treasury, Internal Revenue Service, 2012, p. 7.

[80] Ibid.

A further discussion of the interplay between the IRS's definition of an "*employee*" vis-à-vis the *Anti-Kickback Statute* and *Stark Law* regulations will be discussed later in this chapter.

3.2.4 Provider Taxes

Generally, *provider taxes* are funneled back to providers by way of increased Medicaid reimbursement rates, while states can retain the *federally matched funds*.[81] The state may not tax providers more than 25 percent of its share of Medicaid expenditures and may not guarantee any return of that tax to providers.[82] The 2011 U.S. legislative sessions resulted in 15 states enacting or expanding *provider tax laws*, generating more than $1.8 billion for states.[83] This increase may be driven, in part, by the *American Reinvestment and Recovery Act*'s (ARRA) significant increase—an average of 8.7 percent—*in federal matching funds* (FMAP) between October 1, 2008, and December 31, 2010.[84] As of 2012, 47 states and Washington, DC, have some type of Medicaid-related *provider tax*. The three states without a Medicaid-related *provider tax* are Alaska, Delaware, and Hawaii.[85] Furthermore, according to *The Fiscal Survey of States* report issued by the *National Governor's Association* and the *National Association of State Budget Officers* in the spring of 2012, 16 states had either increased or planned to increase Medicaid-related provider taxes during fiscal year 2012. Ten additional states had similar plans to increase Medicaid-related provider taxes included within their proposed state budgets for fiscal year 2013.[86] See Table 3.4 for a list of those states with recent (or planned) increase to Medicaid-related provider taxes.

---

[81] National Conference of State Legislatures, "Health Care Provider and Industry Taxes/Fees," July 2012, http://www.ncsl.org/issues-research/health/health-provider-and-industry-state-taxes-and-fees.aspx (accessed September 8, 2012).

[82] "Prohibition on Use of Voluntary Contributions, and Limitation on use of Provider-specific Taxes to Obtain Federal Financial Participation under Medicaid," 42 U.S.C. 1396b(w)(2010).

[83] National Conference of State Legislatures, "Health Care Provider and Industry Taxes/Fees," July 2012, http://www.ncsl.org/issues-research/health/health-provider-and-industry-state-taxes-and-fees.aspx (accessed September 8, 2012).

[84] Ibid.; "American Recovery and Reinvestment Act of 2009, Sec. 5001," *Pub. L.* No. 111-5, 123 Stat 496 (February 17, 2009).

[85] National Conference of State Legislatures, "Health Care Provider and Industry Taxes/Fees," July 2012, http://www.ncsl.org/issues-research/health/health-provider-and-industry-state-taxes-and-fees.aspx (accessed September 8, 2012).

[86] National Governors Association and the National Association of State Budget Offices, *The Fiscal Survey of States*, Spring 2012, pp. 54, 62.

TABLE 3.4 State Changes to Medicaid-Related Provider Taxes for Fiscal Years 2012 and 2013

		Fiscal Years	
	State	2012	2013
1	Alabama		X
2	California	X	X
3	Connecticut	X	
4	Georgia	X	X
5	Hawaii		X
6	Idaho	X	X
7	Illinois	X	
8	Maine	X	
9	Maryland	X	
10	Nebraska	X	X
11	New York	X	
12	North Carolina	X	
13	Oklahoma	X	
14	Oregon	X	
15	Pennsylvania	X	
16	Tennessee	X	X
17	Utah	X	X
18	Vermont	X	X
19	Virginia	X	

3.2.5 Ad Valorem Tax and Personal Property Tax

In addition to *provider taxes*, healthcare providers may also be subject to personal property taxes and *ad valorem* taxes. An *ad valorem tax* is a tax that is generally determined to be a fixed or calculated proportion of the value of the property "as assessed or appraised on a regular basis."[87] Frequently assessed by state and local authorities, *ad valorem taxes* generally pertain to *real property and sales* but are also applicable to *imported goods*. For example, in February 2002, a Michigan appellate court ruled that *ProMed Healthcare*, a nonprofit hospital, was not exempt from paying *ad valorem* taxes on the personal property owned by the hospital.[88] In that

[87] "State and Local Taxation," 71 Am. Jur. 2d, § 18 (2010).

[88] *Promed Healthcare v. City of Kalamazoo*, Docket No. 224440, 2002 WL 169235 (Mich. Ct. App., February 1, 2002).

Ad Valorem Tax

A tax that is generally determined to be a fixed or calculated proportion of the value of the property as assessed or appraised on a regular basis.

"State and Local Taxation," 71 Am. Jur. *2d, § 18 (2010).*

case, *ProMed Healthcare* argued for exemption under either the IRS "*charitable purpose*" or "*public health*" exemptions; however, the court rejected those arguments, stating that while it *owned the personal property subject to the tax*, it *did not own the real property where the personal property was located*.[89] The court indicated that IRC § 501(25)(F) referred only to personal property that was located on real property, both of which must be owned and operated by the tax-exempt organization.[90]

As related to imported goods, the ACA includes a provision that "any manufacturer or importer with gross receipts from branded prescription drug sales" must pay an annual fee for any drugs that were submitted for U.S. Food and Drug Administration (FDA) approval (excluding orphan drugs) and any biological products submitted for licensing under the Public Health Service Act.[91] Despite the ACA's treatment of this provision as an excise tax for refund purposes, this fee is not officially a tax. The IRS does not require a tax return filing for this fee but, rather, mails each "covered entity" a final fee calculation by August 31 of each year to be paid by September 30 of that year.[92] Sales that did not exceed $5 million in a calendar year are not taken into account for the fee calculation.[93]

[89] Ibid.

[90] Ibid.; "Exemption from Tax on Corporations, Certain Trusts, etc.," 26 U.S.C. § 501(25)(F).

[91] "The Public Health Service Act," 42 U.S.C. § 201-301bb (2008); "Patient Protection and Affordable Care Act, Sec. 9008," *Pub. L.* 111-148, 124 Stat 119 (March 23, 2010), pp. 859–862.

[92] "Patient Protection and Affordable Care Act, Sec. 9008," *Pub. L.* 111-148, 124 Stat 119 (March 23, 2010), pp. 859–862; "Branded Prescription Drug Fee," *Federal Register* 76, no. 160 (August 18, 2011): 51310–51311, 51245–51255; "Branded Prescription Drug Fee; Guidance for the 2012 Fee Year," IRS Notice 2011-92 (November 4, 2011).

[93] "Patient Protection and Affordable Care Act, Sec. 9008," *Pub. L.* 111-148, 124 Stat 119 (March 23, 2010), pp. 859–862.

3.2.6 Excise, Sales, and Use Tax

Effective January 1, 2018, a 40 percent *excise tax* will be levied against employees with *high-cost health coverage*, that is, an employer-sponsored health insurance plan that provides the employee with an *excess benefit* above the determined thresholds.[94] These thresholds include (1) for employees with self-only coverage, the product of $10,200 and the health cost adjustment percentage for such employees; and (2) for employees with any other type of coverage, the product of $27,500 and the health cost adjustment percentage for such employees.[95] In addition, the ACA includes an *excise tax* on *medical devices*, effective January 1, 2013, in which the device *manufacturer, producer, or importer* must pay a tax equivalent to 2.3 percent of the *sale price of the medical device*.[96] The IRS clarified the ACA's definition of "*taxable medical device*" and made further differentiations between *dual-use devices*, which have both medical and nonmedical uses, and *research-only devices* in a February 2012 proposed rule, and has exempted from this provision items that are "generally purchased by the general public at retail for individual use," for example, eyeglasses, contact lenses, and hearing aids.[97] In the "*Taxable Medical Devices*" proposed rule, which has yet to be finalized, the IRS proposed a safe harbor exemption that allows certain taxable medical devices to qualify for the *retail exemption*, including many *over-the-counter* (OTC) tests; *durable medical equipment, prosthetics, orthotics, and supplies* (DMEPOS); and *parenteral and enteral nutrition supplies*.[98] Of note, while the U.S. House of Representatives passed the *Health Care Cost Reduction Act* on February 7, 2012, which would repeal the 2.3 percent tax, the U.S. Senate has yet to call a vote on the bill since it was placed on the calendar on June 12, 2012.[99]

---

[94] "Patient Protection and Affordable Care Act, Sec. 9001, 10901," *Pub. L.* 111-148, 124 Stat 119 (March 23, 2010), pp. 847–853, 1015–1016, as amended by "Health Care and Education Reconciliation Act, Sec. 1401," *Pub. L.* 111-152 (March 30, 2010), pp. 1059–1060.

[95] Ibid., pp. 1059–1060.

[96] Ibid., pp. 1064–1065.

[97] "Taxable Medical Devices, Proposed Rule," *Federal Register* 77, no. 25 (February 7, 2012): 6028–6038; "Patient Protection and Affordable Care Act, Sec. 9009, 10904," *Pub. L.* 111-148, 124 Stat 119 (March 23, 2010), pp. 862–865, 1016–1017, as amended by "Health Care and Education Reconciliation Act, Sec. 1405," *Pub. L.* 111-152 (March 30, 2010), pp. 1064–1065.

[98] "Taxable Medical Devices, Proposed Rule," *Federal Register* 77, no. 25 (February 7, 2012): 6028–6038.

[99] "Health Care Cost Reduction Act," H.R. 436 (PCS), June 7, 2012.

3.2.7 Election of Tax Status: C-Corporations vs. S-Corporations

In addition to the many taxes healthcare providers may be subject to, there are various tax-related provisions regarding a healthcare enterprise's election of tax status, for example, a *C-corporation* is a taxable entity, whereas an *S-corporation* is a flow-through entity that allows taxation at the taxpayer level. A *C-corporation*'s earnings given to shareholders are subject to double taxation (as corporate earnings and as personal dividends), while an *S-corporation*'s income goes directly to the shareholders and is only taxed once.

The taxable income of an *S-corporation* is *calculated like an individual's tax*, except that a shareholder's *pro rata* portion of items of income, loss (gross income minus the deductions allowed to the corporation), deduction, or credit (the separate treatment of which could affect the liability for tax of any shareholder) must be listed separately.[100] The *pro rata* share is determined by the number of shares the individual held on each day of the tax year. Shareholders cannot claim losses that exceed their amount at risk, generally the maximum amount the shareholder could lose.[101]

A conversion from a *C-corporation* to an *S-corporation* does not invoke any immediate tax liabilities; however, a business valuation is necessary during this conversion to determine future tax liability.[102] In addition, while a *C-corporation*'s assets are subject to *double taxation* on the sale, *an S-corporation* is not subject to such taxation if sold more than 10 years after conversion to an *S-corporation*. However, the *double taxation* is limited to the extent of the asset's *built-in gain* (the amount by which the *fair*

C-Corporation

A taxable entity where earnings given to shareholders are subject to double taxation as corporate earnings and as personal dividends.

Dictionary of Health Economics and Finance, *by David Edward Marcinko (New York: Springer, 2007), p. 54.*

[100] "Effect of Election on Corporation," 26 U.S.C. 1363(b).

[101] "2012 U.S. Master Tax Guide," (Chicago: CCH, 2011), pp. 165–166.

[102] Janet Arrowood, "Is It Time for a Change of Business Entity Form?" *Small Business Review*, http://smallbusinessreview.com/for_the_boss/Change_of_Business_Entity_Form/ (accessed July 22, 2008).

S-Corporation

A flow-through taxable entity where earnings are taxed only once they are paid out to shareholders.

Dictionary of Health Economics and Finance, *by David Edward Marcinko (New York: Springer, 2007), p. 322.*

market value exceeds its adjusted tax basis as of the conversion date). The amount of the sale price in excess of the built-in gain amount is subject to taxation at only one level. Therefore, it is important to get a *business valuation* when converting to an *S-corporation* and to allocate a value to each of the company's assets.

In addition, an *S-corporation* may be *liable for*:

Tax imposed on built-in gains or capital gains;
Tax on excess net passive income;
Tax from the recapture of a prior year's investment credit; and
A "Last in, first out" (LIFO) recapture tax.[103]

Taxes on *built-in* or *capital gains* occur when an *S-corporation* sells assets that gained value while the company was a *C-corporation*. However, this is applicable only to companies that became *S-corporation*s after 1986. Also, this tax does not apply if "the net recognized built-in gain for the tax year does not exceed the net unrealized built-in gain minus the net recognized built-in gain for prior years in the recognition period, to the extent that such gains were subject to tax."[104] The recognition period is defined as the five-year period after the company converts to an *S-corporation* or acquires *C-corporation* assets in a *carryover basis transaction*.[105] Taxes on *excess net passive income* occur only when the *S-corporation* has *C-corporation* subsidiaries.[106]

"*Last in, first out*" (LIFO) recapture taxes apply only if the corporation used an *LIFO inventory method* for its last year before converting to an *S-corporation*. This tax is required when converting to an S-corporation or for a transfer of inventory from a *C-corporation* to an S-*corporation* in a

[103] Ibid., p. 174.
[104] Ibid.
[105] Ibid.
[106] Ibid., p. 175.

tax-free reorganization.[107] A company is responsible for the *LIFO recapture* amount when it converts into an *S-corporation*, equal to the amount by which the inventory under a "*first in, first out*" (FIFO) method would exceed the inventory under LIFO.[108]

Between 2002 and 2011, the IRS has been increasing its scrutiny of "*risky*" businesses, such as partnerships and *S-corporations*, in particular, those related to *mid-market companies* (assets between $10 million and $50 million).[109] IRS audits of *mid-market companies* increased from 11.7 percent to 13.3 percent in the three-year period of 2008 to 2011.[110] In the same period, the number of new *S-corporations* and partnership filings significantly increased, as did the total number of audits of partnerships and *S-corporations*.[111]

3.3 FRAUD AND ABUSE REGULATIONS

As indicated earlier in this chapter, healthcare is arguably the most heavily regulated industry in the United States and also represents one of the largest areas of government expenditures. Those relevant legal constraints and regulatory considerations related to *fraud*, which uniquely affect healthcare enterprises, assets, and services, have often had a significant impact on not only the *value* that may be attributable to each property interest, but also on the *valuation process* itself. Financial markets often consider the term "*fraud*" within a context of misrepresentation of financial information. However, "*fraud*" has several distinct meanings within the context of the healthcare regulatory framework that may affect the *profitability and sustainability* (and ultimate *value*) of the given property interest *going forward*.

The increasing government scrutiny of the business activities of healthcare providers during the last several decades has led to tightened restrictions and increased regulatory enforcement. Many types of business arrangements,

---

[107] Ibid.

[108] Ibid.

[109] "IRS Audit Targets Partnership and S Corps," Business Valuation Resources, BVWire #64-4, January 30, 2008 (accessed July 21, 2008); Dean Zerbe, "IRS Targeting Smaller Businesses—Here's How to Fight Back," *Forbes*, April 9, 2012, http://www.forbes.com/sites/deanzerbe/2012/04/09/irs-targeting-smaller-businesses-heres-how-to-fight-back/print/ (accessed September 19, 2012).

[110] Ibid.

[111] Ibid.

which would be regarded as typical motivations inherent in commercial relationships between parties in other industries, are perceived as exhibiting the potential for a *significant risk* of fraud in the healthcare industry. For example, referral relationships that would be lawful and expected in other industries and would exhibit the potential for significant value may violate both federal and state *Anti-Kickback* and/or *self-referral laws* when they are found to exist between healthcare providers. Changes in the scope and nature of Medicare *fraud and abuse* enforcement, as it relates to physician *self-referral laws*, has resulted in the transactional market for healthcare enterprises that provide "*designated health services*" (DHS) becoming an area of significant investment uncertainty, thereby resulting in a *greater perception of risk* to be considered in the healthcare valuation engagement.

3.3.1 Anti-Kickback Statute

Enacted in 1972, the federal *Anti-Kickback Statute* makes it a felony for any person (physician, allied health professional, or paraprofessional with a Medicare provider number) to "*knowingly and willfully*" solicit or receive, or to offer or pay, any "*remuneration*," *directly or indirectly,* in exchange for the referral of a patient for a healthcare service paid for by a federal healthcare program.[112] Violations of the *Anti-Kickback Statute* are punishable by up to five years in prison, criminal fines up to $25,000, or both.[113]

The original statute was amended in 1987 with the passage of the *Medicare and Medicaid Patient & Program Protection Act of 1987* (*MMPPPA*) to include exclusion from the Medicare and Medicaid program as an alternative civil remedy to criminal penalties.[114] Also, under the *MMPPA*, the language describing *intent* changed from a party who "knows or has reason to know" that a particular billing or referral action might be considered

[112] Centers for Medicare and Medicaid Services, "Chapter 15: Covered Medical and Other Health Services," *Medicare Benefit Policy Manual*, Department of Health and Human Services, August 7, 2009, Section 30, pp. 150–250, http://www.cms.hhs.gov/manuals/Downloads/bp102c15.pdf (accessed September 21, 2009); "Criminal Penalties for Acts Involving Federal Health Care Programs," 42 U.S.C.A. § 1320a–7b(b).

[113] "Criminal Penalties for Acts Involving Federal Health Care Programs," 42 U.S.C.A. § 1320a-7b(b).

[114] Department of Health and Human Services, "Medicare and State Health Care Programs: Fraud and Abuse," OIG Anti-Kickback, July 29, 1991, 42 CFR Part 1001; "Medicare and Medicaid Patient & Program Protection Act of 1987," *Pub. L.* 100-93, 101 Stat 680 (August 18, 1987), pp. 680–699.

Factoid

More than half of all practicing physicians in the United States are currently employed by hospitals, and 74 percent of hospitals are planning to increase current physician employment from 2010 to 2013.

"Hospitals' Race to Employ Physicians—The Logic Behind a Money-Losing Proposition," by Robert Kocher and Nikhil R. Sahni, New England Journal of Medicine *364, no. 19 (May 12, 2011): 1790–1791.*

Anti-Kickback Statute

Enacted in 1972, the federal Anti-Kickback Statute makes it a felony for any person to "*knowingly and willfully*" solicit or receive or to offer or pay any "remuneration" directly or indirectly in exchange for the referral of a patient for a healthcare service paid for by a federal healthcare program. Penalties were amended by Medicare and Medicaid Patient and Program Protection Act of 1987 and the Balanced Budget Act of 1997. Congress enacted *safe harbors*, which detail specific regulatory criteria that must be met to shield an arrangement from liability and are meant to protect practices unlikely to result in fraud or abuse.

"Criminal Penalties for Acts Involving Federal Health Care Programs," 42 U.S.C.A. § 1320a-7b(b).

Kickback

Remuneration received in return for referring an individual to a person for the furnishing of any item or service for which payment may be made under a federal health care program or remuneration received in return for purchasing, leasing, ordering, or arranging for or recommending purchasing, leasing, or ordering any good, facility, service, or item for which payment may be made under a federal health care program.

"Criminal Penalties for Acts involving Federal Health Care Programs," 42 U.S.C. 1320a-7b(b).

MEDICARE AND MEDICAID PATIENT AND PROGRAM PROTECTION ACT OF 1987 (MMPPPA)

Amended the 1987 Anti-Kickback Statute by including an alternative civil remedy to violation: exclusion from the Medicare Program.

"Medicare and State Health Care Programs: Fraud and Abuse," OIG Anti-Kickback, Department of Health and Human Services, July 29, 1991, 42 CFR Part 1001; "Medicare and Medicaid Patient and Program Protection Act of 1987," Pub. L. *100–93 (August 18, 1987).*

fraud, to any party who "knows or should know."[115] The *Balanced Budget Act of 1997* added a *civil monetary penalty* of *treble damages*, or three times the illegal *remuneration*, plus $50,000 per violation. *Civil monetary penalties* are believed to be a more *effective* way of enforcing the statute, as the government need not prove the *Anti-Kickback* violation by the criminal standard of *beyond a reasonable doubt*.[116]

Treble Damages

Damages equal to three times the amount of the illegal remuneration in violation of the Anti-Kickback Statute.

Black's Law Dictionary, *edited by Bryan A. Garner, 9th ed. (St. Paul, MN: Thomson Reuters, 2009), p. 449.*

Civil Monetary Penalty

Financial penalties levied against parties found guilty of violating the Anti-Kickback Statute or submitting false claims for government reimbursement.

"The Balanced Budget Act of 1997," Pub. L. *105-33 (August 5, 1997).*

[115] Madeleine P. Cosman, "The Criminalization of American Medicine: 1965–1993," The Kaiser Papers, September 11, 2000, http://businesspractices.kaiserpapers.org/criminalizationofamericanmedicine.html (accessed August 17, 2012).

[116] "The Balanced Budget Act of 1997," *Pub. L.* 105-33, Section 4304 (August 5, 1997).

The 1995 *Inspector General v. Hanlester Network* case was the first instance in which the OIG asserted its authority to *impose civil sanctions* in the *Anti-Kickback* arena, which required that the government prove that the defendant "*knowingly and willfully committed acts which are alleged to violate the anti-kickback statute.*"[117] CMS initially found that physicians in the laboratory limited partnership violated the *Anti-Kickback* prohibitions by selecting physician investors, *in part*, based on the volume of laboratory tests they were expected to order from the defendant *Hanlester* and barred the physicians from future participation in the Medicare program.[118] Subsequently, the CMS *Final Decision on Review of Administrative Law Judge Decision on Remand* concluded that the *Anti-Kickback Statute* was violated by offering and *paying profit distributions to the limited partner physicians*, as well as by *soliciting or receiving remuneration in return for referrals* of laboratory tests, stating that

> *[A]n intent to induce referrals could be inferred from the structure of the joint ventures, including the fact that Respondents were paying substantial cash distributions and relatively high rates of return (FFCLs 238 and 241), warning about possible failure absent physician investor referrals (FFCLs 233 and 243), and presenting opportunities to earn income otherwise barred by law on laboratory tests (FFCL 239).*[119]

On April 6, 1995, *Hanlester* was affirmed, in part, in the U.S. Court of Appeals, Ninth Circuit, holding that the *healthcare network itself* was *vicariously liable* for violations of the *Anti-Kickback Statute*, but that the liability did not extend to the individual partner physicians.[120] Although the *Network* was found liable for violations of the *Anti-Kickback Statute*, the court ruled that there was no proof of harm to the *Medicare or Medicaid programs*, and the civil penalty imposed mandating the physicians' *exclusion* from the *programs* was unnecessary.[121]

---

[117] *Hanlester Network v. Shalala,* 51 F.3d 1390, 1396 (9th Cir. 1995).

[118] Ibid.

[119] *The Inspector General v. Hanlester Network, et al.*, Final Decision on Review of Administrative Law Judge Decision on Remand, Department of Health and Human Services, Appellate Division, July 24, 1992. Note that the abbreviation "FFCL" means "Federal Findings and Conclusions of Law."

[120] *Hanlester Network v. Shalala*, 51 F.3d 1390 (9th Cir. 1995).

[121] *Hanlester Network v. Shalala*, 51 F.3d 1390, 1402 (9th Cir. 1995).

BALANCED BUDGET ACT OF 1997

Enacted in 1997, the act added a civil monetary penalty of treble damages, or three times the illegal remuneration, plus $50,000 per violation of the Anti-Kickback Statute.

"The Balanced Budget Act of 1997," Pub. L. *105-33, Section 4304 (August 5, 1997).*

3.3.1.1 "One Purpose Test" The *Anti-Kickback one purpose test*, established in the 1985 *United States v. Greber* case, is one of the most far-reaching interpretations of the *Anti-Kickback Statute*. Under the one purpose test, the *Anti-Kickback Statute* is violated if even *one purpose* of the arrangement is to offer illegal remuneration.[122] Subsequently, under the *one purpose test* adopted by the OIG, *providers can reasonably expect referrals* to result from the business arrangement, but the expectation must not be a reason for entering into the arrangement.[123] Critics of the *one purpose test* claimed that it treated a legitimate relationship with a referral component in the same manner as an arrangement primarily intended to violate the statute.[124]

In a more narrow interpretation of the *Anti-Kickback Statute*, the 2002 *United States ex rel. Obert-Hong v. Advocate Health Care* case established that hospitals are not precluded from purchasing physician practices under the *Anti-Kickback Statute*, provided that payment for the practice and its assets was not in excess of *Fair Market Value*.[125] In *Advocate*, a former employee-physician of the defendant, *Advocate Health Care*, claimed that the entity engaged in multiple illegal activities, including the manner in which it acquired physician practices.[126] In dismissing the case, the court

[122] *U.S. v. Greber*, 760 F.2d 68 (3d Cir. 1985), p. 2; Eugene E. Elder, "The Hypocrisy of the One Purpose Test in Anti-Kickback Enforcement Law," *BNA Health Law Reporter* 4, no. 15 (July 26, 2000): 546.

[123] "Fraud and Kickbacks and Other Prohibited Activities," 42 CFR. § 1001.951(a)(2)(i); *U.S. v. Greber*, 760 F.2d 68 (3d Cir. 1985).

[124] "Brief of Amicus Curiae," American Hospital Association, *LaHue v. United States*, June 6, 2000, www.hospitalconnect.com/aha/advocacy-grassroots/advocacy/legal/anderson200066.html (accessed February 27, 2005), p. 6.

[125] *U.S. ex rel. Obert-Hong v. Advocate Health Care*, 211 F. Supp. 2d 1045 (N.D. Ill. 2002).

[126] Ibid.

stated that the *Anti-Kickback Statute* does not prohibit hospitals from purchasing physician practices, so long as the practice is bought at *Fair Market Value*. Furthermore, the former physician-owners of the given practice(s) are not prohibited from referring future patients to the purchaser, so long as there is no economic inducement for the referrals.[127] A further discussion regarding the legal permissibility of a hospital's purchase of a physician practice's *intangible assets* occurs later in this chapter.

3.3.1.2 "OIG Fraud Alerts" In furthering its efforts to reduce Medicare and Medicaid *fraud and abuse*, the OIG periodically releases *Special Fraud Alerts* when it identifies areas in the healthcare industry that are particularly vulnerable to abuse. These alerts provide insight into how the OIG believes the *Anti-Kickback Statute* should be applied to particular business arrangements (e.g., joint venture arrangements and rental agreements for space in physician offices), and which arrangements are likely to be found legally impermissible under the *Anti-Kickback Statute*.[128] Examples of past OIG alerts are set forth in Table 3.5. In addition, the OIG regularly posts on its website detailed information regarding its most "*wanted fugitives*." As of September 2012, there are more than 170 fugitives on the OIG's "*most wanted list*" for alleged healthcare fraud and abuse violations.[129]

3.3.1.2.1 Legal Permissibility regarding Payment for Healthcare Intangible Assets The increased OIG review and overall heightened amount of regulatory scrutiny of the U.S. healthcare industry has coincided with the most recent surge in exempt hospital/physician practice transactions. While the issue over the legal permissibility regarding the payment of consideration for *intangible assets* in exempt hospital/physician practice transactions is not new, the *concern* as to when payments of consideration for physician practice *intangible assets* would be considered legally permissible under the *Anti-Kickback Statute* and the IRC has not gained such a

[127] Ibid.

[128] "Special Fraud Alerts," *Federal Register* 65 (December 19, 1994); Office of Inspector General, "Rental of Space in Physician Offices by Persons or Entities to Which Physicians Refer," Department of Health and Human Services, February 2000, http://oig.hhs.gov/fraud/docs/alertsandbulletins/office%20space.htm (accessed February 28, 2005).

[129] U.S. Office of Inspector General, "OIG Most Wanted Fugitives," http://oig.hhs.gov/fraud/fugitives/index.asp (accessed September 14, 2012).

TABLE 3.5 Recent OIG Fraud Alerts[130]

Date	Title
January 13, 2010	Telemarketing by Durable Medical Equipment Suppliers (Updated)
March 4, 2003	Telemarketing by Durable Medical Equipment Suppliers
February 24, 2000	Rental of Space in Physician Offices by Persons or Entities to Which Physicians Refer
January 12, 1999	Physician Liability for Certifications in the Provision of Medical Equipment and Supplies and Home Health Services
March 1998	Fraud and Abuse in Nursing Home Arrangement with Hospices
June 17, 1996	Provision of Services in Nursing Facilities
August 10, 1995	Home Health Fraud Medical Services to Nursing Homes
December 19, 1994	Joint Venture Relationships Routine Waiver of Part B Co-Payments/ Deductibles Hospital Incentives to Referring Physicians Prescription Drug Marketing Practices Arrangements for the Provision of Clinical Lab Service

[130] Centers for Medicare and Medicaid Services, "Updated Special Fraud Alert: Telemarketing by Durable Medical Equipment Suppliers," January 2010; "Publication of OIG Special Fraud Alert on Telemarketing by Durable Medical Equipment Suppliers," *Federal Register* 68, no. 42 (March 4, 2003): 10254; "Publication of OIG Special Fraud Alert on Rental of Space in Physician Offices by Persons or Entities to Which Physicians Refer," *Federal Register* 65, no. 37 (February 24, 2000): 9275; "Publication of OIG Special Fraud Alert on Physician Liability for Certifications in the Provision of Medical Equipment and Supplies and Home Health Services," *Federal Register* 64, no. 7 (January 29, 1999): 1813; U.S. Office of Inspector General, "Fraud and Abuse in Nursing Home Arrangement with Hospices," March 1998; "Publication of OIG Special Fraud Alert: Fraud and Abuse in the Provision of Services in Nursing Facilities," *Federal Register* 61, no. 117 (June 17, 1996): 30623; "Publication of OIG Special Fraud Alerts: Home Health Fraud, and Fraud and Abuse in the Provision of Medical Supplies to Nursing Facilities," *Federal Register* 60, no. 154 (August 10, 1995): 40847; "Publication of OIG Special Fraud Alerts," *Federal Register* (December 19, 1994).

significant level of attention since the 1990s.[131] This regulatory scrutiny was particularly prevalent during the period immediately following the much-publicized December 22, 1992, letter from D. McCarty Thornton, Esq., to T. J. Sullivan, Esq., the history and evolution of which are instructive.[132] That letter stated that "accordingly, when attempting to assess the fair market value attributable to a physician's practice, it may be necessary to exclude from consideration any amounts which reflect, facilitate or otherwise relate to the continuing treatment of the former practice's patients."[133] Thornton further stated that "specific items that we believe would raise a question as to whether payment was being made for the value of a referral stream would include, among other things: payment for goodwill."[134]

At the time of its issuance, it was widely asserted that Thornton's statements should be interpreted to mean that hospitals could legally pay *only* for the *tangible* assets of a physician practice. However, the letter was not, in and of itself, a regulatory ruling regarding the legal permissibility of including payment of consideration for *intangibles* in the transaction price. Rather, it was an *advisory admonition* that payments for these items "*may*" or "*would likely*" be held to a higher level of scrutiny.[135] In fact, subsequent to the December 1992 letter, in a November 2, 1993, letter responding to John E. Steiner, Esq., Thornton further explained his position regarding the payment for *intangibles*.[136] He "*clarified*" that

> *I would like to emphasize that the position I articulated in the December 22, 1992 letter to T. J. Sullivan remains the same.* I did

---

[131] "Criminal Penalties for Acts Involving Federal Healthcare Programs," 42 U.S.C. §1320a-7b (2010); "Taxes on Excess Benefit Transactions," 26 U.S.C. § 4958(2011).

[132] On December 22, 1992, D. McCarty Thornton, Esq., was the associate general counsel, within the Office of Inspector General, Department of Health and Human Services (HHS).On December 22, 1992, T. J. Sullivan, Esq., was the technical assistant (Health Care Information) in the Office of the Associate Chief Counsel of the IRS.

[133] "Application of the Medicare and Medicaid Anti-Kickback Statute" Letter from D. McCarty Thornton, to T. J. Sullivan in the Office of the Associate Chief Counsel of the IRS (December 22, 1992), p. 3.

[134] Ibid.

[135] Carrie Valiant, "Fraud and Abuse Considerations in Establishing Integrated Delivery Systems," AHLA Seminar Materials (1993).

[136] On November 2, 1993, John E. Steiner, Esq., was then assistant general counsel of the American Hospital Association. On November 2, 1993, D. McCarty Thornton, Esq., was then associate general counsel, within the Office of Inspector General Department of Health and Human Services (HHS). "HHS' Thornton Writes AHAs' Steiner: Response to Steiner's July 20, 1993, Letter regarding Thornton's December 22, 1992, Letter to T. J. Sullivan," by D. McCarty Thornton to J. E. Steiner, November 2, 1993, http://oig.hhs.gov/fraud/docs/safeharborregulations/acquisition110293.htm (accessed May 10, 2012).

> not state that payments for intangible assets are illegal per se. *Nor have I indicated approval of any particular acquisition practices or valuation methodologies. Since payments for items other than the hard assets of a physician practice* could *be a payment to induce referrals or* could *be in return for future referrals, any such payments are subject to scrutiny to determine whether they violate the Anti-kickback statute. The fact that the parties may identify the purpose of the payment as something other than a payment for referrals is not determinative.*[137] *[Emphasis added.]*

Thereafter, in the seminar materials for Thornton's 1994 presentation before the American Health Lawyers Association (AHLA), he continued to "*clarify*" that

> *Often times, what the hospital is really interested in is the future flow of business from the practice to the hospital. When the CEO of the hospital sits down to think about doing such an acquisition, and calculating the price that he or she is willing to pay, what they are really thinking about is what the flow of business is going to look like from the group practice to the hospital over the next 15, 20, 25 years, however long they figure the doctors are going to be around to refer business. What is it worth to the hospital to lock in the stream of business? It is illegal under the Anti-kickback statute to pay doctors now for the flow of business that you expect from them in the next 15 to 20 years. Everyone knows this, at least everyone experienced in the health care bar, so you never see payments allocated to the value of the future referral stream. What we have seen is that the value of the future referral stream sometimes is disguised as things like goodwill of the patients to the group practice, the value of patient records, the value of an ongoing business, etc. These are all intangibles.* I am **not** saying that it is unlawful to pay for intangibles, *but we see the valuation of these intangibles puffed up through creative accounting games to disguise payment for what is often one of the primary intentions of the hospital, that is, to lock*

[137] On December 22, 1992, T. J. Sullivan, Esq., was then technical assistant (Health Care Information) in the Office of the Associate Chief Counsel of the IRS. "HHS' Thornton Writes AHAs' Steiner: Response to Steiner's July 20, 1993, Letter regarding Thornton's December 22, 1992, Letter to T. J. Sullivan," by D. McCarty Thornton to J. E. Steiner, November 2, 1993, http://oig.hhs.gov/fraud/docs/safeharborregulations/acquisition110293.htm (accessed May 10, 2012).

> *in the referral stream from the practice to the hospital.*[138] *[Emphasis added.]*

It is important to note that the matter of the recipient of the economic benefit derived from the *intangible asset* in question is the often overlooked and misunderstood gravamen of the entire issue as to the legal permissibility regarding the payment of consideration for *goodwill* and *intangible assets*. (See Chapter 14 in Volume 2, "The Valuation of Tangible and Intangible Assets," for a discussion of the distinction between "*intangible assets*" and "*goodwill.*") With careful consideration of the fact that the *intangible asset* being valued does not constitute a disguised payment to physicians for future referrals to the hospital and instead reflects only the current *Fair Market Value* of those *intangible assets* typically found to exist in physician practice enterprises, it would comport with the statements made in Thornton's continued "*clarification*" in his 1994 AHLA presentation, which stated that exempt hospital organizations can, in fact, pay for the *intangible assets* of a physician practice, to wit:

> *In December 1992 I wrote a letter to the IRS that has gotten a fair amount of publicity in the trade press*. There has been somewhat of an **overreaction** to this letter, because I am not saying you can never pay for goodwill, that you can never pay for the value of an ongoing business unit, etc. *Our concern is where the payment for intangibles is used as a disguise for the intention of the parties to recompensate the practice for the future flow of patients from the practice to the hospital. That would be illegal.*[139] *[Emphasis added.]*

The evolving nature of Thornton's comments demonstrates the misinterpretation ascribed to it by some in the valuation community immediately following the initial issuance of the December 1992 letter. The valuation of *intangible assets* (in particular, the intangible asset known as *trained and assembled workforce in place)*, within the current regulatory environment is discussed in depth in Chapter 14, "The Valuation of Tangible and Intangible Assets."

3.3.1.2.2 Anti-Kickback Statute Safe Harbors Due to the broadness of the *Anti-Kickback Statute*, legitimate business arrangements may also appear

---

[138] D. McCarty Thornton, "Impact of the Anti-Kickback Statute and the Stark Amendment on Vertically Integrated Delivery Systems in the Health Care Industry," American Health Lawyers Association Seminar Materials, 1994.

[139] Ibid.

to be prohibited. For example, a literal interpretation of the statute would prohibit a physician from receiving *dividend payments* from a publicly traded pharmaceutical company if the physician prescribed products produced by that company.[140] In response to these concerns, Congress created a number of statutory exceptions and gave HHS authority to protect certain business arrangements by means of the creation of several *safe harbors*.[141] These *safe harbors* detail specific regulatory criteria that must be met to shield an arrangement from regulatory liability and are meant to protect transactional arrangements unlikely to result in *fraud or abuse*.[142] It should be noted that the failure to comply with every requirement of the *safe harbor* does not mean that the arrangement is *illegal per se*, if it is determined that the arrangement presents a *low risk of fraud and abuse*.[143] These *safe harbors* were intended to "permit physicians to freely engage in business practices and arrangements that encourage competition, innovation and economy."[144]

Safe Harbor

Specific regulatory criteria that must be met to shield an arrangement from liability and are meant to protect practices unlikely to result in fraud or abuse.

"Exceptions," 42 CFR. § 1001.952(a)–y) (2009)

[140] "Medicare and Medicaid Programs; Fraud and Abuse OIG Anti-Kickback Provisions; Proposed Rule," 54 *Federal Register* 3088 (July 29, 1991).

[141] "Exceptions," 42 CFR. § 1001.952(a)–(y) (2009).

[142] Ibid.; Lawrence A. Mason and Leeanne R. Coons, Krieg DeVault, "New CMS Stark Regulations Tighten Referral Rules Oct. 2008 Compliance Deadline for 'Stand in the Shoes,'" *ABA Health eSource* 5, no. 1 (September 2008).

[143] "Medicare and State Health Care Programs: Fraud and Abuse; Clarification of the Initial OIG Safe Harbor Provisions and Establishment of Additional Safe Harbor Provisions Under the Anti-Kickback Statute; Final Rule," *Federal Register* 64, no. 223 (November 19, 1999): 63518; Department of Health and Human Services, "OIG Advisory Opinion No. 07-10," Washington, DC, September 20, 2007, pp. 1, 2; Department of Health and Human Services, "OIG Advisory Opinion No. 08-14," Washington DC, October 2, 2008, p. 5; Department of Health and Human Services, "OIG Advisory Opinion No. 09-05," Washington, DC, May 21, 2009, p. 9; Department of Health and Human Services, "OIG Advisory Opinion No. 09-07," Washington, DC, June 30, 2009, p. 6.

[144] Department of Health and Human Services, "Medicare and Medicaid Programs; Fraud and Abuse OIG Anti-Kickback Provisions," *Federal Register* 54 (January 23, 1989).

There are a total of 25 *regulatory safe harbors* under the *Anti-Kickback Statute*. Each *safe harbor* describes a business arrangement that is *not* considered to be legally impermissible remuneration for referrals under the *Anti-Kickback Statute*. The following is a brief description of each safe harbor:[145]

1. **Returns on Investment Interests.** Payments that are in the form of a return on an investment;
2. **Space Rental.** Payments for the use of premises made by a lessee to a lessor;
3. **Equipment Rental.** Payments for the use of equipment made by equipment lessees to equipment lessors;
4. **Personal Services and Management Contracts.** A principal's payments to an agent for the agent's services;
5. **Sale of a Practice.** A payment made by one practitioner for the purchase of the practice of another practitioner;
6. **Referral Services.** Payments for the exchange of anything of value between a "participant" and a referral service;
7. **Warranties.** Payments or the exchange of anything of value under a manufacturer's or a supplier's warranty;
8. **Discounts.** A discount given on an item or a service for which a payment may be made in full or in part by Medicare, Medicaid, or other federal healthcare programs;
9. **Employees.** A payment made by an employer to an employee who has a bona fide employment relationship with the employer, to deliver any item or service for which a payment may be made in full or in part by Medicare, Medicaid, or other federal healthcare programs;
10. **Group Purchasing Organizations (GPO).** Payments made by a vendor of goods or services to a GPO, pursuant to an agreement to furnish the goods or services;
11. **Waiver of Beneficiary Coinsurance and Deductible Amount.** A reduction or waiver of a Medicare or state healthcare program beneficiary's coinsurance or deductible;
12. **Increased Coverage, Reduced Cost-Sharing Amounts, or Reduced Premium Amounts Offered by Health Plans.** The additional coverage of items or services offered by health plans to enrollees, reductions in the enrollee's obligation to pay the health plan or healthcare provider, or reductions in premiums for items and services covered by the health plan, Medicare, or a state healthcare program;

[145] 42 CFR. 1001.952(a)–(x).

13. **Price Reductions Offered to Health Plans.** Price reductions found in a contract between a provider and a health plan, for the provision of items or services to enrollees covered by the health plan, Medicare, or a state healthcare program;
14. **Practitioner Recruitment.** Payments or the exchange of anything of value given by an entity to influence the relocation of a practitioner who has been practicing in his or her current specialty for less than one year, or to influence any other practitioner, to relocate his or her practice into an HPSA for his or her specialty that is served by the entity;
15. **Obstetrical Malpractice Insurance Subsidies.** Payments made by hospitals or entities that are providing malpractice insurance, when the payments are used to subsidize or pay all of the costs of malpractice insurance premiums for practitioners who routinely engage in obstetrical practice as a part of their medical practice in a primary care HPSA;
16. **Investments in Group Practices.** Payments, in the form of a return on an investment, made to a practitioner investing in his or her own practice or a group practice;
17. **Cooperative Hospital Services Organizations (CHSO).** Payments between a CHSO and its patron hospital, tax-exempt entities described in *section 501(e) of the Internal Revenue Code of 1986*, where the CHSO is owned by two or more patron hospitals;
18. **Referral Arrangements for Specialty Services.** Exchanges of value between individuals and entities, where one party has agreed to refer a patient for specialty care payable in full or in part by Medicare, Medicaid, or any other federal healthcare program, in return for an agreement to refer the patient back at an agreed-on time or circumstance;
19. **Price Reductions Offered to Eligible Managed Care Organizations.** Payments in the form of price reductions offered between eligible managed care organizations and any first tier contractor for providing for or arranging for items or services, or between a first tier contractor and a downstream contractor or between two downstream contractors for the provision or arrangement of items or services;
20. **Price Reductions Offered by Contractors with Substantial Financial Risk to Managed Care Organizations.** Payments in the form of price reductions offered between a qualified managed care plan and a first tier contractor for the provision of, or arrangement for, items and services, or between a first tier contractor and a downstream contractor or between two downstream contractors for the provision of or arrangement for items or services;
21. **Ambulance Replenishing.** Gifts or transfers of drugs or medical supplies from a hospital or another receiving facility to an ambulance provider, in order to restock the drugs and medical supplies used in connection with the transport of the patient. To qualify for this exception, the

ambulance must be used to provide emergency ambulance services an average of three times per week;

22. **Health Centers.** The transfer of any goods, items, services donations, loans, or a combination thereof from an individual or an entity to a health center;
23. **Electronic Prescribing Items and Services.** Nonmonetary remuneration that is necessary for, and used solely to, send and receive electronic prescription information;
24. **Electronic Health Record Items and Services.** Nonmonetary remuneration that is necessary for, and used predominantly to, create, maintain, transmit, or receive electronic health records; and,
25. **Ambulatory Surgery Centers (ASC).** Payment that is a return on an investment, as long as the entity is certified in accordance with part 416 of this title, its operating and recovery room space is exclusively dedicated to the ASC, all patients referred to the entity by an investor are fully informed of the investor's ownership interest, and all the following applicable standards are met within one of the following categories:
    a. **Surgeon-Owned ASCs.** To fall within the safe harbor for surgeon-owned ASCs:
        i. The investment terms offered to an investor may not be tied to the previous or expected number of referrals, services furnished, or the amount of business for the entity otherwise generated by the investor;
        ii. At least one-third of the surgeon investor's practice income for the prior fiscal year or the prior 12-month period must come from the surgeon's performance of procedures;
        iii. Neither the entity nor any investor can loan funds or guarantee a loan for an investor, if the investor uses any portion of the loan to acquire the investment interest;
        iv. An investor's payment in return for his or her investment must be directly proportional to the amount of capital he or she invested; and
        v. Ancillary services performed for beneficiaries of federal healthcare programs must be related to the primary procedures performed at the entity and may not be billed separately to Medicare or other federal healthcare programs.

Ambulatory Surgery Center

A Medicare-certified healthcare facility that exclusively provides surgical services to patients not requiring an overnight stay.

42 Federal Register, *Part 416, p. 14.*

b. Single-Specialty ASCs. To fall within the safe harbor for *single-specialty ASCs*:

i. The investment terms offered to an investor may not be tied to the previous or expected number of referrals, the services furnished, or the amount of business for the entity otherwise generated by the investor;

ii. At least one-third of the surgeon investor's practice income for the prior fiscal year or the prior 12-month period must come from the surgeon's performance of procedures;

iii. Neither the entity nor any investor can loan funds or guarantee a loan for an investor, if the investor uses any portion of the loan to acquire the investment interest;

iv. An investor's payment in return for his or her investment must be directly proportional to the amount of capital he or she invested;

v. Ancillary services performed for beneficiaries of federal healthcare programs must be related to the primary procedures performed at the entity and may not be billed separately to Medicare or other federal healthcare programs; and

vi. Patients receiving medical benefits or assistance under any federal healthcare program must not be discriminated against by the entity or any physician investor.

c. Multi-Specialty ASCs. To fall within the safe harbor for *multi-specialty ASCs*:

i. The investment terms offered to an investor may not be tied to the previous or expected number of referrals, services furnished, or the amount of business for the entity otherwise generated by the investor;

ii. At least one-third of the surgeon investor's practice income for the prior fiscal year or the prior 12-month period must come from the physician's performance of procedures;

iii. Physician investors must perform at least one-third of their procedures for the prior fiscal year or the prior 12-month period at the investment entity;

iv. Neither the entity nor any investor can loan funds or guarantee a loan for an investor, if the investor uses any portion of the loan to acquire the investment interest;

v. An investor's payment in return for his or her investment must be directly proportional to the amount of capital he or she invested;

vi. Ancillary services performed for beneficiaries of federal healthcare programs must be related to the primary procedures performed at the entity and may not be billed separately to Medicare or other federal healthcare programs; and

vii. Patients receiving medical benefits or assistance under any federal healthcare program must not be discriminated against by the entity or any physician investor.

d. Hospital/Physician ASCs. To fall within the safe harbor for *hospital/physician ASCs:*

i. The investment terms offered to an investor may not be tied to the previous or expected number of referrals, the services furnished, or the amount of business for the entity otherwise generated by the investor;

ii. Neither the entity nor any investor can loan funds or guarantee a loan for an investor, if the investor uses any portion of the loan to acquire the investment interest;

iii. An investor's payment in return for his or her investment must be directly proportional to the amount of capital he or she invested;

iv. Patients receiving medical benefits or assistance under any federal healthcare program must not be discriminated against by the entity, an investor in the entity, or any physician investor;

v. Ancillary services performed for beneficiaries of federal healthcare programs must be related to the primary procedures performed at the entity and may not be billed separately to Medicare or other federal healthcare programs;

vi. The hospital's report or any other claim for payment from a federal healthcare program may not include any costs associated with the ASC unless the federal healthcare program requires their inclusion; and

vii. The hospital cannot directly or indirectly make or influence referrals to any investor or entity.

The most important safe *harbors* for the purposes of *physician/hospital integration* protect certain *physician investment interests*, which Congress intended to safeguard because "[it] did not intend to absolutely bar any investment by physicians in other health care entities" and certain business investments "represent the extension of a physician's office space and not a means to profit from referrals."[146] Further, CMS believed that the risk of improper

[146] Department of Health and Human Services, "Medicare and Medicaid Programs; Fraud and Abuse OIG Anti-Kickback Provisions," *Federal Register* 54, no. 13 (January 23, 1989): 3090; "Medicare and State Health Care Programs: Fraud and Abuse; Clarification of the Initial OIG Safe Harbor Provisions and Establishment of Additional Safe Harbor Provisions under the Anti-Kickback Statute; Final Rule," *Federal Register* 64, no. 223 (November 19, 1999): 63535–63536.

referrals was relatively low when the *physician personally performed services at his or her own facility*, such as an ASC, and on his or her own patients.[147] In addition, the *investment safe harbors* were enacted with the intent of protecting arrangements that "[could] significantly reduce costs for Federal health care programs, while simultaneously benefiting patients."[148] In particular, HHS wanted to avoid "chill[ing] group practice integration that [was] crucial in an increasingly managed care environment."[149]

While the *exemptions* allow federally funded healthcare programs to reduce their potential liability under the *Anti-Kickback Statute*, many healthcare transactional arrangements business interactions may still be suspect under the *Stark Law*.

3.3.2 Stark Law

The federal prohibition against physician self-referral, or the *Stark Law*, named after the legislation's chief supporter, Congressman Fortney "Pete" Stark (D-CA), prohibits physicians from *referring Medicare or Medicaid patients* to an entity for *Designated Health Services (DHS)*, if the physician, or an immediate family member, has a *financial relationship* with that entity.[150] HHS defines "*physician*" under *Stark Law*, as a "doctor of medicine or osteopathy, a doctor of dental surgery or dental medicine, a doctor of podiatric medicine, a doctor of optometry, or a chiropractor, as defined in section 1861(r) of the [Social Security] Act."[151] Since its promulgation in 1989, the *Stark Law* has gone through multiple revisions, which have both increased the scope of its provisions and added *exceptions* to the types of transactions that the prohibitions apply to.

While the self-referral prohibition addresses the financial incentives related to the physician who makes the referral under Stark, the

---

[147] "Medicare and State Health Care Programs: Fraud and Abuse; Clarification of the Initial OIG Safe Harbor Provisions and Establishment of Additional Safe Harbor Provisions under the Anti-Kickback Statute; Final Rule," *Federal Register* 64, no. 223 (November 19, 1999): 63535–63536.

[148] Ibid., p. 63536.

[149] "Medicare and Medicaid Programs; Physicians' Referrals to Health Care Entities with Which They Have Financial Relationships; Final Rule," *Federal Register* 66, no. 3 (January 4, 2001): 895.

[150] Linda A. Baumann, ed., *Health Care Fraud and Abuse: Practical Perspectives* (Washington, DC: American Bar Association, 2002), p. 52; "Limitation on Certain Physician Referrals," 42 U.S.C. 1395nn(a), (2012); 42 CFR. 411.353 (2008).

[151] "Definitions," 42 CFR § 411.351 (October 9, 2008), p. 423.

STARK LAW

The Federal Physician Self-Referral, or "Stark Law," prohibits physicians from referring Medicare or Medicaid patients to an entity for designated health services ("DHS," defined by HHS) if the physician or an immediate family member has a financial relationship with that entity. It began in 1989 and has been revised many times. Stark I, 1989, The Ethics in Patient Referrals Act, says physicians can't refer to family members; Stark II—Phase 1 (2002) and Phase 2 (2004), says physicians can't refer if they have an ownership interest; Phase 3 (2007) states that any financial arrangement is a direct compensation arrangement; "Stark IV"(2009) says physicians with any ownership are considered part of the whole physician organization. There are many specified exceptions to Stark Law.

"Limitation on Certain Physician Referrals," 42 U.S.C. 1395nn(a)(1)(A); Federal Register *60 (August 14, 1995): 41914;* Federal Register *69 (March 26, 2004): 16054; "Phase III Regulations Result in Dramatic Changes to Stark Law," by J. Kelly Barnes, et al.,* BNA Health Law Reporter *16, no. 40 (October 11, 2007): 1220;* Federal Register *72 (September 5, 2007): 51028.*

Financial Relationship

An ownership or an investment interest in the DHS entity, or a compensation arrangement between the DHS entity and the referring physician or a member of his or her immediate family. The law further describes "ownership/investment interest" to include debt, equity, or other means. The term also includes an interest in an entity that holds an ownership or investment interest in any entity providing DHS services.

"Limitation on Certain Physician Referrals," 42 U.S.C. 1395nn(a)(2).

Anti-Kickback Statute is concerned with the financial relationship between providers.[152] Another important difference between Stark and Anti-Kickback is that the self-referral prohibitions apply only to Medicare and

[152] "Criminal Penalties for Acts Involving Federal Health Care Programs," 42 U.S.C.A. § 1320a-7b(b); 42 U.S.C. 1395nn, Social Security Act, Sec. 1877, "Limitations on Certain Physician Referrals," http://www.cms.hhs.gov/PhysicianSelfReferral/Downloads/section_1877.pdf (accessed October 21, 2009).

Factoid

Note that the various Stark Law exceptions related to physician ownership and compensation arrangements apply in three categories, that is, there are 9 "general exceptions" that apply to both physician ownership/investment and compensation arrangements, regardless of the type of financial arrangement; 5 "ownership/investment exceptions," which apply only to physician ownership and investment arrangements; and 23 "compensation-related exceptions," which apply only to physician compensation arrangements with a DHS entity.

A Guide to Complying with Stark Physician Self-Referral Rules, *by Douglas M. Mancino, et al. (Washington, DC: Atlantic Information Services, 2008), pp. 400.101, 400.204, 400.301.*

Medicaid, while the Anti-Kickback legislation applies to all federally funded state healthcare programs.[153]

The *Ethics in Patient Referrals Act* (*Stark I*) was promulgated in 1989 and was implemented in various stages during the early 1990s.[154] *Stark I* prohibited physicians from making *referrals to clinical laboratories* if the physician, or an immediate family member of the physician, had an *ownership or investment* interest in the lab.[155] The lab was also prohibited from billing for those "*referral*" services.[156] In 1993, *Stark I* was amended to expand the prohibition against *self-referrals* to 10 additional categories of *designated health services* (*DHS*).[157] *Stark II* was implemented in two phases, the first of which became effective on January 4, 2002.[158] In 2004, the second phase of *Stark* was published, which implemented *Stark II* as an

[153] "Criminal Penalties for Acts Involving Federal Health Care Programs," 42 U.S.C.A. § 1320a–7b(b); "Limitations on Certain Physician Referrals," 42 U.S.C. 1395nn(a) (2012).

[154] "Medicare Program; Physician Financial Relationships with, and Referrals to, Health Care Entities That Furnish Clinical Laboratory Services and Financial Relationship Reporting Requirements," *Federal Register* 60, no. 156 (August 14, 1995): 41915.

[155] Ibid.

[156] Ibid.

[157] "Medicare Program; Physician Financial Relationships With, and Referrals to, Health Care Entities That Furnish Clinical Laboratory Services and Financial Relationship Reporting Requirements," *Federal Register* 60, no. 156 (August 14, 1995): 41915.

[158] "Medicare Program; Physicians Referrals to Health Care Entities with Which They have Financial Relationships (Phase II)," *Federal Register* 69, no. 59 (March 26, 2004): 16055.

TABLE 3.6 List of Designated Health Services

Clinical laboratory services.
Physical therapy, occupational therapy, and speech-language pathology services.
Radiology and certain other imaging services, including magnetic resonance imaging, computerized axial tomography scans, and ultrasound services.
Radiation therapy services and supplies.
Parenteral and enteral nutrients, equipment, and supplies.
Prosthetics, orthotics, and prosthetic devices and supplies.
Home health services.
Outpatient prescription drugs.
Inpatient and outpatient hospital services.

"Limitation on Certain Physician Referrals," 42 U.S.C. § 1395nn(h)(6). Note the distinction in 42 C.F.R. § 411.351 regarding what services are included as DHS: "Except as otherwise noted in this subpart, the term 'designated health services' or DHS means only DHS payable, in whole or in part, by Medicare. DHS do not include services that are reimbursed by Medicare as part of a composite rate (for example, ambulatory surgery center services [identified at § 416.164(a)] SNF Part A payments), except to the extent that services listed in paragraphs (1)(i) through (1)(x) of this definition are themselves payable through a composite rate (for example, all services provided as home health services or inpatient and outpatient hospital services are DHS)." "Definitions," 42 C.F.R. § 411.351 (October 1, 2009).

Designated Health Service

Categories of healthcare entities subject to the Stark Law:

1. Clinical lab services.
2. Physical therapy, occupational therapy, and speech-language pathology services.
3. Radiology and other imaging services (including nuclear medicine as of January 1, 2007).
4. Radiation therapy services and supplies.
5. Durable medical equipment and supplies.
6. Prosthetics, orthotics, and prosthetic devices and supplies.
7. Home health services.
8. Outpatient prescription drugs.
9. Inpatient hospital services.
10. Outpatient hospital services.
11. Parental and enteral nutrients, associated equipment and supplies.

"Limitation on Certain Physician Referrals," 42 U.S.C. § 1395nn(h)(6).

interim final rule to replace the *Stark I* final rule.[159] Those services that CMS has included in the definition of DHS are set forth in Table 3.6.

3.3.2.1 Stark Law Exceptions The very broad prohibition against physician *self-referrals* is limited by a number of *statutory exceptions*, which Congress passed to *promote practice integration* and to protect arrangements where there is little risk of abuse.[160] There are currently 35 total exceptions to the *Stark Law*, which also give the secretary of HHS the authority to promulgate additional exceptions.[161] A significant difference between the *Anti-Kickback Statute* and the *Stark Law* is that under *Stark*, *any financial relationship* between a healthcare entity and a physician providing a DHS service *must fall within one of the statutory or regulatory exceptions to be found legally permissible.*[162]

The 35 exceptions to the *Stark Law* are divided between exceptions that apply to (1) *both ownership/investment interests and compensation arrangements*, (2) exceptions that apply *only to ownership/investment interests*, and (3) exceptions that apply *only to compensation arrangements.*[163]

Self-Referral

The practice of referring a patient for a designated health service (DHS) to an entity in which the referring physician (or a member of his immediate family) has an ownership or investment interest.

"Medicare and Medicaid Programs; Physicians' Referrals to Health Care Entities with Which They Have Financial Relationships," Federal Register *63, no. 6 (January 9, 1998): 1700–1703.*

3.3.2.1.1 Ownership/Investment Interests and Compensation Arrangement Exceptions Exceptions that apply to both *ownership/investment interests* and *compensation arrangements* include exceptions for:

1. Physician services;
2. In-office ancillary services;

[159] Ibid., p. 16056.

[160] "Medicare and State Health Care Programs: Physicians' Referrals to Health Care Entities with Which They Have Financial Relationships; Final Rule," *Federal Register* 66, no. 3 (January 4, 2001): 895.

[161] 42 CFR. 411.355-411.357; "Limitations on Certain Physician Referrals," 42 U.S.C. 1395nn(a)–(e), (2012).

[162] Linda A. Baumann, ed., *Health Care Fraud and Abuse: Practical Perspectives* (Washington, DC: American Bar Association, 2002), p. 106.

[163] 42 CFR. 411.355; 43 CFR. 411.355–411.357.

3. Prepaid plans;
4. Academic medical centers;
5. Implants furnished by an ASC;
6. EPO and other dialysis-related drugs;
7. Preventative screening tests, immunizations, and vaccines;
8. Eyeglasses and contact lenses following cataract surgery; and
9. Intra-family rural referrals.[164]

3.3.2.1.2 Ownership/Investment Interests Exceptions Exceptions that apply *only to ownership or investment interests* include exceptions for:

1. Publicly traded securities;
2. Regulated investment companies; and
3. Specific providers, including rural providers, hospitals located in Puerto Rico, and (previously) whole hospital ownership.[165]

The final subpart to this last exception, commonly known as the *whole hospital exception*, allowed physicians to refer patients to hospitals in which they have an ownership interest so long as the physicians are authorized to perform services at the hospital and the *ownership or investment interest is in the entire hospital.*[166]

ACA Restrictions on Stark "*Whole Hospital*" *Exception*" Included in the ACA was a set of requirements that significantly narrowed the applicability of the *whole hospital exception* and *rural hospital exception* for most hospitals.[167] CMS released two Final Rules to implement the ACA provisions. The first, published on November 24, 2010, set forth the requirements regarding obtaining "*grandfather status*" and restrictions for the use of the *whole hospital exception*. The second rule, published November 30, 2011, established the *exemption application process* for physician-owned hospitals in existence prior to December 31, 2010, that were considering facility expansion; however, expansions may only be granted for a facility's *main campus*, and reviews are subject to community

[164] 42 CFR. 411.355.

[165] 42 CFR. 411.356.

[166] "Limitation on Certain Physician Referrals," 42 U.S.C. § 1395nn(d)(3) (2007).

[167] Frances R. Fernald, *A Guide to Complying with Stark Physician Self-Referral Rules* (Washington, DC: Atlantic Information Services, 2010), pp. 400:207, 400:210, 400:217–400:218.

MEDICARE PRESCRIPTION DRUG, MODERNIZATION, AND IMPROVEMENT ACT OF 2003 (MMA)

Implemented an 18-month moratorium on the development of new specialty hospitals, which represented a compromise between the idea that the "whole hospital" exception should be removed for all hospitals, and the position of removing it only for specialty hospitals. The moratorium officially ended on June 8, 2005.

"Medicare Prescription Drug, Modernization, and Improvement Act of 2003," §507(a)(1)(B); "Valuation of Healthcare Ancillary Service Providers," by Robert James Cimasi, President, Health Capital Consultants, National Association of Certified Valuation Analysts: Consultants' Training Institute 2007, September 13, 2007, p. 10.

input.[168] Prior to the ACA's restriction on physician ownership and investment in hospitals, the *Medicare Prescription Drug, Modernization, and Improvement Act of 2003* (MMA) placed a temporary 18-month moratorium on the development of new physician-owned specialty/surgical hospitals, which officially ended on June 8, 2005.[169]

By eliminating the *whole hospital* and *rural provider exceptions*, the ACA indirectly prohibits the establishment of physician-owned hospitals that were not Medicare-certified by December 31, 2010.[170] Hospitals with a *Medicare Provider Agreement* prior to December 31, 2010, can be granted

[168] "Medicare and Medicaid Programs: Hospital Outpatient Prospective Payment; Ambulatory Surgical Center Payment; Hospital Value-Based Purchasing Program; Physician Self-Referral; and Patient Notification Requirements in Provider Agreements; Final Rule," *Federal Register* 76, no. 230 (November 30, 2011): 74518, 74523.

[169] "The Medicare Prescription Drug, Modernization, and Improvement Act of 2003, Sec. 507," *Pub. L.* 108-173, 117 Stat 2066 (December 8, 2003), p. 2295.

[170] "Patient Protection and Affordable Care Act, Sec. 6001," *Pub. L.* 111-148, 124 Stat 119 (March 23, 2010), pp. 684–689, as amended by "Health Care and Education Reconciliation Act, Sec. 1106," *Pub. L.* 111-152 (March 30, 2010), pp. 1049–1050. The HCERA changes the effective date to December 31, 2010.

"*grandfather status*" and allowed to continue to participate in Medicare if the following four criteria are met:

1. The hospital is located in a county with a population growth rate of at least 150 percent of the state's population growth over the last five years;
2. The hospital has a Medicaid inpatient admission percentage of at least the average of all hospitals in the county;
3. The hospital is located in a state with below-national-average bed capacity; and
4. The hospital has a bed occupancy rate greater than state average.[171]

It should be noted that those physician-owned hospitals that are granted *grandfather status* are nevertheless subject to restrictions on the *total percentage in which individual physicians may own or invest* in a hospital, and physicians are limited to their *individual* ownership or investment percentages as of March 23, 2010.[172] In addition, if a *grandfathered* physician-owned hospital is approved for an *exception* to the *expansion limits,* the physician-owned hospital may not grow more than 200 percent from its base rate.[173]

3.3.2.1.3 Compensation Arrangement Exceptions The *Stark* exceptions that apply *only* to *compensation arrangements* include exceptions for:

1. Rental of office space;
2. Rental of equipment;
3. *Bona fide employment* relationships;
4. *Personal service* arrangements;
5. Physician recruitment;
6. Isolated financial transactions;
7. Certain arrangements with hospitals;
8. Group practice arrangements with hospitals;
9. Payments by attending physicians;
10. Charitable donations by attending physicians;

---

[171] Ibid.

[172] "Final Rule: Changes to Whole Hospital and Rural Provider Exceptions to the Physician Self-Referral Prohibition and Related Changes to Provider Agreement Regulations," *Federal Register* 75, no. 226, section XXII (November 24, 2010): 72241.

[173] "Medicare and Medicaid Programs: Hospital Outpatient Prospective Payment; Ambulatory Surgical Center Payment; Hospital Value-Based Purchasing Program; Physician Self-Referral; and Patient Notification Requirements in Provider Agreements; Final Rule," *Federal Register* 76, no. 230 (November 30, 2011): 74524.

11. Nonmonetary compensation;
12. *Fair Market Value* compensation;
13. Medical staff incidental benefits;
14. Risk-sharing arrangements;
15. Compliance training;
16. Indirect compensation arrangements;
17. Referral services;
18. Obstetrical malpractice insurance subsidies;
19. Professional courtesy;
20. Retention payments;
21. Community-wide HIT systems;
22. Electronic prescription items and services; and
23. Electronic health records items and services.[174]

Two key compensation-related exceptions are the *bona fide employment exception* and the *personal services exception*. Physicians may be directly employed by hospitals and, accordingly, fall within the *"bona fide employment relationship"* exception, which requires that (1) employment be for *identifiable services*, (2) the amount of *remuneration* be consistent with *Fair Market Value* and "not determined in a manner that takes into account (directly or indirectly) the volume or value of any referrals," and (3) employment to be made under an agreement that would be *commercially reasonable absent referrals* between the physician and the employer.[175]

The applicable *Stark Law* exception for those physicians who provide services to a hospital on an *independent contractor* basis is the "*personal service arrangements*" exception, which requires that

1. Each arrangement is set out in writing, is signed by the parties, and specifies the services covered by the arrangement.
2. The arrangement(s) covers all of the services to be furnished by the physician (or an immediate family member of the physician) to the entity.
3. The aggregate services contracted for do not exceed those that are reasonable and necessary for the legitimate business purposes of the arrangement.
4. The term of each arrangement is for at least one year.
5. The compensation to be paid over the term of each arrangement is set in advance, does not exceed fair market value, and, except in the case of

[174] "Exceptions to the Referral Prohibition Related to Compensation Arrangements," 42 CFR. 411.357(c) (October 1, 2011).

[175] Ibid.

a physician incentive plan, is not determined in a manner that takes into account the volume or value of any referrals or other business generated between the parties.

6. The services to be furnished under each arrangement do not involve the counseling or promotion of a business arrangement or other activity that violates any federal or state law.[176]

It should be noted that the earlier discussion regarding the *Fair Market Value* and the *commercial reasonableness* of compensation paid to physicians under the *Stark bona fide employment exception* and the *personal services agreement exception* does not apply to compensation paid or distributed to physician members of a "*group practice*" as defined within the *Stark Law.*[177] Specifically, while *Fair Market Value* is a requirement for the *compensation-related* exceptions under Stark, it is *not* a requirement under the "*ancillary services exception*" for "*group practices*," which is one of the *general exceptions* to the *Stark Law.* This is an important distinction, as compensation paid under the *ancillary services exception* within the "*group practice*" setting has fewer regulatory restrictions placed on its distribution and allows for the referral of patients for *in-office ancillary services* (e.g., X-rays) if the *physician group practice* meets the following three thresholds:

1. *Services are provided either by the referring physician*, a physician within the same group practice as the referring physician, or an individual supervised by either of the former;
2. *Services are performed in the same building* as services provided by the referring physician, or in a building considered to be "centralized" for that group practice; and
3. *Billing for services must be done by the physician either performing or supervising the service*, the group practice for which one of those physicians is assigned a billing number, or an independent third party acting on behalf of the group practice in question.[178]

A visual depiction of allowed compensation arrangements under Stark II is set forth in Table 3.7.

---

[176] "Exceptions to the Referral Prohibition Related to Compensation Arrangements," 42 CFR. 411.357(d), October 1, 2011; Linda A. Baumann, ed., *Health Care Fraud and Abuse: Practical Perspectives* (Washington, DC: American Bar Association and the Bureau of National Affairs, 2002), p. 280.

[177] "Group Practice," 42 CFR. 411.352 (October 1, 2011).

[178] "General Exceptions to the Referral Prohibition Related to Both Ownership/Investment and Compensation," 42 CFR. 411.355(b) (October 1, 2010).

TABLE 3.7 Compensation Paid under Exceptions to the Stark Law[179]

	A	B	C	D	E	F
	Terms of Exception	Group Practice Physicians [SSA 1877(h)(4); 42 CFR 411.352]	Bona Fide Employment [SSA 1877(e)(2); 42 CFR 411.357(c)]	Personal Service Arrangements [SSA 1877(e)(3); 42 CFR 411.357(d)]	Fair Market Value [42 CFR 411.347(1)]	Academic Medical Centers [42 CFR 411.355(e)]
1	**Must compensation be Fair Market Value?**	No	Yes—1877(e)(2)(B)(i)	Yes—1877(e)(3)(A)(v)	Yes—411.357(1)(3)	Yes—411.355(e)(1)(ii)
2	**Must compensation be "set in advance"?**	No	No	Yes—1877(e)(3)(A)(v).	Yes—411.357(1)(3).	Yes—411.355(e)(1)(ii).
3	**Scope of "Volume of value" restriction**	DHS referrals—1877(h)(4)(A)(iv).	DHS referrals 1877(e)(2)(B)(ii).	DHS referrals or other business—18977(e)(3)(A)(v).	DHS referrals or other business—411.357(1)(3).	DHS referrals or other business—411.351(e)(1)(ii).
4	**Scope of productivity bonuses allowed**	Personally performed services and "incident to," plus indirect—1877(h)(4)(B)(i).	Personally performed services—1877(e)(2).	Personally performed services—411.351 ("referral") and 411.354(d)(3).	Personally performed services—411.351 ("referral") and 411.354(d)(3).	Personally performed services—411.351 ("referral") and 411.351(d)(3).

5	**Overall profit shares allowed**	Yes—1877(h)(4)(B)(i).	No	No	No	No
6	**Written agreement required**	No	No	Yes, minimum 1-year term.	Yes (except for employment), no minimum term.	Yes, written agreement(s) or other document(s).
7	**Physician Incentive Plan (PIP) exception for services to plan enrollees?**	No, but risk-sharing arrangement exception at 411.357(n) may apply.	No, but risk-sharing arrangement exception at 411.357(n) may apply.	Yes, and risk-sharing arrangement exception at 411.357 may also apply.	No, but risk-sharing arrangement exception at 411.357(n) may apply.	No, but risk-sharing arrangement exception at 411.357(n) may apply.

[179] "Medicare Program; Physicians' Referrals to Health Care Entities with Which They Have Financial Relationships (Phase II)," *Federal Register* 69, no. 59 (March 26, 2004): 16067–16068. Please note that the "*group practice*" exception requires the members of the group practice to furnish "substantially the full range of patient care services that the physician routinely furnishes, including medical care, consultation, diagnosis, and treatment through the joint use of shared office space, equipment and personnel." Source: "Group Practice," 42 CFR. 411.352 (October 1, 2011).

3.3.2.2 Stark II, Phase III On September 5, 2007, CMS issued the final rule establishing the *Stark II, Phase III*, regulations, which contained many changes that were predicted to have a significant impact on healthcare provider relationships.[180] One requirement, as set forth in the *Stark II, Phase I*, regulations, has previously stipulated that there must be *at least two financial relationships between the physician and the DHS entity* in order for an *indirect compensation* arrangement to exist.[181] However, the *Stark II, Phase III*, regulations modified the definition of *indirect compensation arrangement* for purposes of the *Stark Law* so that *physician members, physician employees*, and *physician contractors* of the *physician organization* were now deemed to *stand in the shoes of that physician organization*, that is, they would have the same *direct compensation* arrangement as the *physician organization itself*.[182] The physician "*collapses*" into the *physician organization*, resulting in the *physician organization* no longer being considered an *intervening entity* for the purpose of establishing an *indirect compensation arrangement* with the *DHS entity*.[183] For example, a hospital that has a contract for professional services with a *physician group practice*, considered *indirect* under the *Stark II, Phase I* regulations (due to the existence of a *financial relationship* between individual physicians and their group practice, as well as a relationship between the group practice and the hospital), is considered to have a *direct compensation* arrangement under *Stark II, Phase III*.[184] In addition, arrangements between a DHS entity, a leasing company, and a physician continue to be analyzed as an *indirect compensation* arrangement.[185]

---

[180] "Medicare Program; Physicians' Referrals to Health Care Entities with Which They Have Financial Relationships (Phase III)," *Federal Register* 72, no. 171 (September 5, 2007): 51012.

[181] J. Kelly Barnes, et al., "Phase III Regulations Result in Dramatic Changes to Stark Law," *BNA Health Law Reporter* 16, no. 40 (October 11, 2007): 1220; "Financial Relationship, Compensation, and Ownership or Investment Interest," 42 CFR. § 411.354 (November 2009), pp. 479–482.

[182] "Financial Relationship, Compensation, and Ownership or Investment Interest," 42 CFR. § 411.354 (November 2009), pp. 479–482.

[183] "Medicare Program; Physicians' Referrals to Health Care Entities with Which They Have Financial Relationships (Phase III): Final Rule," *Federal Register* 72, no. 171 (September 5, 2007): 51028; "Medicare Program; Proposed Changes to the Hospital Inpatient Prospective Payment Systems and Fiscal Year 2009 Rates; Proposed Changes to Disclosure of Physician Ownership in Hospitals and Physician Self-Referral Rules," *Federal Register* 73 (April 30, 2008): 23690.

[184] J. Kelly Barnes, et al., "Phase III Regulations Result in Dramatic Changes to Stark Law," *BNA Health Law Reporter* 16, no. 40 (October 11, 2007): 1220.

[185] Ibid.

3.3.2.3 Stark IV *Stark IV* refers to the changes made to the *Stark Law* in the *2009 Inpatient Prospective Payment System Final Rule*, effective October 1, 2009.[186] Most notably, *Stark IV* (1) modified the "*stand in the shoes*" provision contained in *Stark II, Phase III*; (2) changed the definition of "*entity*"; and (3) prohibited *per-click leasing arrangements*, which had been permissible under four of the exceptions to the *Stark Law.* In S*tark IV*, CMS modified the "*stand in the shoes*" provision first introduced in *Stark II, Phase III*, for situations in which a physician organization employs *both physician owners* and *nonphysician owners*. In these circumstances, DHS entities are permitted to treat the *nonphysician owners* as *standing in the shoes* of the physician organization so that two different compensation analyses are not required.[187] Exempted from the *Stark IV* provisions are arrangements that meet the requirements of the *academic medical centers exception*.[188]

Stark IV also modified the legal permissibility of *under arrangement transactions* such that *both* the *physician-owned entity* that *provides the service*, as well as the *enterprise* (typically, the hospital) that *bills for the service*, are considered DHS entities for purposes of the *Stark Law.*[189] This provision precludes *physician-owned entities* from performing services *under arrangement* with the hospital unless the *physician-owned entity* can satisfy one of the *ownership exceptions* under *Stark*. Specifically, any *physician-owned entity* that performs a service *under arrangement* for a hospital that is then billed by that hospital is considered a *DHS entity*, even if that *physician-owned entity* would not have been considered a *DHS entity* if the service was performed outside of the hospital setting. The only exception to the *Stark IV* prohibitions against *under arrangements* is for *lithotripsy services*, a procedure to

---

[186] *Federal Register* 73 (August 19, 2008): 48433.

[187] Cathy Dunlay and Kevin Hilvert, "Stark Rule Proposals Finalized," Schottenstein Zox & Dunn Resources, August 13, 2008, http://www.szd.com/resources.php?NewsID=1184&method=unique (accessed August 14, 2008).

[188] "Medicare Program; Changes to the Hospital Inpatient Prospective Payment Systems and Fiscal Year 2009 Rates; Payments for Graduate Medical Education in Certain Emergency Situations; Changes to Disclosure of Physician Ownership in Hospitals and Physician Self-Referral Rules; Updates to the Long-Term Care Prospective Payment System; Updates to Certain IPPS-Excluded Hospitals; and Collection of Information Regarding Financial Relationships between Hospitals," *Federal Register* 73, no. 161 (August 19, 2008): 48698, 48599.

[189] "Medicare Program; Changes to the Hospital Inpatient Prospective Payment Systems and Fiscal Year 2009 Rates; Final Rule," *Federal Register* 73, no. 161 (August 19, 2008): 48723.

break up stones in urinary organs.[190] Those *physician-owned entities* that fall within the *Stark rural provider exception* will generally survive scrutiny.[191]

Stark IV also modified the exceptions for *space and equipment leases*, *Fair Market Value compensation,* and *indirect compensation arrangements* to prohibit basing the charge for rented space and equipment on a *per-click* or *per-unit* basis.[192] This means that *DHS entity lessors* may not charge *physician lessees* rent based on the *number of services provided by the lessee* that were referred to them by the lessors. *On-demand*, *time-based rental arrangements* were also considered *per-click arrangements* for purposes of the *Stark IV* prohibitions.[193]

Similarly, *Stark IV* also finalized a rule prohibiting *rental charges based on a percentage of revenues earned in the space rented* by the *physician lessee* or with the rented equipment operated by the lessee, regardless of whether the services were referred from the *DHS entity lessor.*[194] *Excluded from this prohibition* are arrangements in which a *physician lessee pays the lessor on a percentage basis for management and billing services.*[195] CMS also stated that the rule would not prohibit *gainsharing arrangements*, so

---

[190] Ibid., pp. 48723–48724, 48729; National Institutes of Health, "Lithotripsy," *Medline Plus Medical Encyclopedia*, U.S. National Library of Medicine, December 18, 2009, http://www.nlm.nih.gov/medlineplus/ency/article/007113.htm (accessed February 5, 2010).

[191] Daniel Murphy, "New Stark Regulation Will Eliminate Most Under Arrangements Joint Ventures," *Birmingham Medical News*, September 2008, p. 13; "Medicare Program; Changes to the Hospital Inpatient Prospective Payment Systems and Fiscal Year 2009 Rates; Final Rule," *Federal Register* 73, no. 161 (August 19, 2008): 48729. ("With respect to service providers that furnish services to rural patients, our proposal as adopted in this final rule does not alter the availability of the exception for an ownership interest in a rural provider. However, as clarified in this final rule, as a DHS entity, a physician owner/investor in such a service provider would need an ownership exception [such as the rural provider exception] in order to protect his or her referrals to the services provider.")

[192] Cathy Dunlay and Kevin Hilvert, "Stark Rule Proposals Finalized," Schottenstein Zox & Dunn Resources, August 13, 2008, http://www.szd.com/resources.php?NewsID=1184&method=unique (accessed August 14, 2008).

[193] Ibid.

[194] Ibid.; "Medicare Program; Changes to the Hospital Inpatient Prospective Payment Systems and Fiscal Year 2009 Rates; Final Rule," *Federal Register* 73, no. 161 (August 19, 2008).

[195] Cathy Dunlay and Kevin Hilvert, "Stark Rule Proposals Finalized," Schottenstein Zox & Dunn Resources, August 13, 2008, http://www.szd.com/resources.php?NewsID=1184&method=unique (accessed August 14, 2008); "Medicare Program; Changes to the Hospital Inpatient Prospective Payment Systems and Fiscal Year 2009 Rates; Final Rule," *Federal Register* 73, no. 161 (August 19, 2008).

Gainsharing

An arrangement "under which a hospital gives physicians a share of the reduction in the hospital's costs (that is, the hospital's cost savings) attributable in part to the physician's efforts."

"Medicare Program; Proposed Changes to the Hospital Inpatient Prospective Payment Systems and Fiscal Year 2009 Rates; Proposed Changes to Disclosure of Physician Ownership in Hospitals and Physician Self-Referral Rules; Proposed Collection of Information Regarding Financial Relationships Between Hospitals and Physicians," Federal Register *73, no. 84 (April 30, 2008): 23692.*

long as they were a *properly structured incentive payment* and part of a *shared savings program.*[196]

3.3.2.4 Stark Self-Referral Disclosure Protocol In recent years, CMS has increased its auditing efforts and pursued aggressive enforcement of *fraud and abuse* laws, which the agency has anticipated will lead to the recovery of billions of dollars in penalties.[197] In addition, CMS has implemented new technology and new programs under which to recover additional funds, for example, by using *predictive modeling software*, the agency intends to transition away from its traditional "*pay and chase*" auditing method, to a system in which claims can be audited in order to identify fraudulent billings before payments are disbursed.[198] CMS has also established a method for providers to voluntarily report their own violations in exchange for lesser sanctions. Under the ACA, the *Self-Referral Disclosure Protocol* (SRDP) was created as a *reporting mechanism* for providers who suspect that they

[196] Cathy Dunlay and Kevin Hilvert, "Stark Rule Proposals Finalized," Schottenstein Zox & Dunn Resources, August 13, 2008, http://www.szd.com/resources.php?NewsID=1184&method=unique (accessed August 14, 2008); "Medicare Program; Changes to the Hospital Inpatient Prospective Payment Systems and Fiscal Year 2009 Rates; Final Rule," *Federal Register* 73, no. 161 (August 19, 2008).

[197] Office of Inspector General, "Inspector General: Audits, Legal Actions May Net Up to $3.4 Billion," June 1, 2011, http://oig.hhs.gov/newsroom/news-releases/2011/sar_release.asp (accessed November 18, 2011); "Medicare Program; Changes to the Hospital Inpatient Prospective Payment Systems and Fiscal Year 2009 Rates; Final Rule," *Federal Register* 73, no. 161 (August 19, 2008).

[198] Allyson Jones Labban and Smith Moore Leatherwood, "Is There a Statistician in the House?" *Health Care Law Note*, July 2011; Bradley Arant Boult Cummings LLP, "From 'Pay and Chase' to 'Catch and Keep:' CMS to Introduce Anti-Fraud Predictive Modeling July 1," June 28, 2011, http://www.babc.com/files/Uploads/Documents/Health%20Care%20Alert_June%2028%202011.pdf (accessed August 8, 2012).

may be in violation of the *Stark Law* to *voluntarily disclose* their conduct in exchange for *reduced financial liability.*[199] As of September 2012, 14 SDRP settlements have been published, with several providers having been assessed a mere fraction of their actual *Stark* liability.[200] The details of the settlements can be found in Table 3.8.

In addition to the federal *Stark Law* prohibitions, 42 states and the District of Columbia have laws prohibiting *self-referrals*. States with *self-referral* legislation are set forth in Table 3.9.

The State of New Jersey's prohibition against *self-referrals* gained significant public attention following the 2007 *Health Net of New Jersey, Inc. v. Wayne Surgical Center, LLC*, decision, in which New Jersey physicians who referred patients to an ASC in which they had an ownership interest were suddenly at risk of being in violation of the *Codey Law.*[201] Unexpectedly, the *Health Net* decision rejected a widely relied on 1997 *New Jersey Board of Medical Examiners* (BME) advisory opinion, which held that an ASC constituted an "extension of the physician's medical office," such that the arrangement did not violate the *Codey Law* prohibitions against physician referrals to a facility in which they had an ownership interest.[202] In response to the 2007 *Health Net* decision, the New Jersey legislature (led by Senate president Richard Codey, who first introduced the original law) proposed amending the *Codey Law* to allow *self-referrals* to physician-owned ASCs.[203] In 2009, New Jersey amended the *Codey Law* to permit physician

[199] "Patient Protection and Affordable Care Act, Sec. 6049," *Pub. L.* 111-148, 124 Stat 119 (March 23, 2010), pp. 772–773; Centers for Medicare & Medicaid Services, "Self-Referral Disclosure Protocol," December 27, 2011, https://www.cms.gov/PhysicianSelfReferral/98_Self_Referral_Disclosure_Protocol.asp#TopOfPage (accessed February 10, 2012).

[200] Centers for Medicare & Medicaid Services, "Self-Referral Disclosure Protocol Settlements," http://www.cms.gov/Medicare/Fraud-and-Abuse/PhysicianSelfReferral/Self-Referral-Disclosure-Protocol-Settlements.html (accessed August 31, 2012).

[201] "Referral of Patient by Practitioner Regulated," N.J.C. 45:9-22.5 (enacted 1991, amended 2009, effective March 1, 2010).

[202] "New Jersey Court Rules That Physician Referrals to Ambulatory Surgical Center in Which They Own an Interest Violates Codey Act," *Flaster Greenberg Health Care Alert Newsletter*, December 2007, http://www.flastergreenberg.com/home/publications/legal-alerts.aspx?d=272 (accessed April 18, 2008) (quoting 1997 BME advisory opinion).

[203] Gregg Blesch, "Doctors Battle Hospitals Over ASC Ownership Restrictions," *Modern Physician*, December 8, 2008, http://www.modernphysician.com/article/20081208/MODERNPHYSICIAN/311309995/1110 (accessed February10, 2010); "An Act Concerning Ambulatory Surgical Facilities," New Jersey Senate Bill No. 787 (November 24, 2008).

TABLE 3.8 Stark SRDP Settlements

	Date	State	Settlement Amount	CMS Settlement Description
1	February 10, 2011	Massachusetts	$579,000	Hospital disclosed under the SRDP that it violated the physician self-referral statute by (1) failing to satisfy the requirements of the personal services arrangements exception for arrangements with certain hospital department chiefs and the medical staff for leadership services, and (2) failing to satisfy the requirements of the personal services arrangements exception for arrangements with certain physician groups for on-site overnight coverage for patients at the hospital.
2	September 10, 2011	Ohio	$60	Practice disclosed under the SRDP that it violated the physician self-referral statute in two instances by prescribing and supplying a certain type of Durable Medical Equipment that did not satisfy the requirements of the in-office ancillary services exception.
3	November 11, 2011	Mississippi	$130,000	Hospital disclosed under the SRDP that it violated the physician self-referral statute by failing to satisfy the requirements of the personal services arrangements exception for arrangements with certain hospital and emergency room physicians.
4	January 5, 2012	California	$6,700	Hospital disclosed under the SRDP that it violated the physician self-referral statute by exceeding the calendar year nonmonetary compensation limit for a physician.
5	January 5, 2012	Georgia	$4,500	Hospital disclosed under the SRDP that it violated the physician self-referral statute by exceeding the calendar year nonmonetary compensation limit for two physicians.

(*continued*)

TABLE 3.8 Stark SRDP Settlements (*continued*)

	Date	State	Settlement Amount	CMS Settlement Description
6	March 9, 2012	Iowa	$74,000	Practice disclosed under the SRDP that it violated the physician self-referral statute because the compensation methodology for certain employed physicians did not satisfy the requirements of the bona fide employment relationships exception.
7	March 20, 2012	Arizona	$22,000	Hospital disclosed under the SRDP that it violated the physician self-referral statute by not satisfying the requirements of the personal service arrangements exception for an arrangement with a physician for the provision of locum tenens hospitalist services.
8	April 5, 2012	North Carolina	$6,800	Hospital disclosed under the SRDP that it violated the physician self-referral statute by exceeding the calendar year nonmonetary compensation limit for two physicians during three consecutive years.
9	June 13, 2012	Alabama	$42,000	Hospital disclosed under the SRDP that it violated the physician self-referral statute by using a rental charge formula that did not satisfy the requirements of the rental of equipment exception.
10	June 28, 2012	Maine	$59,000	Hospital disclosed under the SRDP that arrangements with a physician and a physician group practice had lapsed and may have violated the physician self-referral law, because those arrangements did not satisfy the requirements of the personal service arrangements exception.

11	July 31, 2012	Massachusetts	$208,000	Hospital disclosed under the SRDP that arrangements with two physician practices for call coverage were not set out in writing and may have violated the physician self-referral law, because those arrangements did not satisfy the requirements of the personal service arrangements exception.
12	August 15, 2012	Florida	$22,000	Hospital disclosed under the SRDP that arrangements with three physicians for certain services may have violated the physician self-referral law, because those arrangements did not satisfy the requirements of the personal service arrangements exception.
13	August 22, 2012	Missouri	$125,000	Hospital disclosed under the SRDP that arrangements with two physicians for the provision of dental services to certain patients may have violated the physician self-referral law, because those arrangements did not satisfy the requirements of the personal service arrangements exception.

"Self-Referral Disclosure Protocol Settlements," Centers for Medicare and Medicaid Services, http://www.cms.gov/Medicare/Fraud-and-Abuse/PhysicianSelfReferral/Self-Referral-Disclosure-Protocol-Settlements.html (accessed August 31, 2012).

TABLE 3.9 States with Self-Referral Statutes

A	B	C	D	E
State	Citation	Statute Effective Date	Scope of Law	Description of Prohibited Activities
Federal	42 U.S.C. 1395nn	2007	Physicians	Prohibits physicians from making a referral for the furnishing of designated health services to an entity with which the physician or an immediate family member has a financial relationship.
Arizona	Ariz. Rev. State. § 32–1401(27)(ff)	1998	Doctors and surgeons	Makes it unprofessional conduct for a doctor to knowingly fail to disclose a direct financial interest when referring patients.
California	Cal Bus. & Prof. Code § 650.01 –02	1993	Licensees in health arts	Prohibits referrals if licensee or his or her immediate family has a financial interest.
	Cal. Bus. & Prof. Code § 654.2	1984	Licensees in health arts	Prohibits referrals unless the licensee first discloses the interest in writing and advises the patient that s/he may choose another entity.
	Cal. Lab. Code § 139.3—.31	1993	Workers' compensation; applies to physicians	Prohibits referrals if the physician or his or her immediate family has a financial interest.
	Cal. Health & Saf. Code § 1323(c)	1985	Health facilities	Prohibits referrals to other health facilities in which the health facility has a significant beneficial interest, unless with a written disclosure that patient may choose another facility.
	Cal. Wel. & Isnt. Code § 14022	1980	Medi-Cal (Medicaid)	Prohibits payments by Medi-Cal to providers for services rendered in connection with a referral.

Connecticut	Conn. Gen. Stat. § 20–7a(c)	1973	Practitioners of the healing arts	Requires disclosure of ownership or investment interest prior to referring to an entity for diagnostic or therapeutic services, and requires the practitioner to provide reasonable referral alternatives.
Florida	Fla. Stat. § 456.053	2009	Healthcare providers	Prohibits referring a patient for healthcare services or items to an entity in which the provider has an investment interest.
Georgia	O.C.G.A. § 43–1 B-1 et seq.	1993	Healthcare providers	Prohibits referring a patient for the provision of designated health services to an entity in which the healthcare provider has an investment interest.
Hawaii	Haw. Rev. Stat. § 431:10C-308.7(c)	1992	Healthcare providers for treatments paid for by a motor vehicle insurance policy	Prohibits self-referral without disclosure for any service or treatment authorized under the chapter.
Illinois	225 I.L.C.S. 47/1 et seq.	1992	Healthcare workers	Prohibits self-referrals and self-referral arrangements to an entity outside the healthcare worker's office or group practice.
Kansas	Kan. Stat. Ann. § 65–2837(b)(29)	1957	All persons with a license, a permit, or a special permit issued under Kan. Stat. Ann. § 65–28	Makes it unprofessional conduct to self-refer when there is a significant interest, unless the licensee informs the patient in writing of the interest and that the patient may obtain such services elsewhere.
Louisiana	La. Rev. Stat. Ann. § 37:1744	1993	Healthcare providers	Self-referrals outside the same practice group as the referring provider, where the provider or a member of that provider's immediate family has a financial interest that will be served by the referral.

(*continued*)

TABLE 3.9 States with Self-Referral Statutes (*continued*)

A	B	C	D	E
State	Citation	Statute Effective Date	Scope of Law	Description of Prohibited Activities
	La. Admin. Code tit. 46, § 4211	1994	Physicians	Self-referrals outside the physician's group practice when there is a financial interest.
	La. Admin. Code tit. 46, § 4213	1994	Physicians	Arrangements or schemes that the physician knows or should know have a principle purpose of inducing referrals in violation of La. Admin. Code tit. 46, § 4211.
Maine	Me. Rev. Stat. Ann. Tit. 22, §§ 2081 et seq.	1993	Healthcare practitioners	Self-referrals to an outside facility in which the referring practitioner is an investor.
	Code Me. R. § 02–031–870	1998	Healthcare practitioners	Self-referrals to an outside facility in which the referring practitioner is an investor.
Maryland	Md. Code Ann. §§ 1–301 et seq.	1993	Healthcare practitioners	Referrals to a healthcare entity in which the practitioner or his/her immediate family owns a beneficial interest or has a compensation arrangement.
Michigan	Mich. Comp. Laws § 333.16221(e)	1986	Physicians	Stark and its regulations are specifically incorporated into Michigan law, making a physician subject to discipline if he or she self-refers in violation of Stark. Unprofessional conduct also includes directing or requiring an individual to purchase or secure a drug, device, treatment, procedure, or service from another person, place, facility, or business in which the licensee has a financial interest.

Minnesota	Minn. Stat. § 147.091	1971	Physicians	Referrals to a healthcare provider in which the referring physician has a significant financial interest.
Montana	Mont. Code Ann. § 39–71–315	1993	Workers' compensation	Referring a workers' compensation–eligible patient to a facility owned by the provider.
	Mont. Code Ann. § 39–71–1108	1993	Workers' compensation	Referring a workers' compensation–eligible patient to a facility where the provider has an investment interest.
	Mont. Code Ann. § 37–2–103	N/A	Medical practitioners and pharmacies	Montana also has a pharmacy ownership law that prohibits medical practitioners from owning a community pharmacy.
Nevada	Nev. Rev. Stat. 630.305	1983	Physicians	Referrals to facilities in which the licensee has a financial interest.
New Hampshire	N.H. Rev. Stat. Ann. § 125:25b	1993	Healthcare practitioners	Referrals to diagnostic or therapeutic entities in which the practitioner has an interest.
	N.H. Rev. Stat. Ann. § 125:25c	1993	Healthcare practitioners	Referrals to diagnostic or therapeutic entities in which the practitioner has an ownership interest or from which the practitioner receives remuneration.

"State Health Care Fraud Laws, 2009," Kaiser State Health Facts, 2009, http://www.statehealthfacts.org/comparemaptable.jsp?ind=790&cat=4 (accessed August 3, 2012).

referrals to ASCs in which they had a financial interest if (1) they *performed the procedure personally*, (2) their *compensation as an owner was directly proportional to their ownership interest*, (3) *all patient-related decisions* at facilities with nonphysician owners *were made by physicians*, and (4) the physicians *informed the patients of their ownership share* at the time of referral.[204]

3.3.3 False Claims Act (FCA)

The False Claims Act (FCA) is a federal law that creates civil liability for any person who "knowingly presents, or causes to be presented, to an officer or employee of the United States government or a member of the Armed Forces of the United States a false or fraudulent claim for payment or approval, e.g., upcoding."[205] Since Congress passed extensive amendments to the FCA in 1986, it has become one of the most significant enforcement methods used to combat healthcare fraud, particularly when used in conjunction with the federal Stark Law and the federal Anti-Kickback Statute.[206]

FALSE CLAIMS ACT (FCA)

Creates civil liability for knowingly presenting false or fraudulent claims for reimbursement to the federal government. Amended in 1986, it has become one of the primary weapons used to combat healthcare fraud. Under the statute's qui tam (whistleblower) provisions, any private citizen can enforce the FCA by filing a complaint alleging fraud against the federal government. The incentive is the potential to share in the recovery of any ill-gotten funds. In 1998, the OIG and the Department of Justice issued guidelines limiting enforcement actions.

"False Claims Act," 31 U.S.C. 3729; "Health Care Fraud Report: Fiscal Year 1998," Department of Justice, justice.gov, 1998, http://www.justice.gov/dag/pubdoc/health98.htm#national (accessed December 9, 2009); "False Claims Act," 31 U.S.C.A. §3730(d)(1).

[204] "Referral of Patient by Practitioner Regulated," N.J.C. 45:9-22.5 (enacted 1991, amended 2009, effective March 1, 2010).

[205] "False Claims Act," 31 U.S.C. 3729(a) (2006)

[206] Linda A. Baumann, ed., *Health Care Fraud and Abuse: Practical Perspectives* (Washington, DC: American Bar Association, 2002), p. 112.

Qui Tam Action

Also known as a *whistleblower* suit, a qui tam action is an action brought under the False Claims Act or a similar statute that allows a private person (e.g., employees, former employees, competitors, subcontractors) to sue for a penalty, part of which the government or some specified public institution will receive.

Black's Law Dictionary, *edited by Bryan A. Garner, 9th ed. (St. Paul, MN: Thomson Reuters, 2009), p. 1368.*

The 1986 amendments strengthened the statute's qui tam, or whistleblower provision, under which any private citizen can enforce the FCA by filing a complaint alleging fraud against the federal government.[207] The Department of Justice (DOJ) assumes primary responsibility for prosecuting the claim if it believes the claim has merit,[208] and the whistleblower is entitled to share in a portion of any recovery the government obtains.[209] Potential liability can be significant, as the FCA provides for treble damages plus an additional penalty for each false claim.[210]

3.3.3.1 FCA Prohibitions against Upcoding and Outlier Payments One of the primary provisions contained in the FCA is the prohibition against the practice of provider "*upcoding*" and submitting claims to the federal government for "*outlier payments*." The DOJ defines *upcoding* as "the practice of improperly assigning a diagnosis code to a patient discharge that is not supported by the medical record for the purpose of obtaining a higher level of reimbursement from Medicare for that hospital discharge than the hospital would otherwise receive."[211] In February 2002, Tenet Hospital paid the United States $55.8 million to settle various Medicare fraud allegations, some initiated by whistleblowers' claims related to *upcoding* for laboratory and rehabilitation services and cost-report violations. In

[207] "False Claims Amendment Act of 1986," *Pub. L.* 99-562, 100 Stat 3153 (October 27, 1986), p. 3154; "False Claims Act," 31 U.S.C.A. §3730(b).

[208] "False Claims Act," 31 U.S.C.A. §3730 (c)(1).

[209] "False Claims Act," 31 U.S.C.A. §3730 (c)(1) and 31 U.S.C.A. §3730(d)(1).

[210] "False Claims Act," 31 U.S.C.A. § 3729(a).

[211] U.S. Department of Justice, "Five Tenet Hospitals in Florida Pay United States $4.3 Million for Allegedly Violating False Claims Act," press release, February 10, 2003.

Upcoding

The practice of improperly assigning a diagnosis code to a patient discharge that is not supported by the medical record for the purpose of obtaining a higher level of reimbursement from Medicare for that hospital discharge than the hospital would otherwise receive.

"Five Tenet Hospitals in Florida Pay United States $4.3 Million for Allegedly Violating False Claims Act," U.S. Department of Justice, press release, February 10, 2003.

February 2003, the DOJ announced that Tenet had paid the United States $4.3 million to settle claims that five of its Florida hospitals submitted fraudulent Medicare claims by engaging in *upcoding* pneumonia and septicemia diagnosis codes for inpatient reimbursement.[212] Similar claims have been brought by the United States against 104 Tenet hospitals in January 2003.[213]

The terms "*outlier*" and "*stop-loss*" payments likewise refer to *remuneration* provided for *complicated* and/or *costly procedures* that are not adequately covered by the *Diagnostic Related Groups* (DRG) formula used for hospital inpatient reimbursement (See Chapter 2, "Reimbursement Environment"). *Outlier payments* refer to remuneration from Medicare, while "*stop-loss*" payments refer to reimbursement from managed care organizations. In Fiscal Year (FY) 2002, Medicare outlier payments as a percentage of Medicare inpatient revenue for Tenet hospitals was 16.7 percent, as compared to 4.6 percent for all other U.S. hospitals. Estimated figures for FY 2003 indicated that Medicare outlier payments as a percentage of Medicare inpatient revenue for Tenet hospitals was 23.5 percent, as compared to 4.5 percent for all other U.S. hospitals.[214]

3.3.3.2 State False Claims Act Statutes Violations of *state false claims acts* can result in fines as high as $15,000 per false claim.[215] While *state false claims* statutes typically echo the federal FCA, some states *false claims acts* include

[212] Ibid.

[213] Ibid.

[214] Vince Galloro, "Tenet's Stock Takes Dive as Profit Outlook Suffers," *Modern Healthcare*, November 4, 2003, p. 9.

[215] Robert Fabrikant, et al., *Health Care Fraud: Enforcement and Compliance* (New York: Law Journal Press, 2007), p. 4-72.4.

expanded liability provisions, *jurisdictional and scope of employment limitations* for *whistleblowers*, and different *damage and penalty* provisions.[216] In September 2012, the DOJ and the State of Tennessee settled a qui tam lawsuit for $16.5 million against *HCA, Inc.*, one of the largest for-profit hospital chains in the United States, after allegations that *HCA* entered into improper financial transactions in which it traded office space rental payments in *excess of fair market value* to induce physician referrals to its facilities.[217]

Following the passage of the *Deficit Reduction Act* (*DRA*) by Congress in 2005, it was projected that the number of states with *false claims acts* would increase due to DRA provisions that *incentivized* state governments to enact *state false claims acts* by promising to return 10 percent of the funds recovered from *Medicaid* enforcement actions to the state.[218] Prior to the DRA's enactment, the money would have gone to the federal government.[219] The DRA also required that entities receiving more than $5 million annually from Medicaid establish an employee education plan regarding

DEFICIT REDUCTION ACT (DRA)

Enacted February 8, 2006, and continued the suspension of the CMS's enrollment of new specialty hospitals (from MMA) for about six months, until the release of the CMS's final report on specialty hospitals as required by the DRA.

"Deficit Reduction Act of 2005," Pub. L. *109–171 (2006).*

---

[216] Ibid., pp. 4-72.4–4-72.6.

[217] U.S. Department of Justice, "Hospital Chain HCA Inc. Pays $16.5 Million to Settle False Claims Act Allegations Regarding Chattanooga, Tenn., Hospital," news release (September 19, 2012), http://www.justice.gov/opa/pr/2012/September/12-civ-1133.html (accessed September 21, 2012).

[218] "Deficit Reduction Act of 2005," *Pub. L.* 109-171, 120 Stat 4 (February 8, 2006); Pietragallo, Gordon, Alfano, Bosick, & Raspanti, LLP, "State False Claims Act," False Claims Resource Center, 2009, http://www.falseclaimsact.com/sfca_overview.php (accessed June 30, 2009); "Deficit Reduction Act of 2005, Sec. 6031," *Pub. L.* 109-171, 120 Stat 4 (February 8, 2006), pp. 72–73; "Deficit Reduction Act of 2005, Sec. 6031," *Pub. L.* 109-171, 120 Stat 4 (February 8, 2006).

[219] Bass Berry & Sims, PLC, "The Deficit Reduction Act of 2005: New Medicaid Fraud and Abuse Provisions," Health Law Update, May 31, 2006, http://www.bassberry.com (accessed September 1, 2009); "Encouraging the Enactment of State False Claims Acts, Sec. 6031," *Pub. L.* 109-171 (2006), pp. 51–53.

state and federal *false claims acts* and whistleblower protections.[220] The education plan must provide information related to (1) the federal FCA, (2) administrative remedies for false claims and statements, (3) any civil or criminal penalties under state *false claims acts*, and (4) any whistleblower protections under federal and state law.[221] Since the DRA's implementation in January 2007, many states have broadened their existing *false claims laws*, and additional states have developed their own *false claims acts*.[222]

The OIG for HHS is charged with reviewing state *false claims acts* to ensure that they meet the requisite criteria related to the *DRA incentive program*, including that they:

1. Establish liability to the state for false or fraudulent claims described in the False Claims Act (FCA) with respect to any expenditures related to the State Medicaid plans described in section 1903(a) of the Social Security Act;
2. Contain provisions that are at least as effective in rewarding and facilitating qui tam actions for false or fraudulent claims as those described in the FCA;
3. Contain a requirement for filing an action under seal for 60 days with review by the State Attorney General; and
4. Contain a civil penalty that is not less than the amount of the civil penalty authorized under the FCA.[223]

Since 1986, the FCA has been amended by several legislative acts, including the *Fraud Enforcement and Recovery Act of 2009* (FERA), the *ACA*, and *the Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010* (the Dodd-Frank Act).[224] Beginning on March 31, 2013, a previously

---

[220] "Deficit Reduction Act of 2005," *Pub. L.* 109-171 (2006), § 6032.

[221] Ibid.

[222] Bass Berry & Sims, PLC, "The Deficit Reduction Act of 2005: New Medicaid Fraud and Abuse Provisions," Health Law Update, May 31, 2006, http://www.bassberry.com (accessed September 1, 2009).

[223] Office of Inspector General, "State False Claims Act Reviews," U.S. Department of Health and Human Services, http://oig.hhs.gov/fraud/falseclaimsact.asp (accessed August 3, 2012); Office of Inspector General, "State False Claims Act Requirements for Increased State Share of Recoveries," Social Security Act § 1909; "State False Claims Act Reviews," U.S. Department of Health and Human Services, http://oig.hhs.gov/fraud/falseclaimsact.asp (accessed August 3, 2012).

[224] Office of Inspector General, "State False Claims Act Reviews," U.S. Department of Health and Human Services, http://oig.hhs.gov/fraud/falseclaimsact.asp (accessed June 30, 2009).

approved state *false claims act* will no longer be deemed "approved" unless it has been amended and resubmitted to the OIG for review.[225] A list of those states that have submitted their respective statutes to be reviewed by the OIG is set forth in Table 3.10.

Included in Table 3.10 is a given state's resubmission status with the OIG. As of September 2012, of the 27 states that have resubmitted their *false claims act* statutes for approval, only 2 states, Connecticut and Iowa, have been approved by the OIG as being in compliance with the *DRA incentive program requirements* beyond March 31, 2013.[226]

3.3.3.3 Fraud Enforcement and Recovery Act (FERA) Signed by President Obama on May 20, 2009, the *Fraud Enforcement and Recovery Act* (FERA) significantly modified the FCA's definition of "*knowingly*."[227] Under the new definition, the government need only show by a *preponderance of the evidence* that a person acted "*knowingly*" by "(1) [having] actual knowledge of the information; (2) act[ing] in deliberate ignorance of the truth or falsity of the information; or (3) act[ing] in reckless disregard of the truth or falsity of the information," thereby reducing the government's *burden of proof* by no longer requiring it to show a person's *specific intent* to defraud.[228]

FERA also expanded the FCA's definition of "*claim*" to include any request for money or property offered to a government employee, regardless of whether the government is currently in possession of the money or whether the accused party intended to defraud the government.[229]

Another FERA amendment to the FCA was related to *civil investigative demands* (CIDs).[230] Akin to a subpoena, the U.S. Attorney General can use it to gather evidence without court approval before filing an official complaint against parties suspected of violating the FCA. The amendment also expands the definition of "*official use*" to allow the government to use the information obtained through *CID communications* with other government departments.[231]

---

[225] Ibid.

[226] Office of Inspector General," State False Claims Act Reviews," Department of Health and Human Services, http://oig.hhs.gov/fraud/state-false-claims-act-reviews/index.asp (accessed September 13, 2012).

[227] "Fraud Enforcement and Recovery Act, Sec. 4," *Pub. L.* 111-21, 123 Stat 1617 (May 20, 2009), pp. 1623–1624.

[228] Ibid., p. 1622.

[229] Ibid., pp. 1622–1623.

[230] Ibid., pp. 1623–1624.

[231] Ibid., p. 1624.

TABLE 3.10 State False Claims Act Legislation under OIG Review

	A	B	C	D	E
	Jurisdiction	**Statutory Heading**	**Citation**	**Statutory Effective Date**	**OIG Approval Status**
1	Federal	The False Claims Act	31 U.S.C. §§ 3729 through 3733	May 20, 2009	N/A
2	Arkansas	Medicaid Fraud False Claims Act	A.C.A. §§ 20-77-901 through 20-77-911	December 31, 2005	Act has not been submitted to OIG
3	California	California False Claims Act	Cal. Gov't Code §§ 12650 through 12656	January 1, 2010	Act does not meet requirements of Section 1909 of the SSA
4	Colorado	Colorado Medicaid False Claims Act	Colo. Rev. Stat. §§ 25.5-4-303.5 through 25.5-4-310,	May 26, 2010	Act does not meet requirements of Section 1909 of the SSA
5	Connecticut	Connecticut False Claims Act	Conn. Gen. Stat. §§ 17b-301 through 17b-301p	May 10, 2010	Act has been approved by OIG
6	Delaware	Delaware False Claims and Reporting Act	Del. Code Ann. tit. 6, §§ 1201 through 1211	July 16, 2009	Act does not meet requirements of Section 1909 of the SSA
7	Florida	Florida False Claims Act	Fla. Stat. §§ 68.081 through 68.092	July 1, 2007	Act does not meet requirements of Section 1909 of the SSA
8	Georgia	Georgia State False Medicaid Claims Act	Ga. Code Ann. §§ 49-4-168 through 49-4-168.6	July 1, 2012	Act does not meet requirements of Section 1909 of the SSA
9	Hawaii	Hawaii False Claims Act	Haw. Rev. Stat. §§ 661-21 through 661-29	July 9, 2012	Act does not meet requirements of Section 1909 of the SSA
10	Illinois	Illinois False Claims Act	740 Ill. Comp. Stat. §§ 175/1 through 175/8	July 27, 2010	Act does not meet requirements of Section 1909 of the SSA

11	Indiana	Indiana False Claims and Whistleblower Protection Act	Ind. Code §§ 5-11-5.5-1 through 5-11-5.5-18	April 26, 2007	Act does not meet requirements of Section 1909 of the SSA
12	Iowa	Iowa False Claims Act	Iowa Code §§ 685.1 through 685.7	July 1, 2011	Act has been approved by OIG
13	Kansas	Kansas False Claims Act	Kan. Stat. Ann. §§ 75-7501 through 75-7511	April 30, 2009	Act has not been submitted to OIG
14	Louisiana	Medical Assistance Programs Integrity Law	La. Rev. Stat. Ann. §§ 46:437 through 46:440	1997	Act does not meet requirements of Section 1909 of the SSA
15	Maryland	False Claims Against State Health Plans and State Health Programs	MD Code, Health - General, §§ 2-601 through 2-611	October 1, 2010	Act has not been submitted to OIG
16	Massachusetts	Massachusetts False Claims Act	Mass. Gen. Laws ch. 12, §§ 5A through 5O	July 1, 2012	Act does not meet requirements of Section 1909 of the SSA
17	Michigan	Michigan Medicaid False Claims Act	Mich. Comp. Laws §§ 400.601 through 400.615	January 3, 2006	Act does not meet requirements of Section 1909 of the SSA
18	Minnesota	Minnesota False Claims Act	Minn. Stat. §§ 15C.01 through 15C.16	July 1, 2010	Act does not meet requirements of Section 1909 of the SSA
19	Missouri	Healthcare Payment Fraud and Abuse	Mo. Rev. Stat. §§ 191.900 through 191.914	2007	Act has not been submitted to OIG
20	Montana	Montana False Claims Act	Mont. Code Ann. §§ 17-8-401 through 17-8-413	2005	Act does not meet requirements of Section 1909 of the SSA
21	Nebraska	Nebraska False Medicaid Claims Act	Neb. Rev. Stat. §§ 68-934 through 68-947	2004	Act has not been submitted to OIG

(*continued*)

TABLE 3.10 State False Claims Act Legislation under OIG Review (*continued*)

	A	B	C	D	E
	Jurisdiction	**Statutory Heading**	**Citation**	**Statutory Effective Date**	**OIG Approval Status**
22	Nevada	Nevada False Claims Act	Nev. Rev. Stat. §§ 357.010 through 357.250	November 11, 2009	Act does not meet requirements of Section 1909 of the SSA
23	New Hampshire	New Hampshire False Claims Act	N.H. Rev. Stat. Ann. §§ 167:61-b through 167:61-e	2012	Act does not meet requirements of Section 1909 of the SSA
24	New Jersey	New Jersey False Claims Act	N.J. Stat. Ann. §§ 2A:32C-1 through 2A:32C-18	March 13, 2008	Act does not meet requirements of Section 1909 of the SSA
25	New Mexico	New Mexico Fraud Against Taxpayers Act	N.M. Stat. §§ 44-9-1 through 44-9-14	July 1, 2007	Act does not meet requirements of Section 1909 of the SSA
26	New York	New York False Claims Act	N.Y. Fin. Law §§ 187 through 194	April 1, 2007	Act does not meet requirements of Section 1909 of the SSA
27	North Carolina	North Carolina False Claims Act	N.C. Gen. Stat. §§ 1-605 through 1-618	January 1, 2010	Act does not meet requirements of Section 1909 of the SSA
28	Ohio	Conditions of Receiving Medicaid Payments	R.C. § 511.101	September 29. 2007	Act has not been submitted to OIG
29	Oklahoma	Oklahoma Medicaid False Claims Act	Okla. Stat. tit. 63 §§ 5053.1 through 5053.7	November 1, 2011	Act does not meet requirements of Section 1909 of the SSA
30	Oregon	Oregon False Claims Act	Ore. Rev. Stat. Ann. §§ 180.750 through 180.785	January 1, 2010	Act has not been submitted to OIG

31	Rhode Island	Rhode Island False Claims Act	R.I. Gen. Laws §§ 9-1.1-1 through 9-1.1-8,	July 1, 2007	Act does not meet requirements of Section 1909 of the SSA
32	Tennessee	Tennessee Medicaid False Claims Act	Tenn. Code Ann. §§ 71-5-181 through 71-5-185	July 1, 1993	Act does not meet requirements of Section 1909 of the SSA
33	Texas	Texas False Claims Act	Tx. Hum. Res. Code Ann. §§ 36.001 through 36.132	September 1, 2011	Act does not meet requirements of Section 1909 of the SSA
34	Utah	Utah False Claims Act	Utah Code Ann. §§ 26-20-1 through 26-20-15	April 30, 2007	Act has not been submitted to OIG
35	Virginia	Virginia Fraud Against Taxpayers Act	Va. Code Ann. §§ 8.01-216.1 through 8.01-216.19	March 26, 2011	Act does not meet requirements of Section 1909 of the SSA
36	Washington	Washington Health Care False Claim Act	Rev. Code. Wa. Ann. §§ 48.80.010 through 48.40.900	June 8, 1905	Act has not been submitted to OIG
37	Wisconsin	Wisconsin False Claims Act	Wis. Stat. § 20.931	April 26, 2012	Act does not meet requirements of Section 1909 of the SSA

Source: 1) "State Qui Tam Laws," Thomson Reuters/West, 50 State Statutory Surveys, September 2011.
2) "State False Claims Act Reviews," Office of Inspector General, U.S. Department of Health and Human Services, http://oig.hhs.gov/fraud/falseclaimsact.asp (accessed August 3, 2012).
"State False Claims Act Reviews," Office of Inspector General, Department of Health and Human Services, http://oig.hhs.gov/fraud/state-false-claims-act-reviews/index.asp (accessed September 13, 2012).

FRAUD ENFORCEMENT AND RECOVERY ACT OF 2009 (FERA)

Expands government resources to combat fraud in the housing and mortgage arena and expands the scope of the FCA by clarifying the term *knowingly* to mean a person who "(1) has actual knowledge of the information; (2) acts in deliberate ignorance of the truth or falsity of the information; or (3) acts in reckless disregard of the truth or falsity of the information." FERA also reduces the government's burden of proof, no longer requiring it to provide "proof of specific intent to defraud," and expanded the definition of *claim*.

Sec. 4, "Clarifications to the False Claims Act to Reflect the Original Intent of the law," United States Senate, Fraud Enforcement and Recovery Act S.386, April 2009, http://thomas.loc.gov/cgi-bin/query/F?c111:3:./temp/~c111f3yFGF:e10867 (accessed May 1, 2009); "Fraud Enforcement and Recovery Act of 2009 (FERA)," by Anne Sharamitaro and Kelly Gordon, Health Capital Topics *2, no. 5 (May 2009).*

3.3.3.4 Health Care Fraud Prevention and Enforcement Action Team (HEAT) In May 2009, HHS secretary Kathleen Sebelius and Attorney General Eric Holder announced the establishment of the HHS's *Healthcare Fraud Prevention and Enforcement Action Team* (HEAT), a group composed of both DOJ and HHS members.[232] Funded by allocations in President Obama's budget, the *Health Care Fraud and Abuse Control* (HCFAC) *Program account*, HEAT focuses on fraud prevention and elimination by identifying patterns of potentially fraudulent activity.[233] Its efforts have also bolstered the *Medicare Fraud Strike Force*, another HHS-DOJ collaboration founded in 2007.[234] In

[232]U.S. Department of Justice, "Attorney General Holder and HHS Secretary Sebelius Announce New Interagency Health Care Fraud Prevention & Enforcement Action Team," press release (May 20, 2009), http://www.hhs.gov/news/press/2009pres/05/20090520a.html (accessed September 12, 2012).

[233]Ben Amirault, "Sebelius: New Fraud Prevention Team Will Turn Up Heat," *Health Leaders Media*, May 21, 2009, http://www.healthleadersmedia.com/content/233446/topic/WS_HLM2_FIN/Sebelius-New-Fraud-Prevention-Team-Will-Turn-up-Heat.html (accessed May 21, 2009).

[234]U.S. Department of Health and Human Services, "HHS, Department of Justice Highlight Obama Administration Efforts, Health Reform Tools to Combat Medicare Fraud," news release (April 4, 2012), http://www.hhs.gov/news/press/2012pres/04/20120404a.html (accessed September 12, 2012).

May 2012, the *Medicare Fraud Strike Force* led a coordinated investigation across seven cities to obtain one of the largest healthcare fraud recoveries to date by successfully charging 107 medical professionals for fraudulently billing Medicare more than $452 billion.[235]

3.3.3.5 Dodd-Frank Act Signed into law on July 21, 2010, the *Dodd-Frank Act* expanded the scope of the FCA's protections from *employer retaliation*, creating new protections and financial incentives for whistle-blowing employees who disclose violations of federal securities and consumer protection laws.[236] In addition, the *Dodd-Frank Act* amends the FCA to *expand the scope of potential whistleblowers* to include both *current and former employees*, vendors, and independent contractors.[237] Furthermore, *Dodd-Frank* allows employees a three-year statute of limitations to bring an FCA civil claim against the employer for retaliatory actions.[238] *Dodd-Frank* applies to *any* type of *financial fraud* by a company under the jurisdiction of the *Securities and Exchange Commission* (SEC) or the *Commodities Futures Trading Commission* (CFTC), whereas the FCA applies only to financial fraud against the government.[239] For example, the government can bring claims under *Dodd-Frank* against an employer for off-label pharmaceutical marketing, defective pricing, or falsely charging for goods or services that it did not provide (akin to filing false Medicare claims).[240]

3.3.3.6 Success of Anti-Fraud Efforts In 2011 alone, the previously mentioned anti-fraud initiatives have recovered more than $4 billion, a record-breaking

---

[235] U.S. Department of Health and Human Services, "New Tools to Fight Fraud, Strengthen Federal and Private Health Programs, and Protect Consumer and Taxpayer Dollars," Fact Sheet (July 26, 2012), http://www.healthcare.gov/news/factsheets/2011/03/fraud03152011a.html (accessed September 12, 2012).

[236] "Dodd-Frank Wall Street Reform and Consumer Protection Act," *Pub. L.* 111-203, 124 Stat 1376 (July 21, 2010).

[237] Ibid., pp. 1854, 2079.

[238] Ibid., p. 2079.

[239] Lynne Ann Anderson and Meredith R. Murphy, "Dodd-Frank: Picking Up Where SOX Fell Short," New Jersey Labor and Employment Law, posted on DrinkerBiddle.com, Spring 2012, p. 19, http://www.drinkerbiddle.com/Templates/media/files/Outside%20Publications/2012/picking-up-where-sox-fell-short.pdf (accessed August 7, 2012).

[240] Ibid.

year in *fraud and abuse* recovery efforts.[241] Since its January 2009 inception, HEAT has recovered more than $6.6 billion for the federal government under the FCA.[242] These fraud prevention efforts have proved to be a successful investment, saving the government four dollars for every one dollar spent on anti-fraud programs.[243] To further these efforts, federal budget appropriations are increasing every year, from roughly $198 million in 2009 to $310 million in 2010, 2011, and 2012, as well as an estimated $610 million for 2013.[244]

According to an April 2012 HHS news release, *fraud prevention efforts* appear to have been as successful as *fraud recovery efforts*:

- In the early phase of revalidating the enrollment of providers in Medicare, 234 providers were removed from the program because they were deceased, debarred, or excluded by other federal agencies, or were found to be in false storefronts or otherwise invalid business locations.
- In 2011, HHS revoked 4,850 Medicaid providers and suppliers and deactivated 56,733 Medicare providers and suppliers as it took steps to close vulnerabilities in Medicare.
- In 2011, HHS saved $208 million through prepayment edits that stop implausible claims before they are paid.
- Prosecutions are up: the number of individuals charged with fraud increased from 797 in fiscal year 2008 to 1,430 in fiscal year 2011—nearly a 75 percent increase.

---

[241] U.S. Department of Health and Human Services, "HHS, Department of Justice Highlight Obama Administration Efforts, Health Reform Tools to Combat Medicare Fraud," news release (April 4, 2012), http://www.hhs.gov/news/press/2012pres/04/20120404a.html (accessed September 12, 2012).

[242] U.S. Department of Health and Human Services, "Health Care Fraud Prevention and Enforcement Efforts Result in Record-Breaking Recoveries Totaling Nearly $4.1 Billion: Largest Sum Ever Recovered in Single Year," news release (April 14, 2012), http://www.hhs.gov/news/press/2012pres/02/20120214a.html (accessed September 9, 2012).

[243] Ben Amirault, "Sebelius: New Fraud Prevention Team Will Turn Up Heat," Ben Amirault, *Health Leaders Media*, May 21, 2009, http://www.healthleadersmedia.com/content/233446/topic/WS_HLM2_FIN/Sebelius-New-Fraud-Prevention-Team-will-Turn-up-Heat.html (accessed May 21, 2009).

[244] Office of Management and Budget, *Budget of the U.S. Government: Fiscal Year 2011* (Washington, DC: U.S. Government Printing Office, 2010), p. 82; Office of Management and Budget, "Appendix," in *Budget of the U.S. Government: Fiscal Year 2013*, (Washington, DC: U.S. Government Printing Office, 2012), p. 508.

- In the first few weeks of enhanced site visits required under the ACA screening requirements, HHS found 15 providers and suppliers whose business locations were nonoperational and terminated their billing privileges.[245]

Commercial Reasonableness

The Department of Health and Human Services has interpreted *commercially reasonable* to mean that an arrangement appears to be "a sensible, prudent business agreement, from the perspective of the particular parties involved, even in the absence of any potential referrals." The Stark II, Phase II, commentary also suggests that "an arrangement will be considered 'commercially reasonable' in the absence of referrals if the arrangement would make commercial sense if entered into by a reasonable entity of similar type and size and a reasonable physician of similar scope and specialty, even if there were no potential DHS referrals."

Federal Register *63 (January 9, 1998): 1700;* Federal Register *69 (March 26, 2004): 16093.*

Fair Market Value

As defined by Stark II, Phase I, for the purpose of scrutinizing transactions between healthcare professionals, FMV is defined as "the value in arm's-length transactions, consistent with general market value," without taking into account any ability between parties to refer business to each other.

Federal Register *66 (January 4, 2001): 944;* Federal Register *69 (March 26, 2004): 16107.*

3.3.3.7 Fair Market Value as Defined by Fraud and Abuse Laws Many aspects of healthcare transactions, for example, physician compensation arrangements and lease agreements, are scrutinized under the traditional concepts

[245] U.S. Department of Health and Human Services, "HHS, Department of Justice Highlight Obama Administration Efforts, Health Reform Tools to Combat Medicare Fraud," news release (April 4, 2012), http://www.hhs.gov/news/press/2012pres/04/20120404a.html (accessed September 12, 2012).

of *Fair Market Value* and the related threshold of *commercial reasonableness*, meaning that an arrangement must be simultaneously at *Fair Market Value* and also be determined to be *commercially reasonable* in order to be deemed legally permissible under federal *fraud and abuse* laws. While *Fair Market Value* looks to the reasonableness of the range of dollars paid for a product or a service, the standard of *commercial reasonableness* looks to the reasonableness of the business arrangement generally.[246]

In addition to the definition of *Fair Market Value* set forth by the IRS governing transactions involving tax-exempt organizations, as discussed earlier, the definition of *Fair Market Value* is further established, for the purposes of valuation, through federal and state legislation, as well as by the regulatory agencies that monitor the compliance of various financial arrangements between healthcare providers, that is, the *Federal Anti-Kickback Statute*, the *Stark Law*, and *CMS*. The definition of *Fair Market Value*, as established by each of these regulatory bodies, is set forth in Table 3.11.

TABLE 3.11 Regulatory Definitions of Fair Market Value

Anti-Kickback Statute
"[F]air market value in arms-length transactions . . . not determined in a manner that takes into account the volume or value of any referrals or business otherwise generated between the parties for which payment may be made in whole or in part under Medicare or a State health care program."[247]
Stark Law
"*Fair market value* means the value in arm's-length transactions, consistent with the general market value. '*General market value*' means the price that an asset would bring as the result of bona fide bargaining between well-informed buyers and sellers who are *not otherwise in a position to generate business for the other party*, or the compensation that would be included in a service agreement as the result of bona fide bargaining between well-informed parties to the agreement who are not otherwise in a position to generate business for the other party, on the date of acquisition of the asset or at the time of the service agreement."[248] [Emphasis added.]

[246] Joyce Frieden, "Tread Carefully When Setting Fair Market Value: Stark Law Must Be Considered," November 1, 2003, http://findarticles.com/p/articles/mi_m0CYD/is_/ai_110804605 (accessed September 26, 2008).

[247] "Program Integrity; Medicare and State Health Care Programs; Permissive Exclusions," 42 CFR. 1001.952(b)(5), (2009), p. 735.

[248] "Medicare and Medicaid Programs; Physicians' Referrals to Health Care Entities with Which They Have Financial Relationships (Phase III): Final Rule," *Federal*

TABLE 3.11 (*continued*)

CMS
"We believe the relevant comparison is aggregate compensation paid to physicians practicing in similar academic settings located in similar environments. ***Relevant factors include geographic location, size of the academic institutions, scope of clinical and academic programs offered, and the nature of the local health care marketplace.***" [Emphasis added.][249]
"[W]e intend to accept any method [for establishing FMV] that is ***commercially reasonable and provides us with evidence that the compensation is comparable to what is ordinarily paid for an item or service in the location at issue, by parties in arm's-length transactions who are not in a position to refer to one another*** . . . . The amount of documentation that will be sufficient to confirm **fair market value** (and general market value) will vary depending on the circumstances in any given case; that is, there is no rule of thumb that will suffice for all situations."[250] [Emphasis added.]

Elaborating on the 2001 *Stark Law* definition of *Fair Market Value*, CMS (formerly, HCFA) provided the following guidance for determining when a compensation amount is at *Fair Market Value*:

> *We believe the relevant comparison is aggregate compensation paid to physicians practicing in similar academic settings located in similar environments. Relevant factors include geographic location, size of the academic institutions, scope of clinical and academic programs offered, and the nature of the local health care marketplace. . . . We intend to accept any method [for establishing FMV] that is commercially reasonable and provides us with evidence that the compensation is comparable to what is ordinarily paid for an*

Register 72, no. 171 (September 5, 2007): 51081. The Stark Law (as stated in the U.S. code) also equates the terms *Fair Market Value* and *General Market Value*, to wit: "The term 'fair market value' means the value in arm's length transactions, consistent with the general market value." From "Limitation on Certain Physician Referrals," 42 U.S. 1395nn (April 4, 2012).

[249] "Medicare and Medicaid Programs; Physicians' Referrals to Health Care Entities with Which They Have Financial Relationships," *Federal Register* 66, no. 3 (January 4, 2001): 916. Citing the CMS response to various comments given to provide guidance to practitioners as to the definition of *Fair Market Value*.

[250] Ibid.

> *item or service in the location at issue, by parties in arm's-length transactions who are not in a position to refer to one another. . . . The amount of documentation that will be sufficient to confirm FMV . . . will vary depending on the circumstances in any given case; that is, there is no rule of thumb that will suffice for all situations.*[251]

CMS has additionally noted that valuation methods under the Stark Law "must exclude valuation where the parties to the transaction are at arm's-length but in a position to refer each other," and that the definition of Fair Market Value under the Stark Law does not "necessarily comport with the usage of the term in standard valuation techniques and methodologies."[252]

In the March 2004 Stark II, Phase II, legislation, CMS stated that it "will consider a range of methods of determining [FMV] and that the appropriate method will depend on the nature of the transaction, its location, and other factors."[253] In addition, in the Stark II, Phase II, legislation, CMS created a voluntary safe harbor provision within the regulatory definition of Fair Market Value for hourly compensation paid by a DHS entity to a physician for his personal services.[254] Under the Fair Market Value safe harbor, there were two methodologies that could result in an hourly arrangement being considered to be at Fair Market Value: (1) where the physician's hourly rate is less than, or equal to, the hourly rate for emergency room physician services in the relevant geographic market, provided that there are at least three hospitals with emergency rooms in the geographic market; or (2) where the physician's hourly rate is calculated by averaging the fiftieth percentile of the national compensation level for physicians within the same specialty (or general practice if the specialty is not identified) in at least four of six specified salary surveys and then dividing that figure by 2,000 hours.[255]

---

[251] *Federal Register* 66, no. 3 (January 4, 2001): 916, 944.

[252] Ibid.; "Medicare Program; Physicians' Referrals to Health Care Entities with Which They Have Financial Relationships (Phase II)," *Federal Register* 69, no. 59 (March 26, 2004): 16107.

[253] "Medicare Program; Physicians' Referrals to Health Care Entities with Which They Have Financial Relationships (Phase II)," *Federal Register* 69, no. 59 (March 26, 2004): 16107.

[254] "Definitions," 42 CFR § 411.351, (October 9, 2008), pp. 419–420; "Medicare Program; Physicians' Referrals to Health Care Entities with Which They have Financial Relationships (Phase II)," *Federal Register* 69, no. 59 (March 26, 2004): 16092.

[255] "Medicare Program; Physicians' Referrals to Health Care Entities with Which They Have Financial Relationships (Phase II)," *Federal Register* 69, no. 59 (March 26, 2004): 16092.

Concerns regarding the impracticality and infeasibility of the CMS Fair Market Value voluntary safe harbor for hourly payments to physicians resulted in CMS eliminating the safe harbor in the September 2007 Stark II, Phase III, legislation. At that time, however, CMS emphasized that it would continue to scrutinize the Fair Market Value of arrangements under Stark and indicated that parties to a transaction may "calculate [Fair Market Value] using any commercially reasonable methodology that is appropriate under the circumstances and otherwise fits [within] the definition [of Fair Market Value]."[256] In response to a request for confirmation as to whether a Fair Market Value hourly rate could be used to compensate physicians for *both* their clinical and administrative services, and whether that hourly rate could be used to determine an annual salary, CMS stated in the Stark II, Phase III, provisions that

> *A fair market value hourly rate may be used to compensate physicians for both administrative and clinical work, provided that the rate paid for clinical work is fair market value for the clinical work performed and the rate paid for administrative work is fair market value for the administrative work performed. We note that the fair market value of administrative services may differ from the . . . value of clinical services. A fair market value hourly rate may be used to determine an annual salary, provided that the multiplier used to calculate the annual salary accurately reflects the number of hours actually worked by the physician.*[257]

3.3.3.8 Commercial Reasonableness as Defined by Fraud and Abuse Laws HHS has interpreted *commercially reasonable* to mean that an arrangement appears to be "a sensible, prudent business agreement, from the perspective of the

[256] "Medicare Program; Physicians' Referrals to Health Care Entities with Which They Have Financial Relationships (Phase III)," *Federal Register* 72, no. 171 (September 5, 2007): 51015; Andrew Wachler and Adrienne Dresevic, "Over a Decade Later, the Third and Final Phase in the Rulemaking of the Stark Regulations Is Finally Here!" ABA Health eSource, *ABA Health Law Section* 4, no. 1 (September 2007), http://www.abanet.org/health/esource/Volume4/01/Wachler-Dresevic.html (accessed May 14, 2010); "Medicare Program; Physicians' Referrals to Health Care Entities with Which They Have Financial Relationships (Phase III)," *Federal Register* 72, no. 171 (September 5, 2007): 51015.

[257] Ibid., p. 51016.

particular parties involved, even in the absence of any potential referrals."[258] The Stark II, Phase II, commentary also suggests that "an arrangement will be considered 'commercially reasonable' in the absence of referrals if the arrangement would make commercial sense if entered into by a reasonable entity of similar type and size and a reasonable physician of similar scope and specialty, even if there were no potential DHS referrals."[259]

In addition to pronouncements under Stark and by CMS regarding the definition of "commercial reasonableness," the IRS has listed several specific factors to consider in determining the commercial reasonableness of a physician compensation arrangement:

1. *"The nature of the employee's duties;*
2. *The employee's background and experience;*
3. *The employee's knowledge of the business;*
4. *The size of the business;*
5. *The employee's contribution to the profit making;*
6. *The time devoted by the employee to the business;*
7. *The economic conditions in general and locally;*
8. *The character and amount of responsibility of the employee;*
9. *The time of year when compensation is determined;*
10. *The relationship of shareholder-officer's compensation to stock holdings;*
11. *Whether the alleged compensation is in reality, in whole or in part, payment; and*
12. *The amount paid by similar size businesses in the same area to equally qualified employees for similar services."*[260]

In determining the *commercial reasonableness* of a given compensation arrangement, the appraiser should consider (1) whether it is necessary to have a physician perform a certain service, and (2) if it is necessary to have

---

[258] "Medicare and Medicaid Programs; Physicians' Referrals to Health Care Entitles with Which They Have Financial Relationships," *Federal Register* 63, no. 6 (January 9, 1998): 1700.

[259] "Medicare Program; Physicians' Referrals to Health Care Entities with Which They Have Financial Relationships (Phase II)," *Federal Register* 69, no. 59 (March 26, 2004): 16093.

[260] Jean Wright and Jay H. Rotz, "Reasonable Compensation," *Exempt Organizations Continuing Professional Education* (1993), http://www.irs.gov/pub/irs-tege/eotopici93.pdf (accessed September 4, 2012), citing *Internal Revenue Manual*, section 4233.27.

a *physician of that specialty* perform a certain service. For example, the *Fair Market Value* compensation paid for more specialized physicians and surgeons is generally higher than that of general practitioners and nonphysician practitioners. As a result, if a specialized physician is receiving compensation within the higher range of *Fair Market Value* to perform the same *tasks, duties, responsibilities, and accountabilities* that a less-skilled practitioner could perform for less compensation, the arrangement may not be deemed to be *commercially reasonable*, despite the fact that it is within the range of *Fair Market Value* for that particular medical specialty. In such situations, there tends to be a *presumption of fraud*, unless the healthcare provider can demonstrate that using that particular physician specialist was *reasonably necessary* for specified reasons, for example, that physician's specific experience or that the position's requirements could not have been done sufficiently by a less-skilled practitioner.

With regard to *Fair Market Value* under the *Stark Law* and the *Anti-Kickback Statute*, a 2002 federal district court stated, "Payments exceeding FMV are in effect deemed 'payment for referrals.'"[261] Later courts have developed more analytical approaches to determining whether a compensation arrangement will survive fraud and abuse scrutiny, particularly by looking at whether *physicians are actually performing the services outlined in the agreement*. In those circumstances where the physicians are not actually performing the services that are required within the scope of the *compensation agreement*, courts have found that the *compensation arrangement* does not meet the standards of *commercial reasonableness*.[262] For this reason, a typical medical director or physician executive agreement requires that contemporaneous logs are kept, which document the number of actual hours worked, as well as the physician's fulfillment of the *tasks, duties, responsibilities, and accountabilities* that are set forth in the compensation agreement for the given position.[263] A detailed discussion of the applicability of the *Fair Market Value standard* to the valuation of medical directorship, as well as the physician's clinical, on-call, and executive/administrative services, will be discussed in Chapter 15, "Valuation of Healthcare Services."

---

[261] *American Lithotripsy Society v. Thompson*, 215 F.Supp. 2d 23, 27 (D.D.C. July 12, 2002), p. 4.

[262] *United States of America ex rel. Roberts v. Aging Care Home Health, Inc., et al.*, 474 F.Supp. 2d 810 (W.D. La. Feb. 16, 2007), p. 818; see also *United States v. Rogan*, 459 F.Supp. 2d 692 (N.D. Ill. Sept. 29, 2006), pp. 715–716, 723.

[263] Fair Market Valuation Report—*United States v. SCCI*, in "*US ex rel. Kaczmarczyk, et. al v. SCCI Hospital Ventures, Inc.*," Civ. No. H-99-1031 (July 12, 2005), p. 6.

3.3.3.9 Relevant Case Law Interpretations of Fair Market Value and Commercial Reasonableness There is an evolving body of case law that has emerged in recent years, due to the heightened scrutiny related to the healthcare transactional marketplace, which provides interpretations of the various *fraud and abuse* prohibitions related to *Anti-Kickback*, *Stark*, and the *FCA*. Several of those cases that provide the most helpful guidance related to the definitions of *Fair Market Value* and *commercial reasonableness* are discussed next.

3.3.3.9.1 ***U.S. v. Covenant Medical Center*** An example of the potential liability faced by hospitals and physicians for not abiding by *commercial reasonableness* standards is a 2009 case against an Iowa hospital system, which settled for $4.5 million after the DOG alleged that Iowa's *Covenant Medical Center* compensated five referring physicians at rates far above *Fair Market Value*.[264] The DOJ alleged that the Covenant physicians—specifically, two orthopedic surgeons, two neurosurgeons, and a gastroenterologist—were reportedly among the highest-paid physicians in the entire United States, making as much as $2.1 million yearly, despite *Covenant*'s tax exempt status.[265] The DOJ cited significant discrepancies between the compensation paid to the five Covenant physicians, as compared to the compensation paid to physicians in the region and around the country, which led the DOJ to conclude that the hospital was paying the physicians for referrals, in violation of the *Stark Law*.[266]

---

[264]United States Department of Justice, "Covenant Medical Center to Pay U.S. $4.5 Million to Resolve False Claims Act Allegations," press release, August 25, 2009, http://www.usdoj.gov/opa/pr/2009/August/09-civ-849.html (accessed September 11, 2009).

[265]Ibid.; "Covenant to Pay Feds $4.5M to Settle Fraud Allegations," *Waterloo Cedar Falls Courier*, August 25, 2009, http://www.wcfcourier.com/articles/2009/08/25/news/breaking_news/doc4a94156271f78380125347.txt (accessed September 11, 2009); "$2 Million a Year Salaries for 2 Waterloo Doctors Under Fire," *Des Moines Register*, May 26, 2005, http://www.healthlawyers.org/Lists/Hospitals%20and%20Health%20Systems/Flat.aspx?RootFolder=http%3a%2f%2fwww%2ehealthlawyers%2eorg%2fLists%2fHospitals%20and%20Health%20Systems%2fCovenant%20doctor%20pay&FolderCTID=0x0120020084AC64571CB44A44AD2639BBD2AB9FDE (accessed September 5, 2012).

[266]U.S. Department of Justice, "Covenant Medical Center to Pay U.S. $4.5 Million to Resolve False Claims Act Allegations," news release, August 25, 2009, http://www.usdoj.gov/opa/pr/2009/August/09-civ-849.html (accessed September 4, 2009); Nigel Duara, "Iowa Hospital Pays $4.5 Million in Fraud Case," Associated Press, August 25, 2009 (accessed September 11, 2009).

3.3.3.9.2 ***U.S. ex rel. Drakeford v. Tuomey*** On March 30, 2012, the Fourth Circuit Court of Appeals issued its decision in *U.S. ex rel. Drakeford v. Tuomey*, a qui tam suit that involved an appeal from the March 2010 District Court of South Carolina decision, in which a jury found that Tuomey, the defendant healthcare system, had violated the *Stark Law* but not the FCA.[267] In this case, Tuomey Hospital signed part-time employment agreements with 18 specialists, offering each of the physicians a 10-year compensation agreement. Under the *employment agreement*, each specialist employed by Tuomey would perform all outpatient procedures at Tuomey Hospital or its affiliated facilities. The specialists would receive an *annual salary base that varied according to net cash collections*. In addition, the specialists would receive a *productivity bonus* equal to 80 percent of net collections. Furthermore, the specialists could receive an *incentive bonus* equal to 7 percent of their *productivity bonus*.[268]

After setting aside the jury verdict in a June 2010 post-trial hearing, the District Court of South Carolina ordered a new trial on the FCA claim but found in favor of the United States on its equitable claims.[269] In a July 2010 post-trial hearing, the District Court entered a judgment allowing the United States to recover damages from Tuomey in the amount of $44,888,651 plus interest, from which Tuomey appealed.[270] In its March 2012 decision, the Fourth Circuit found that the District Court had violated Tuomey's *Seventh Amendment* right to a jury trial because it decided the government's equitable claims based on the jury's interrogatory answer to the *Stark Law* issue, despite the District Court having already set aside the jury's verdict in its entirety.[271] The Fourth Circuit then vacated the District Court's judgment and remanded the case for further proceedings.[272] In considering the appeal, however, the Fourth Circuit addressed several issues related to the *Stark Law* that it anticipated were likely to arise on retrial.[273]

---

[267] *U.S. ex rel. Drakeford v. Tuomey*, No. 3: 05-CV02858-MJP (July 13, 2010), p. 1; *Tuomey Healthcare Sys., Inc.*, No. 10-1819, 2012 U.S. Ct. App. WL 1059849, at *1.

[268] Frances R. Fernald, A Guide to Complying with Stark Physician Self-Referral Rules, Update No. 30 (Washington, DC: Atlantic Information Services, Inc., 2012), p. 1.

[269] *Tuomey Healthcare Sys., Inc.*, No. 10-1819, 2012 U.S. Ct. App. WL 1059849, at *6.

[270] Ibid., at *7.

[271] Ibid., at *1, *7.

[272] Ibid., at *1.

[273] Ibid.

As indicated earlier in this chapter, under the *Stark Law*, if a physician or an immediate family member of the physician has a financial relationship with a qualifying healthcare entity, that physician "may not make a referral to the entity for the furnishing of designated health services" unless the arrangement qualifies for a *Stark* exception.[274] In the *Tuomey* appeal, the Fourth Circuit found that the *facility,* or "*technical*" component of the physicians' personally performed services, and the resulting *facility fee* that Tuomey billed based on that component, constituted a "*referral*" as defined by the *Stark Law.*[275]

Further, under *Stark*, a "*financial relationship*" includes a compensation arrangement in which a hospital pays remuneration to a referring physician either "directly or indirectly, overtly or covertly, in cash or in kind."[276] In considering the Tuomey physician employment agreements, the Fourth Circuit determined that the *Stark* "indirect compensation arrangements" exception was applicable, which requires that the compensation received by the referring physician be (1) equal to the *Fair Market Value* for services and items *actually provided*, (2) not determined in any manner that takes into account the *volume or value of referrals* or other business generated by the referring physician for the hospital, and (3) *commercially reasonable*.[277] In considering whether the Tuomey physician agreements implicated the "*volume or value*" standard, the court noted that the parties disagreed as to what conduct would actually implicate the standard.[278] The government argued that Tuomey implicated the standard because it "included a portion of the value of the anticipated facility component referrals in the physicians' fixed compensation," while Tuomey contended that the appropriate inquiry merely concerns whether the physicians' compensation "takes into account the volume or value of referrals" and not whether the parties to the agreements considered referrals when deciding whether to enter into the agreements at all.[279]

---

[274] "Limitations on Certain Physician Referrals," 42 U.S.C.. § 1395nn (2012).

[275] *Tuomey Healthcare Sys., Inc.*, No. 10-1819, 2012 U.S. Ct. App. WL 1059849, at *10.

[276] Ibid., at *2 (citing § 1395nn[a][2], h[1]; 42 CFR. § 411.354 [2012]).

[277] *Tuomey Healthcare Sys., Inc.*, No. 10-1819, 2012 U.S. Ct. App. WL 1059849, at *2; ibid., at *2 (citing § 411.357[p]).

[278] Ibid., at *10.

[279] Ibid.; Jesse Witten, "Fourth Circuit Issues Decision in *Tuomey* Discussing Stark Law Issues," American Health Lawyers Association, April 10, 2012, http://www.healthlawyers.org/Members/PracticeGroups/FA/EmailAlerts/Pages/FourthCircuitIssuesDecisioninTuomeyDiscussingStarkLawIssues.aspx (accessed April 20, 2012).

Examining *Stark* and official agency commentary, the court found that "compensation based on the volume or value of anticipated referrals implicates the volume or value standard."[280] Official agency commentary states that agreements that require a physician to "refer patients to a particular provider as a condition of compensation" do not violate the *Stark Law* as long as certain conditions are satisfied, one of which is that the "physician's compensation must not take into account the volume or value of anticipated referrals."[281] However, the court found that "if a hospital provides fixed compensation to a physician that is not based solely on the value of the services the physician is expected to perform, but also takes into account additional revenue the hospital anticipates will result from the physician's referrals, such compensation by necessity takes into account the volume or value of such referrals."[282] The court also referenced agency commentary, which suggests that even when fixed compensation does not "*fluctuate*" with referrals, it may still "*take into account*" referrals if it "exceeds fair market value and was inflated to compensate the physician for generating other revenue."[283]

As detailed earlier, under the *Tuomey* agreements, each physician was to be paid an annual base salary that fluctuated based on the hospital's net cash collections for the outpatient services and a "*productivity bonus*" equivalent of 80 percent of the net collections.[284] In addition, each physician was eligible for up to 7 percent of the productivity bonus as an additional incentive.[285] Given these agreement terms, the Fourth Circuit stated that the proper question for the jury on retrial is whether Tuomey's physician employment agreements, "on their face, took into account the value or volume of anticipated

---

[280] *Tuomey Healthcare Sys., Inc.*, No. 10-1819, 2012 U.S. Ct. App. WL 1059849, at *10–11.

[281] Ibid., at *11.

[282] Ibid.; Jesse Witten, "Fourth Circuit Issues Decision in *Tuomey* Discussing Stark Law Issues," American Health Lawyers Association, April 10, 2012, http://www.healthlawyers.org/Members/PracticeGroups/FA/EmailAlerts/Pages/FourthCircuitIssuesDecisioninTuomeyDiscussingStarkLawIssues.aspx (accessed April 20, 2012).

[283] McDermott Will & Emery, "Fourth Circuit Vacates Stark Damages Award; Provides Interpretation of Key Stark Law Provisions," April 19, 2012, http://www.mwe.com/Fourth-Circuit-Vacates-Stark-Damages-Award-Provides-Interpretation-of-Key-Stark-Law-Provisions-04-19-2012/ (accessed April 20, 2012).

[284] *Tuomey Healthcare Sys., Inc.*, No. 10-1819, 2012 U.S. Ct. App. WL 1059849, at *3.

[285] Ibid.

referrals."[286] Legal commentators have presumed that this statement implies that the relevant inquiry under a *Stark* analysis is whether the compensation was set in a way that considered the "*volume or value*" of referrals *anticipated to stem from the arrangement*, and that the phrase "*on their face*" could be a disputed issue in future litigation.[287] It should be noted that the concurring opinion issued by Judge Wynn criticized the majority for issuing what he considered to be an *advisory opinion* on these *Stark* issues.[288] On May 8, 2013, a federal jury in the District Court of South Carolina found that Tuomey violated the Stark Law and False Claims Act by filing claims under the 19 part-time physician employment agreements, with damages assessed against Tuomey in the amount of $39,313,065.[289]

3.3.3.9.3 *U.S. v. Campbell* As with *Tuomey*, the 2011 *U.S. v. Campbell* case explores the possibility of potential *Stark* violations arising through referrals for DHS services by physicians to healthcare enterprises with whom they have a *fixed compensation arrangement*.[290] In *Campbell*, the *University of Medicine and Dentistry of New Jersey* (UMDNJ) operated a university hospital accredited and licensed as a Level 1 Trauma Center and required the hospital to perform a requisite number of cardiac procedures each year to maintain its accreditation. In an effort to increase the number of cardiac procedures referred to, and performed at, the hospital, UMDNJ began a recruitment initiative that included "entering into part-time employment contracts with local community cardiologists in private practices, who had

[286] Ibid., at *11; Jesse Witten, "Fourth Circuit Issues Decision in *Tuomey* Discussing Stark Law Issues," American Health Lawyers Association, April 10, 2012, http://www.healthlawyers.org/Members/PracticeGroups/FA/EmailAlerts/Pages/FourthCircuitIssuesDecisioninTuomeyDiscussingStarkLawIssues.aspx (accessed April 20, 2012).

[287] Ibid.

[288] *Tuomey Healthcare Sys., Inc.*, No. 10-1819, 2012 U.S. Ct. App. WL 1059849, at *11; Jesse Witten, "Fourth Circuit Issues Decision in *Tuomey* Discussing Stark Law Issues," American Health Lawyers Association, April 10, 2012, http://www.healthlawyers.org/Members/PracticeGroups/FA/EmailAlerts/Pages/FourthCircuitIssuesDecisioninTuomeyDiscussingStarkLawIssues.aspx (accessed April 20, 2012).

[289] "United States of America, ex rel. Michael K. Drakeford, M.D., Plaintiff, vs. Tuomey d/b/a Tuomey Healthcare Systems, Inc., Defendant" No. 3:05-2858-MBS, *1 (D.S.C. May 8, 2013), http://www.kslaw.com/library/publication/HH051313_Verdict.pdf (accessed September 9, 2013); Frances R. Fernald, A Guide to Complying with Stark Physician Self-Referral Rules Update No. 30 (Washington, DC: Atlantic Information Services, 2012), p. 2.

[290] *U.S. v. Campbell*, 2011 U.S. Dist. LEXIS 1207.

patients they could refer to University Hospital for cardiac-related procedures."[291] One cardiologist, *Campbell,* entered into a contract with UMDNJ and was compensated $75,000 annually for his *part-time services*, which included teaching and lecturing for hospital fellows and medical students, interpreting hospital electrocardiograms, attending weekly cardiology conferences, supporting research efforts, and completing Medicare time studies. Following a federal investigation into UMDNJ's employment and referral practices, UMNDJ entered into a settlement with the federal government, paying approximately $8.33 million in FCA damages for *knowingly* submitting claims to Medicare that it *knew* to be in violation of the *Stark Law.*[292] Subsequent to UMDNJ's settlement, the United States brought an action against Campbell as an *individual*, claiming that Campbell's primary service for UMDNJ was *referring* cardiology patients to the hospital from his private medical practice, because he failed to perform most of the services identified in his employment agreement with UMDNJ, despite remaining to be compensated at his fixed annual salary.[293] *Campbell* establishes that healthcare providers may open themselves up to potential *Stark* liability *as individuals* by referring patients to healthcare entities with whom they have a financial relationship if a fixed compensation amount can be seen as remuneration for patient referrals in the absence of services performed by the physician as called for in the employment agreement. As of the date of this publication, the *Campbell* matter was ongoing.

3.3.3.9.4 ***U.S. ex. rel. Baklid-Kunz v. Halifax*** In *U.S. ex. rel. Baklid-Kunz v. Halifax*, a 2012 qui tam case involving *Stark* and the FCA, the government alleged that *Halifax* violated the FCA by submitting, and causing others to submit, false and fraudulent Medicaid claims arising from *improper referrals*.[294] The Plaintiff, a *Halifax* employee, alleged that *Halifax* (1) permitted thousands of hospital admissions without medical necessity; (2) routinely paid excessive compensation, including illegal kickbacks; (3) permitted profit-sharing incentives; and (4) allowed compensation pooling, all in violation of *Stark* or *Anti-Kickback* laws.[295]

---

[291] Ibid., p. 4.

[292] Ibid., pp. 8–9.

[293] Ibid., pp. 1–25.

[294] *U.S. ex. rel. Baklid-Kunz v. Halifax*, Case No. 6:09-cv-1002-Orl-31DAB (M.D. Fla. March 19, 2012), Order on Motion to Dismiss the Complaint in Intervention; ibid., p. 6.

[295] *U.S. ex. rel. Baklid-Kunz v. Halifax*, Case No. 6:09-cv-1002-Orl-31DAB (M.D. Fla. February 18, 2011), Plaintiff's Second Amended Complaint, pp. 1, 2, 25–66.

In its *Motions to Dismiss*, which the Florida district court denied, *Halifax* made numerous arguments attempting to invalidate the government's claims:

1. *First*, Halifax argued Eleventh Amendment immunity as a "*state agency or instrumentality*" and thus an "*arm of the state*" under Florida law.[296] [The court rejected this notion, holding that the defendant failed to demonstrate any "*unusual degree of control by the state*" in order to fall under *state immunity*.[297]]
2. *Second*, Halifax argued Medicaid reimbursement is not covered by federal *Stark Law* and could not result in a federal FCA violation. [The court cited the Medicaid program's limitation of physician referrals and *Stark*'s corresponding provisions, finding that improper referrals that resulted in improperly submitted Medicaid claims can give rise to FCA violations.[298]]
3. *Third*, Halifax argued that the government's complaint did not specify whether the hospital-physician relationship was "*direct*" or "*indirect*" or that the hospital had a specific intent to violate *Stark*. [The court found that the government is not required to make any such a distinctions in its complaint, merely that the relationship was improper.[299]]
4. *Fourth*, Halifax argued that the government failed to demonstrate that the arrangement at issue did not meet an applicable *Stark* exception. [The court reinforced the notion that *Stark exceptions* and statute of limitation exceptions are *affirmative defenses* and are neither bars to, nor required elements of, the plaintiff's cause of action.[300]]

As of the date of this publication, the case has yet to be decided.

3.3.3.9.5 *U.S. v. SCCI Hospital Houston* As part of the development of the *commercial reasonableness* threshold for purposes of the *Stark Law*, a more detailed analysis for determining whether a given compensation

[296] Halifax is a public hospital district created by Florida statute to provide services to state residents, regardless of their ability to pay.

[297] *U.S. ex. rel. Baklid-Kunz v. Halifax*, Case No. 6:09-cv-1002-Orl-31DAB (M.D. Fla. June 6, 2011), Order on Motion to Dismiss, pp. 2, 6, 9.

[298] *U.S. ex. rel. Baklid-Kunz v. Halifax*, Case No. 6:09-cv-1002-Orl-31DAB (M.D. Fla. March 19, 2012), Order on Motion to Dismiss the Complaint in Intervention, pp. 6–7.

[299] Ibid., p. 8.

[300] Ibid., pp. 8, 9, 11.

arrangement was *commercially reasonable* was proposed by the government's expert in the 2004 *U.S. v. SCCI Hospital Houston* case, a qui tam whistleblower suit that eventually settled. In this case, the United States challenged the *commercial reasonableness* of the compensation paid by the hospital to three physician medical directors.[301] The government's financial expert stated that *commercial reasonableness* depended on the agreement being "essential to the functioning of the hospital," and emphasized that there had to be "sound business reasons for paying medical director fees to referring physicians."[302] Furthermore, the government's expert analyzed several factors in assessing the *commercial reasonableness* of the compensation, including (1) the size of the hospital, the number of patients, and the patient acuity level needs; (2) the quality of activities and the involvement of medical staff in need of medical direction; (3) the number of regular committees and meetings that required physician involvement; and (4) the quality of hospital management and the interdisciplinary coordination of patient services.[303]

While medical director compensation may be based on either (1) an hourly payment, with the maximum number of hours specified in the contract or (2) an annual payment that is determined by a projected number of hours multiplied by a *Fair Market Value* hourly rate, it may be critical to surviving regulatory scrutiny for the employer to track *and* document the *actual* number of hours the medical director spends performing the services, that is, *[j]ustifying the need for . . . medical director services goes hand-in-hand with showing that the services are actually furnished. Any situation with more than one medical director for a single department is likely to be viewed with suspicion. If such arrangements exist, hospitals should be especially thorough in demonstrating the necessity for the arrangements.*[304]

---

[301] *United States ex rel. Darryl L. Kaczmarczyk, et al. v. SCCI Health Services Corp.*, Civ. No. H-99-1031 (S.D. Tex. April 12, 2004).

[302] *Fair Market Valuation Report—United States v. SCCI*, in *U.S. ex rel. Kaczmarczyk, et al., v. SCCI Hospital Ventures, Inc.*, Civ. No. H-99-1031 (July 12, 2005), p. 6; Lewis Lefko, "Fair Market Value in Health Care Transactions," Haynes and Boone, LLP, July 20, 2007, http://www.worldservicesgroup.com/publications.asp?action=article&artid=2086 (accessed September 18, 2008).

[303] *Fair Market Valuation Report—United States v. SCCI*, in *U.S. ex rel. Kaczmarczyk, et al., v. SCCI Hospital Ventures, Inc.*, Civ. No. H-99-1031, (July 12, 2005), p. 6.

[304] Linda A. Baumann, "Health Care Fraud and Abuse: Practical Perspectives," (Washington, DC: American Bar Association Health Law Section and the Bureau of National Affairs, 2002), p. 281.

3.3.3.9.6 *U.S. v. Bradford Regional Medical Center* In addition to *hospital-physician compensation arrangements* facing increased scrutiny for potential *Stark Law* violations, *hospital-physician lease arrangements* have also come under heightened scrutiny in recent years. Perhaps the most widely publicized case involving such an arrangement was the 2010 *U.S. v. Bradford Regional Medical Center,* a *qui tam action* in which the Court found that two physicians and *Bradford Regional Medical Center* had an *indirect financial relationship* through their noncompete clause of a *lease agreement*, whereby the consideration provided under the sublease *explicitly* took into account anticipated referral volumes, in violation of the *Stark Law.*[305] The court used a *Fair Market Value* analysis to determine the legal impermissibility of the sublease arrangement and applied *Stark*'s definition of *Fair Market Value* and the *value or volume standard* (i.e., if the consideration takes into account the *value* or *volume* of referrals, it is not at *Fair Market Value*) to determine whether the lease took into account anticipated referrals.[306] Although the court was unable to conclude *as a matter of law* that the defendants "*knowingly or willingly*" paid and received remuneration under the sublease and other arrangements in exchange for referrals in violation of the *Anti-Kickback Statute*, the court applied the *Stark Law*'s definition of *Fair Market Value* and the *value or volume standard* in determining the legal impermissibility of the arrangement.[307] It is of significant note that when applying a *Bradford* analysis to future hospital/physician lease arrangements, in making its determination that the financial relationship at issue in *Bradford* did not fall within the *Fair Market Value exception* to the *Stark Law*, the court looked to the defendant's expert report, which specifically stated that it took referrals into account when valuing the consideration paid for the nuclear camera sublease, that is,

> *When modified to reflect the aforementioned incremental/variable costs for providing the MRI and CT services the following table shows the expected quantitative revenues (000s omitted) that would accrue to the Hospital with the non-competition agreement in place and a comparison of those benefits to the amounts payable under the non-competition agreement. This is based on the assumption that the Physicians would likely refer this business to the Hospital in the absence of a financial interest in their own facilities*

[305] *Executive Summary of Report of Charles T. Day, CPA*, Case 1:04-cv-00186-MBC, September 10, 2008, p. 17.

[306] *U.S. ex rel. Singh v. Bradford Regional Medical Center*, 752 F.Supp.2d 602 (2010), pp. 634–635.

[307] Ibid.

> *or services, although they are not required to do so by virtue of any of the covenants contained in the Agreements or otherwise.*[308]

3.3.3.9.7 McLeod Regional Medical Center One of the earliest and most widely circulated qui tam actions regarding the applicability of the Fair Market Value standard as applied to the Stark Law and the Anti-Kickback Statute was the 1998 *United States ex rel. Richard Raugh v. McLeod Regional Medical Center of the Pee Dee, Inc., McLeod Physician Services, Inc., D. Laurence McIntosh, and Ernst and Young, LLP.* Raugh, an individual whistleblower, filed suit against McLeod Regional Medical Center, a tax-exempt organization, alleging that McLeod submitted false claims to Medicare in violation of Stark II and the Anti-Kickback Statute in connection with its purchase of several physician practices and the execution of subsequent employment arrangements. The relator, Raugh, additionally alleged that McLeod's purchase of the physician practices exceeded Fair Market Value, stating that the compensation paid to the physicians under the terms of the physician employment agreements evidenced an intent to buy future referrals.[309] Specifically, as the DOJ explained that

> *[t]he claims for services referred, ordered or arranged by those physicians were alleged to be false in three respects: First, Section 1877 of the Social Security Act, 42 USC 139nn (also known as Stark II), prohibited McLeod from billing Medicare for items or services referred or ordered by physicians with whom it had such financial relationships. Second, McLeod forfeited its right to submit those claims to the federal health care programs by paying remuneration intended to induce those and other referrals in violation of the Anti-Kickback Statute, 42 USC 1320a-7(b). And third, McLeod certified falsely on Medicare cost reports that the services identified or summarized were not provided or procured through payment directly or indirectly of a kickback or billed in violation of federal law.*[310]

---

[308] *Report of Charles T. Day, CPA*, Case 1:04-cv-00186-MBC, September 10, 2008, p. 17.

[309] Bernadette M. Broccolo, "Spotlight on Compensation Practices: Where We Have Been and Where Are We Going?" presented at Hospitals and Health Systems Law Institute, February 10–11, 2005, Tucson, Arizona, p. 70, compiled in "Physicians/Hospitals: Recruitment, Compensation, and Contracting Issues," American Health Lawyers Association, May 2005.

[310] U.S. Dept. of Justice, "McLeod Regional Medical Center to Pay U.S. Over $15 Million to Resolve False Claims Act Allegations," press release, November 1, 2002, http://www.justice.gov/opa/pr/2002/November/02_civ_634.htm (accessed September 19, 2012).

The case settled for $15,485,000 in October 2002.[311] It is of particular note that although the relator, who was previously the head of physician network development at *McLeod*, was released from criminal and civil liability, he received no financial share of the settlement paid by the defendant.[312]

3.3.3.9.8 OIG Guidance Regarding Coverage and Call Compensation While there has been relatively no case law related to the payment for coverage and call compensation, the OIG has provided some guidance in this area through the release of several *Advisory Opinions*. In 2000, the OIG issued a notice that suggested that a compliance program in which regular internal monitoring and auditing is conducted may be an effective way to ensure both that the services provided are considered to be *reasonable and necessary* and to determine whether any *incentives for unnecessary services* exist.[313] Reflecting on the importance of establishing a *reasonable necessity*, the OIG determined in a September 20, 2007, *Advisory Opinion* that an on-call physician compensation arrangement that did not meet an *Anti-Kickback Statute safe harbor* was nevertheless reasonable because the structure of the arrangement was tailored to the specific unmet needs of the hospital.[314] In issuing its *Advisory Opinion No. 07-10*, the OIG stated that the key inquiry for determining whether the compensation arrangement for providing emergency on-call coverage violated the *Anti-Kickback Statute* "is whether compensation is: (i)[at] fair market value in an arm's length transaction for actual and necessary items or services; and, (ii) not determined in any manner that takes into account the volume or value of referrals or other business generated between the parties."[315]

In making its determination regarding the *reasonable necessity* of the compensation arrangement, the OIG considered the fact that the subject arrangement involved a tax-exempt hospital that did not have the physician manpower required to provide emergency department coverage and follow-up care to the high volume of indigent patients unable to pay for services who were presented at the hospital emergency department. Furthermore, the OIG found that the subject arrangement did not "fit squarely into the terms of the safe harbor" for *personal services and management agreements*

[311] Ibid.

[312] Ibid.

[313] Department of Health and Human Services, "OIG Compliance Program for Individual and Small Group Physician Practices," 65 *Federal Register* 194 (October 5, 2000): 59434.

[314] "OIG Advisory Opinion No. 07-10," September 27, 2007, p. 10.

[315] Ibid., pp. 6–7.

because the amount of compensation was *not set in advance* and *varied monthly*. However, the compensation arrangement was nevertheless deemed by the OIG to be at a low risk of violating any *fraud and abuse* provisions because (1) the per diem rates were at *Fair Market Value* consideration of referrals; (2) the physicians were required to treat any patient who entered the emergency department until discharge, with no additional compensation; and (3) the physicians provided certain volunteer, or uncompensated, services. The OIG reasoned that because the emergency department was understaffed prior to on-call compensation being paid and all physician employees of the hospital were given a chance to participate in the on-call program on equal ground, the likelihood that the arrangement was instituted to provide *remuneration* to physicians for referrals was minimized.[316]

Similarly, in a May 14, 2009, *Advisory Opinion 09-05*, the OIG analyzed a tax-exempt hospital's proposed compensation arrangement for physician on-call services performed on behalf of the hospital's uninsured patients. In finding that the proposed compensation arrangement provided a *reasonable basis* for *reducing the risk of unlawful remuneration* under the *Anti-Kickback Statute*, the OIG noted that

> *with respect to compensation for on-call coverage, the key inquiry is whether the compensation is: (i) fair market value in an arm's length transaction for actual and necessary items or services; and (ii) not determined in a manner that takes into account the volume or value of referrals or other business generated between the parties.*[317]

In issuing its Advisory Opinion, the OIG was persuaded by the fact that the proposed compensation arrangement only allowed for payments to be made for *on-call services actually rendered* and did not include any "lost opportunity or other amorphous payments" for "non-tangible" services.[318]

3.3.4 Fraud and Abuse Reimbursement Monitoring Programs

There are several *fraud and abuse* monitoring programs that *review*, or *audit*, payments made to providers for submitted *Medicare and Medicaid* claims. CMS initiated *Medicare and Medicaid payment audits* to identify

---

[316] Office of Inspector General, "Advisory Opinion No. 07-10," Department of Health and Human Services, September 27, 2007, pp. 1–12.

[317] Ibid.; "OIG Advisory Opinion No. 09-05," May 14, 2009, pp. 1–12.

[318] "OIG Advisory Opinion No. 09-05," May 14, 2009, p. 9.

fraudulent billing practices, which, once uncovered, may subject providers to *repayment, regulatory sanctions, and civil fines*. Most allegations are resolved through negotiation and settlement with the OIG before a formal hearing occurs; however, providers have the right to appeal determinations made by OIG.[319]

3.3.4.1 Recovery Audit Contractors (RACs) Established through the *Medicare Modernization Act of 2003* (*MMA*) as a three-year demonstration project beginning in 2005, the *RAC program* is tasked with improving payment accuracy and increased program transparency by identifying improper Medicare *overpayments* and *underpayments* to providers based on three categories of errors: (1) payment for *medically unnecessary services*, (2) payment for *incorrectly coded services*, and (3) payment for *services not supported by sufficient documentation.*[320] An *overpayment* occurs when the provider is reimbursed an excess amount for a given claim and results in a provider owing Medicare the overpaid amount. Conversely, an *underpayment* occurs when the Medicare reimbursement received by a provider is less than the cost of providing care and results in Medicare owing the provider additional reimbursement funds.[321]

From 2005 to 2008, the Medicare *RAC demonstration project* recovered $1.03 billion in improper Medicare payments, returning $693.6 million to the *Medicare Trust Funds*.[322] During that three-year time period, approximately two-thirds of all hospital payment errors were due to a failure of hospitals to demonstrate the *medical necessity* of the care provided.[323] Following the three-year demonstration period, the *Tax Relief and Health Care*

---

[319] Office of Inspector General, "Civil Monetary Penalties and Affirmative Exclusions," http://oig.hhs.gov/fraud/enforcement/cmp/index.asp (accessed November 18, 2011).

[320] Centers for Medicare and Medicaid Services, *Implementation of Recovery Auditing at the Centers for Medicare and Medicaid Services: FY 2010 Report to Congress*, 2011, p. 2.

[321] Ibid.; American Hospital Association, "Underpayment by Medicare and Medicaid Factsheet," December 2010, http://www.aha.org/content/00-10/10medunderpayment.pdf (accessed December 1, 2011).

[322] Centers for Medicare and Medicaid Services, "CMS Announces New Recovery Audit Contractors to Help Identify Improper Medicare Payments," October 6, 2008, https://www.cms.gov/...a=&keywordType=All&chkNewsType=6&intPage=&showAll=&pYear=&year=&desc=&cboOrder=date (accessed September 12, 2011); Office of Inspector General, "Recovery Audit Contractors' Fraud Referral," February 2010, p. i.

[323] Jennifer Lubell, "RAC for All; Push for More Audits Could Affect Hospitals; Experts," *Modern Healthcare*, March 15, 2010.

Act of 2006 required that the *RAC program* be permanently established in all 50 states by January 1, 2010.[324] In 2008, CMS awarded contracts to four commercial RAC auditing firms (RACs), each responsible for a specified region of the United States, which compensated these RACs with a percentage of the improper *overpayments* collected from providers.[325] The ACA expanded the role of the *RAC program* to cover Medicaid, as well as Medicare Parts C and D beginning on January 1, 2012.[326]

In 2011, CMS issued its first annual report to Congress regarding the RAC program.[327] Through a post-payment review of the 2010 Fiscal Year (October 1, 2009, to September 20, 2010), the *Implementation of Recovery Auditing at the Centers for Medicare and Medicaid Services: FY 2010 Report to Congress* presented and analyzed data regarding *Medicare reimbursement errors* to *hospitals, physician offices, medical suppliers, ambulance services, nursing homes*, and other providers.[328] Within the 2010 fiscal year, the RAC program corrected 191,878 claims, adjusting $92.34 million in reimbursement errors.[329] This included 185,065 claims classified as *overpayments*, totaling $75.44 million, with an average claim amount of $408. Conversely 6,813 claims were classified as *underpayments*, totaling $16.90 million, with a $2,481 average claim amount.[330] After both *overpayments* and *underpayments* were accounted for, CMS was owed

---

[324] American Hospital Association, "Recovery Audit Contractor (RAC) Program," 2011, http://www.aha.org/advocacy-issues/rac/index.shtml (accessed September 12, 2011).

[325] Centers for Medicare and Medicaid, "Recovery Audit Program: Overview," September 6, 2011, http://www.cms.gov/recovery-audit-program/ (September 12, 2011); American Hospital Association, "RAC National Program and Contractor Information," 2011, http://www.aha.org/advocacy-issues/rac/contractors.shtml (accessed September 12, 2011); Centers for Medicare and Medicaid Services, "CMS Announces New Recovery Audit Contractors to Help Identify Improper Medicare Payments," October 6, 2008, https://www.cms.gov/...a=&keywordType=All&chkNewsType=6&intPage=&showAll=&pYear=&year=&desc=&cboOrder=date (accessed September 12, 2011).

[326] "Patient Protection and Affordable Care Act, Sec. 6411," *Pub. L.* 111-148, 124 Stat 119 (March 23, 2010), pp. 772–775.

[327] Centers for Medicare and Medicaid Services, *Implementation of Recovery Auditing at the Centers for Medicare and Medicaid Services: FY 2010 Report to Congress*, 2011.

[328] Ibid., p. iii.

[329] Ibid., pp. A6–A7.

[330] Ibid.

approximately $58.5 million, nationally.[331] When total corrections were taken into account, Missouri providers were owed the greatest amount by CMS (approximately $693,373), followed by providers in the states of Iowa (approximately $240,997); Nebraska (approximately $118,807); Nevada (approximately $39,527); Vermont (approximately $39,371); and Maine (approximately $14,708).[332] During the *FY 2010* period, most states had providers that owed funds to the Medicare program. California providers owed the most, approximately $6,687,702, followed by providers in Florida (nearly $6,537,578) and Texas (approximately $5,579,543).[333] HHS has indicated that it expects an additional savings of $2.1 billion for Medicaid between 2012 and 2017, with $900 million going back to the respective state Medicaid programs.[334]

3.3.4.2 Audit Medicaid Integrity Contractors (Audit MICs) In its March 2012 report *Early Assessment of Audit Medicaid Integrity Contractors*, the OIG assessed the efforts of the *Medicaid Integrity Contractors* (*MICs*) in order to determine the effectiveness of the *Medicaid Integrity Program*.[335] Of the 370 audits conducted as of March 2012 (consisting of a potential $80 million in overpayments), 81 percent of those audits were identified by the OIG as being ones in which the *Audit MICs* were unable, or unlikely, to discover overpayments to Medicaid providers.[336] The remaining 11 percent of the audits conducted accounted for *$6.9 million in overpayments*, $6.2 million of which were attributed to program areas that had previously been identified as vulnerable to *overpayments*.[337] The OIG concluded that the MICs' audits were hindered by the CMS's selection of poorly identified *audit targets*, as MICs are not contracted to identify targets for potential fraud but to audit the ones provided to them by the CMS.[338] The *March 2012 Report*

[331] Ibid.

[332] Ibid.

[333] Ibid.

[334] U.S. Department of Health and Human Services, "New Tools to Fight Fraud, Strengthen Federal and Private Health Programs, and Protect Consumer and Taxpayer Dollars," Fact Sheet (July 26, 2012), http://www.healthcare.gov/news/factsheets/2011/03/fraud03152011a.html (accessed September 12, 2012).

[335] Daniel R. Levinson, "Early Assessment of Audit Medicaid Integrity Contractors," Office of the Inspector General, March 2012, OEI-05-10-00210, p. 1.

[336] Ibid., p. 10.

[337] Ibid., pp. 5, 10.

[338] Ibid., pp. 11–12.

further indicated that *audit targets* were mistakenly selected based on either incorrect data or the improper application of state policies for identifying audit targets.[339]

In its recommendations, the OIG encouraged CMS to make greater use of *collaborative audits* conducted with *MICs* and to improve its current process for identifying and selecting audit targets, particularly where vulnerable program areas had been identified.[340] The OIG also recommended that CMS improve both the quality of, and the level of access to, data that *MICs* collect when conducting their audits.[341] In its response, CMS stated that it had already encouraged the increased use of *collaborative audits,* and that it had several initiatives in place to improve the audit target selection process.[342]

3.3.4.3 Comprehensive Error Rate Testing (CERT) Program The *Comprehensive Error Rate Testing* (CERT) program was created by CMS in order to determine improper *Medicare fee-for-service payments*.[343] CMS uses the results of the *CERT program* to provide Congress with an estimate of the annual amount of improper Medicare payments made to providers during a given year. However, a March 2012 OIG report titled *Review of CERT Errors Overturned through the Appeals Process for Fiscal Years 2009 and 2010* suggested that this estimate *did not account* for any *payment errors* that were *overturned through the appeals process* and may therefore have *inflated* the number of improper payments made in a given year.[344]

In its review of the error rates for FY 2009 and FY 2010, the OIG determined that based on the number of claim payment denials that were overturned on appeal after the cutoff date for determining the annual error rate, the *error rate would have been reduced* from 7.8 percent to 7.2 percent for FY 2009 and from 10.5 percent to 9.9 percent for FY2010.[345] Had

---

[339] Ibid.

[340] Ibid., pp. 17–18.

[341] Ibid., p. 18.

[342] Ibid., p. 19.

[343] Centers for Medicare and Medicaid Services, "Comprehensive Error Rate Testing (CERT)," May 15, 2012, http://www.cms.gov/Research-Statistics-Data-and-Systems/Monitoring-Programs/CERT/index.html?redirect=/CERT/ (accessed May 23, 2012); Daniel R. Levinson, "Review of CERT Errors Overturned through the Appeals Process for Fiscal Years 2009 and 2010," Office of the Inspector General, March 2012, A-01-11-00504, p. 1.

[344] Ibid.

[345] Ibid., p. 3.

these overturned claim payment denials been included in CMS's error rate calculation, there would have been an approximate $2 billion reduction in the estimated value of reported errors for both FY 2009 and FY 2010.[346] In its recommendations to CMS, the OIG encouraged the agency to develop a reliable method for adjusting the error rate and incorporating the outcome of appealed claim payment denials in order to generate a more accurate report regarding improper Medicare payments to providers.[347] CMS agreed with the OIG's recommendations and outlined the steps that it intended to take in implementing an improved *CERT program* methodology.[348]

3.3.4.4 Medicare-Medicaid (Medi-Medi) Data Match Program The *Medicare-Medicaid (Medi-Medi) Data Match Program* was established to identify areas of potential fraud, abuse, and waste in Medicare and Medicaid billing.[349] State participation in the *Medi-Medi* program is voluntary, and states must fund their own programs.[350] The *Medi-Medi* program initially started in 2001 as a *pilot program* in one state and expanded significantly over the course of a decade, garnering annual funding of $60 million during the last several years.[351] The goal of the program is to *analyze Medicare and Medicaid claims data collectively* in order to identify potentially fraudulent billing activities that might not have been observed when analyzing *Medicare* and *Medicaid* claims data separately.[352] In its review of the *Medi-Medi* program's operation in 10 states for 2007 and 2008, the OIG found that the *Medi-Medi program* "produced limited results and few fraud referrals," that is, the program's efforts resulted in 66 *referrals* of potential fraud to enforcement agencies, of which, 27 *referrals* were accepted for further investigation.[353]

In 2012, based on the limited gains of the *Medi-Medi* program, the OIG recommended that CMS reevaluate the program to determine what

[346] Ibid.

[347] Ibid., p. 5.

[348] Ibid.

[349] Daniel R. Levinson, "The Medicare-Medicaid (Medi-Medi) Data Match Program," Office of the Inspector General, April 2012, OEI-09-08-00370, p. 1, citing Centers for Medicare and Medicaid Services, *Medicare Program Integrity Manual*, Chapter 4, Section 4.2, September 30, 2011.

[350] Daniel R. Levinson, "The Medicare-Medicaid (Medi-Medi) Data Match Program," Office of the Inspector General, April 2012, OEI-09-08-00370, p. 17.

[351] Ibid., pp. 1–2.

[352] Ibid., p. 1.

[353] Ibid., p. 17.

role, if any, it should play in the OIG's overall strategy for the *Medi-Medi* program's integrity. In response to the OIG's recommendations, CMS indicated that it had already taken steps to improve the *Medi-Medi* program's effectiveness.[354] However, the OIG noted that as of January 2012, CMS had failed to provide any data to support its assertion that the program's effectiveness had improved and stated that this information was necessary to both future funding decisions and considerations by states as to whether to participate in the program.[355]

3.3.5 ACA Initiatives Aimed at Combating Fraud and Abuse

The ACA included several additional initiatives aimed at combating *fraud and abuse* in the U.S. healthcare delivery system. First, it amended *Federal Sentencing Guidelines* to strengthen prison sentences for convictions involving $1 million or more in losses to the federal Medicare and Medicaid programs.[356] Further, the ACA made intergovernmental agency collaboration easier by integrating—and increasing access to—data repositories and allowing authorities to suspend provider or supplier payments where fraudulent activity is suspected.[357] The ACA also established the *Physician Payments Sunshine Act* as part of the ACA's promotion of *transparency* in the healthcare industry.[358] On December 19, 2011, CMS published a proposed rule to implement the act, which included certain *reporting requirements* regarding certain payments (or gifts) received by physicians, as well as disclosures related to physician ownership or investment in a facility at which they treat patients.[359] While CMS has yet to release a final rule promulgating these reporting requirements, the ACA indicated that data submission requirements could begin as early as March 31, 2013.[360]

---

[354] Ibid., pp. 14, 21–22.

[355] Ibid., p. 22.

[356] "Patient Protection and Affordable Care Act, Sec. 10606," *Pub. L.* 111-148, 124 Stat 119 (March 23, 2010), pp. 1006–1008.

[357] "Patient Protection and Affordable Care Act, Sec. 6402," *Pub. L.* 111-148, 124 Stat 119 (March 23, 2010), p. 753.

[358] Ibid., p. 689.

[359] Department of Health and Human Services, "Medicare, Medicaid, Children's Health Insurance Programs; Transparency Reports and Reporting of Physician Ownership or Investment Interests; Proposed Rule," *Federal Register* 76, no. 243 (December 19, 2011): 78742.

[360] "Patient Protection and Affordable Care Act," *Pub. L.* 111-148, §6002, 124 Stat 689 (March 23, 2010).

3.3.6 Racketeer Influenced and Corrupt Organizations Act (RICO)

In addition to the multitude of *fraud and abuse* prohibitions aimed at healthcare providers, the *Racketeer Influenced and Corrupt Organizations Act* (*RICO*) is a federal law that carries both *criminal and civil penalties* for illegal conduct by *organized enterprises* (such as healthcare providers) dealing in *interstate or foreign commerce*.[361] RICO makes it illegal for any person to (1) use or invest any income derived from a pattern of racketeering activity in an enterprise; (2) acquire or maintain control of any enterprise through a pattern of racketeering activity; and (3) for any person employed by, or associated with, any enterprise to conduct the affairs of the enterprise through a pattern of racketeering activity.[362] It is also a RICO violation to *conspire to engage* in any of these three activities.[363] RICO has been used

RACKETEER INFLUENCED AND CORRUPT ORGANIZATIONS ACT (RICO)

A federal law that carries both criminal and civil penalties with the aim of protecting the public from "parties who conduct organizations affecting interstate commerce through a pattern of criminal activity." Makes it illegal for any person to use or invest any income derived from a "pattern of racketeering activity" in an enterprise, to acquire or maintain control of any enterprise through a pattern of racketeering activity, and for any person employed by or associated with any enterprise to conduct the affairs of the enterprise through a pattern of racketeering activity.

"Definitions," 18 U.S.C. 1961 et seq. (October 1, 2009); "Racketeer Influenced and Corrupt Organizations (RICO)," United States Attorneys' Manual, Title *9, Sec. 9–110.100, http://www.justice.gov/usao/eousa/foia_reading_room/usam/title9/110mcrm.htm#9–110.100 (accessed September 4, 2012).*

[361] "Definitions," 18 U.S.C. 1961, et seq. (October 1, 2009); "Racketeer Influenced and Corrupt Organizations (RICO)," *United States Attorneys' Manual*, Title 9, Sec. 9-110.100, http://www.justice.gov/usao/eousa/foia_reading_room/usam/title9/110mcrm.htm#9-110.100 (accessed September 4, 2012).

[362] "Prohibited Activities," 18 U.S.C. 1962(a)-(c) (October 1, 2009), p. 1.

[363] "Prohibited Activities," 18 U.S.C. 1962(d) (October 1, 2009), p. 1.

to prosecute physicians, attorneys, and patients who conspire to defraud payors through such practices as billing for services not actually rendered and unnecessarily prescribing controlled substances.[364]

3.4 COMPETITION

3.4.1 Antitrust Regulations

Antitrust is a body of law that aims to combat anticompetitive behavior. The *Sherman Anti-Trust Act* (Sherman Act), the *Clayton Act*, and Section 5 of the *Federal Trade Commission Act* are the federal government's primary means of combating unfair competition and the abuse of monopolistic power. Generally, the *Sherman Act* prohibits any "contract, combination . . . or conspiracy, in restraint of trade or commerce," while the *Clayton Act* prohibits (1) price discrimination, (2) exclusive dealing arrangements, and (3) mergers and joint ventures that could create a monopoly.[365] *The Federal Trade Commission Act* prohibits "unfair methods of competition in or affecting commerce," and gives the FTC authority to bring enforcement actions against *anticompetitive practices*.[366]

Antitrust

A body of law charged with combating anticompetitive behavior, which would impair the ability of free markets to function properly. Antitrust involves the regulation of mergers and acquisitions, as well as scrutiny of behavior between competitors that may restrain trade.

15 U.S.C. § 1; 15 U.S.C. § 45.

[364] Robert Fabrikant, et al., "Health Care Fraud: Enforcement and Compliance," *Law Journal Press*, 2007, pp. 3–90 (citing *United States v. Neely*, 980 F.2d 1074, 1077 [2d Cir. 1992]; *United States v. Console*, 13 F.3d 641, 650 [3d Cir. 1993]; *United States v. Hughes*, 895 F.2d 1135, 1138-1139 [6th Cir. 1990]; *United States v. Worthington*, 698 F.2d 820, 821 [6th Cir. 1983]).

[365] "Monopolies and Combinations in Restraint of Trade," 15 U.S.C.A. §12–19 (2012).

[366] "Sherman Antitrust Act" 15 U.S.C. § 1; "Federal Trade Commission Act," 15 U.S.C. § 45 ; "Federal Trade Commission; Promotion of Export Trade and Prevention of Unfair Methods of Competition," 15 U.S.C.A. §41–58 (2012).

SHERMAN ANTI-TRUST ACT

Prohibits any "contract, combination . . . or conspiracy, in restraint of trade or commerce" to combat unfair competition and abuse of monopolistic power. Used by the federal government to combat kick-backs and self-referral joint ventures.

"Sherman Antitrust Act," 15 U.S.C. § 1.

FEDERAL TRADE COMMISSION (FTC) ACT

Prohibits "unfair methods of competition in or affecting commerce." One of the federal government's primary means of combating unfair competition and abuse of monopolistic power.

"Federal Trade Commission Act," 15 U.S.C. § 45.

Typically, antitrust law considers "naked price-mixing and market-allocation agreements among competitors" as "per-se" violations of anti-trust law.[367] In contrast, a "rule of reason analysis evaluates whether the collaboration is likely to have anticompetitive effects, and, if so, whether the collaboration's potential procompetitive efficiencies are likely to outweigh those effects. The greater the likely anticompetitive effects, the greater the likely efficiencies must be for the collaboration to pass muster under the antitrust laws."[368]

Over the years, scrutiny of the *anticompetitive effects* of healthcare joint ventures and the mergers of healthcare providers has been inconsistent.[369] Because the FTC believes that most mergers between hospitals present no

[367] Federal Trade Commission, "Statement of Antitrust Enforcement Policy regarding Accountable Care Organizations Participating in the Medicare Shared Savings Program," U.S. Department of Justice, *Federal Register* 76, no. 209 (October 28, 2011): 67027.

[368] Ibid.

[369] U.S. Department of Justice and the Federal Trade Commission, "Statements of Antitrust Enforcement Policy in Health Care," August 1996, http://www.justice.gov/atr/public/guidelines/0000.htm#CONTNUM_61 (accessed September 19, 2012), pp. 3–4.

anticompetitive concerns, it issued a hospital joint venture "*safety zone*" such that mergers falling within the *safety zone* will not be challenged by the FTC, except in certain extraordinary circumstances.[370]

3.4.1.1 Monopoly *The Sherman Act* prohibits the abuse of monopoly power and has been used to address concerns related to physician integration under *Physician Hospital Organization* (PHO) *models*, *Independent Practice Associations* (IPAs), and the ability of such organizations to negotiate on behalf of their physician members.[371] The FTC typically examines such arrangements under a *rule of reason* analysis, balancing the *procompetitive* and *anticompetitive* effects of the subject integration arrangement on the market.[372]

Antitrust concerns have become more pronounced in recent years, as hospitals, health systems, and physician practices have increased their integration with one another, including integration in the context of ACO formation. (See Chapter 4, "Competition.") In order to encourage providers to develop ACOs, and in response to provider concerns regarding potential *antitrust* violations, the DOJ and the FTC issued a joint policy statement in October 2011 clarifying the agencies' enforcement policies, as well as preserving a "*safety zone*" for certain ACOs.[373] Under an *ACO safety zone,* the ACO's individual participants must not have a *combined share of more than 30 percent of each common service* within each participant's "*primary service area.*"[374] In their final policy statement, the agencies also removed the mandatory review requirements related to ACOs, thereby allowing newly formed ACOs that desire additional agency guidance to submit to a voluntary expedited review, rather than the previously required mandatory review.[375]

---

[370] Ibid.

[371] Linda A. Baumann, "Sherman Antitrust Act" 15 U.S.C. § 2 ; "Health Care Fraud and Abuse: Practical Perspectives, 2003 Supplement," American Bar Association, *Health Law Section*, 2003, p. 61; *In re Obstetrics & Gynecology Medical Corp. of Napa Valley*, Docket No. C-4048 (May 14, 2002).

[372] "Greater Rochester Independent Practice Association, Inc., Advisory Opinion," by Markus H. Meier, Assistant Director, Federal Trade Commission Bureau of Competition, to Christi J. Braun and John J. Miles, law firm of Ober, Kaler, Grimes & Shriver, September 17, 2007, http://www.ftc.gov/bc/adops/gripa.pdf (accessed April 18, 2008), p. 11.

[373] Federal Trade Commission, "Federal Trade Commission, Department of Justice Issue Final Statement of Antitrust Policy Enforcement Regarding Accountable Care Organizations," press release, October 20, 2011, http://www.ftc.gov/opa/2011/10/aco.shtm (accessed July 15, 2012).

[374] Ibid.

[375] Ibid.

Outside of the ACO context, other healthcare providers are continuing to consolidate (see Chapter 4, "Competition"). In light of this circumstance, traditional *antitrust enforcement* will likely continue, and recent cases demonstrate that the FTC is aggressively pursuing anticompetitive conduct. In the 2011 case *FTC v. Phoebe Putney Health System*, the sole pair of hospitals in Albany, Georgia, were consolidated when Phoebe Putney Health System acquired Palmyra Park Hospital. The FTC's efforts to prevent the merger of the two systems were unsuccessful in lower courts, due to the utilization of the *state actor immunity defense*.[376] On losing at the District Court level because of the health system's successful *state actor immunity defense*, the FTC appealed to the Eleventh Circuit, which affirmed the district court's decision.[377] After another appeal, the U.S. Supreme Court granted certiorari in June 2012 to decide the issue of state actor immunity, the outcome of which may have a far-reaching impact on other providers seeking to subvert *antitrust enforcement*.[378]

In 2011, the FTC released a final opinion *In the Matter of ProMedica Health System, Inc.*, which required ProMedica Health System, a nonprofit healthcare system in Toledo, Ohio, to divest its recently acquired interest in St. Luke's Hospital, a former competitor to ProMedica located in nearby Maumee, Ohio.[379] Following the merger of the two hospital enterprises, the number of ProMedica's competitors was reduced, leaving the health system with a *60 percent market share for general acute-care inpatient hospital services* and an *80 percent market share for inpatient obstetrical services.* In issuing its decision, the FTC reasoned that ProMedica's acquisition of St. Luke's significantly reduced prices for general acute-care inpatient hospital services and inpatient obstetric services in the market, and prices would increase for commercial health plans.[380]

---

[376] *Federal Trade Commission. v. Phoebe Putney Health System*, 793 F.Supp.2d 1356, 1360, 1375 (M.D. Ga. June 27, 2011), p. 13.

[377] *Federal Trade Commission v. Phoebe Putney Health System*, 663 F.Supp.2d 1369, 1361-62, 1366, 1378 (11th Cir. 2011), pp. 4, 7, 13.

[378] *Federal Trade Commission v. Phoebe Putney Health System, Inc.*, Opinion No. 11-1160, 2012 WL 985316 (June 25, 2012).

[379] *In the Matter of ProMedica Health System, Inc.*, Federal Trade Commissioner, Docket No. 9346, March 22, 2012.

[380] Federal Trade Commission, "Citing Likely Anticompetitive Effects, FTC Requires PreMedica Health System to Divest St. Luke's Hospital in Toledo, Ohio, Area: Final Opinion and Order Uphold Initial Decision Issued in December 2011," March 28, 2012, http://www.ftc.gov/opa/2012/09/promedica.shtm (accessed November 6, 2012).

In addition to reviewing hospital merger activities, the FTC has continued to scrutinize hospital acquisition of physician practices, as was seen in an August 2012 settlement between the FTC and *Renown Health*. In 2010, *Renown Health,* located in Reno, Nevada, *acquired* 31 *cardiologists*, all of whom signed *two-year noncompete agreements*.[381] The acquisition represented 97 percent of the *cardiologists* in the Reno *market area* at the time the government filed its August 2012 complaint.[382] The FTC argued that this acquisition essentially *eliminated* any *competition* for cardiology services and exposed the local market to the risk of *increased prices* and/or *reduced quality of care*.[383] Subsequently, the FTC ordered a suspension of the *noncompete agreements*, which could be lifted only once the FTC received verified documentation that at least six of the cardiologists had left *Renown* to work in *direct competition* with the corporation.[384] Further, the FTC prohibited *Renown* from discouraging former employees from practicing in the area.[385]

3.4.1.2 Concerted Refusal to Deal (Group Boycott) In a landmark concerted refusal to deal/group boycotting case, *Wilk v. American Medical Association*, a group of chiropractors alleged that the AMA, the Joint Commission, the American College of Physicians, and the American Academy of Orthopaedic Surgeons all conspired to eliminate the chiropractic profession by refusing to deal with any chiropractors and labeling the profession "unscientific quackery."[386] The Seventh Circuit Court of Appeals affirmed the lower decision that the boycott created an "unreasonable restraint of trade" in violation of the Sherman Act and prohibited any future behavior.[387]

In a 2008 matter in which the FTC settled an investigation related to the Connecticut Chiropractic Association, the FTC alleged that the defendants conspired to collectively refuse to deal with American Specialty Health (ASH), an in-state health plan, in order to prevent ASH's cost-saving

---

[381] *In the Matter of Renown Health*, FTC Complaint, F.T.C. No. C-4366 (August 3, 2012), pp. 2, 4.

[382] Ibid.

[383] Ibid., p. 6.

[384] *In the Matter of Renown Health*, Decision and Order, F.T.C. No. C-4366 (August 6, 2012), pp. 6–7.

[385] Ibid.

[386] *Wilk, et al. v. American Medical Association, et al.*, 895 F.2d 352 (February 7, 1990), p. 356.

[387] Ibid., p. 358.

chiropractic benefits plan from being administered in Connecticut.[388] The FTC found this to be a clear "per se" antitrust violation as a boycott among competitors in the same product market, and it resulted in the defendants being prohibited from "(1) negotiate[ing] on behalf of any chiropractor . . . [or] (2) . . . refus[ing] to deal, or threate[ing] to refuse to deal . . . with any payor."[389] Similarly, in August 2010, the DOJ and the State of Idaho reached a settlement with the Idaho Orthopaedic Society, the Ohio Sports Medicine Institute, and five orthopedic surgeons, over allegations that these parties conspired together in a group boycott initiative to gain more favorable fees by denying care to patients covered by worker's compensation insurance and threatening to withdraw from the Blue Cross of Idaho network unless they received more favorable contract terms.[390]

3.4.1.3 Predatory Pricing and Price Fixing Several cases over the years have been instrumental in providing guidance about what types of activities the FTC and the DOJ will consider to be anticompetitive as a result of *predatory pricing* and/or *price fixing* tactics. Traditionally, IPAs have been able to negotiate on behalf of their members only if the *joint-contracting agreement* has an element of *risk-sharing* built into it, or if the IPA has embarked on a *clinical integration* scheme to improve efficiency among its members.[391] In 2009, the FTC settled *price-fixing* charges made against a San Francisco IPA, Alta Bates Medical Group. The FTC's complaint alleged that since 2001, the 600-physician member IPA had conspired to orchestrate *collective negotiations* regarding *fee-for-service contracts* by *disallowing individual*

---

[388] U.S. Federal Trade Commission, "FTC Challenges Illegal Boycott of Health Plan by Connecticut Chiropractors," news release (March 5, 2008); *In the Matter of the Connecticut Chiropractic Association, et al.*, 2010 F.T.C. Docket No. C-4217 (April 14, 2008).

[389] Ibid., p. 4.

[390] *U.S. and State of Idaho v. Idaho Orthopaedic Society, et al.*, Civil Case No. 10-268-S.EJL (D.C. Idaho, August 30, 2010); U.S. Department of Justice, "Idaho Orthopedist Charged with Engaging in Group Boycotts and Denying Medical Care to Injured Workers," press release (May 28, 2010), http://www.justice.gov/atr/public/press_releases/2010/259181.htm (accessed September 20, 2012).

[391] Linda A. Baumann, "Health Care Fraud and Abuse: Practical Perspectives, 2003 Supplement," American Bar Association, *Health Law Section*, 2003, p. 61; "Greater Rochester Independent Practice Association, Inc., Advisory Opinion," by Markus H. Meier, assistant director, Federal Trade Commission Bureau of Competition, to Christi J. Braun and John J. Miles, law firm of Ober, Kaler, Grimes & Shriver, http://www.ftc.gov/bc/adops/gripa.pdf (accessed May 18, 2008).

members of the IPA from participating in the IPA's negotiations related to the *individual reimbursement rates* they would receive until the IPA had approved the negotiated prices. Significantly, the FTC did not find that Alta Bates Medical Group conducted any of the alleged anticompetitive activities in furtherance of *clinical or financial integration* or in an effort to achieve efficiencies between the member physician practices.[392] One year earlier, an FTC finding of illegal price fixing by *North Texas Specialty Physicians*, an *IPA*, was upheld by a federal appellate court.[393] The court held that IPA's negotiation conducted on behalf of physician members that does not involve *risk sharing with payors* or any form of *improved efficiency* from *clinical integration* runs afoul of *antitrust laws*.[394]

Following the *Alta Bates* settlement, in 2010, the FTC settled *price-fixing* charges with a Colorado physician group related to allegations that the physician practice, making up approximately 80 percent of the market in Garfield County, Colorado, entered into insurance contracts that contained automatic cost-of-living increases and a ban on often-used "*cost-lowering*" provisions that linked its commercial reimbursement rates to Medicare rates. The physicians were additionally accused of discouraging its members to directly contract with the insurer, and would only accept commercial contracts in which 80 percent of the group's primary care physicians, and 50 percent of the group's specialty physicians accepted the proposed contract terms.[395]

---

[392] American Health Lawyers Association, "FTC Settles Price-Fixing Allegations against San Francisco IPA," June 5, 2009, http://www.healthlawyers.org/News/Health%20Lawyers%20Weekly/Pages/2009/June%202009/June%2005%202009/FTCSettlesPrice- FixingAllegationsAgainstSanFranciscoIPA.aspx (accessed October 2, 2012); "Commission Approves FY 2009 HSR Premerger Notification Report; FTC Approves Final Consent Order in Matter Concerning Alta Bates Medical Group," news release, FTC, July 14, 2009, http://www.ftc.gov/opa/2009/07/hsr.shtm (accessed October 2, 2012).

[393] *North Texas Specialty Physicians v. Federal Trade Commission*, 2008 WL 2043040 (5th Cir. 2008), pp. 1, 18.

[394] Ibid., p. 16.

[395] Amercian Health Lawyers Association, "Colorado Physicians Group Settles Price-Fixing Charges, FTC Says," February 15, 2010, http://www.healthlawyers.org/News/Health%20Lawyers%20Weekly/Pages/2010/February%202010/February%2005%202010/ColoradoPhysicians'GroupSettlesPrice-FixingCharges,FTCSays.aspx (accessed October 2, 2012); "Colorado Physicians Group Agrees to Stop Alleged Price-Fixing Tactics," news release, FTC, February 3, 2012, http://www.ftc.gov/opa/2010/02/roaringfork.shtm (accessed October 2, 2012).

3.4.2 Any Willing Provider Statutes

"*Any Willing Provider*" laws are typically state statutes that require that health insurance plans accept any healthcare provider into their network that is willing to agree to each of the terms and conditions of the plan, including reimbursement rates.[396] These statutes vary by state as to the type of organization they regulate and which providers they affect, with some states providing this protection only to pharmacists or pharmacies, while others regulate coverage of physicians, dentists, hospitals, mid-level providers, allied health professionals, and other providers.[397] As of December 2011, 38 states had some type of "*any willing provider*" statute.[398]

Opponents of "*any willing provider*" statutes argue that by expanding the number of providers available to a *managed care organization*'s (an *MCO*'s) participants, they restrict the ability of MCOs to negotiate discounts for a guaranteed level of patient utilization.[399] Arguments have also been made that "*any willing provider*" statutes lower the quality of care by restricting the ability of managed care organizations to limit their network to a small group of high-quality or cost-effective providers. Supporters of "*any willing provider*" statutes counter that MCOs still retain their ability to limit providers in their network by the terms and conditions of their plans, including reimbursement rates and quality and utilization metrics.[400]

3.4.3 Certificate of Need

Certificate of Need (*CON*) laws are one of the most significant market entrance barriers affecting the U.S. healthcare delivery system. A state CON program is one in which a government determines where, when, and how capital expenditures will be made for public healthcare facilities, services, and major equipment.[401] CON requirements are based on the highly contested theory that in an unregulated market, healthcare providers will

---

[396] John F. Buckley IV and Nicole D. Prysby, *2009 State by State Guide to Managed Care Law* (Frederick, MD: Aspen Publishers, 2009), pp. 2–7.

[397] Ibid.

[398] "Any Willing Provider Laws (Statutes)," *50 State Statutory Surveys*, 0110 SURVEYS 23, Thomson Reuters/West, December 2011.

[399] Patricia A. Butler, "Kentucky's "Any Willing Provider" Laws and ERISA: Implications of the Supreme Court's Decision for State Health Insurance Regulation," National Academy for State Health Policy, June 2003, p. 2.

[400] Julie A. Barnes, "Managed Care Litigation," *ABA Health Law Section*, August 2005, p. 373.

[401] National Conference of State Legislatures, "Certificate of Need: State Health Laws and Programs," April 30, 2009, http://www.ncsl.org/IssuesResearch/Health/CONCertificateofNeedStateLaws/tabid/14373/Default.aspx (accessed June 24, 2009).

provide the latest costly technology and equipment, regardless of duplication or need.[402] Currently, 37 states retain some sort of CON program.[403] A complete list of states with CON legislation is provided in Table 3.12.

Factoid

Despite CON's aim to reduce healthcare costs by preventing duplication of services, healthcare costs have continued to rise.

"Miscellaneous Subjects," in Improving Health Care: A Dose of Competition, *a report by the Federal Trade Commission and the Department of Justice, July 2004, p. 2.*

Factoid

The enactment of federally mandated CON laws was the product of government-mandated health policy planning efforts that dated back to the post–World War II era.

"Beyond Health Care Reform: Reconsidering Certificate of Need Laws in a "Managed Competition" System," by Patrick John McGinley, Florida State University Law Review 23 (1995): 141, 145–148.

Factoid

A 1988 FTC study estimated that total hospital costs might decline by 1.4 percent, or $1.3 billion per year, if all states with CON laws doubled the dollar thresholds at which they require CON review of hospital expenditures.

The Effect of State Certificate-of-Need Laws on Hospital Costs: An Economic Policy Analysis, *by Daniel Sherman, Federal Trade Commission, January 1988, p. vi, http://www.ftc.gov/be/econrpt/232120.pdf (accessed October 29, 2009).*

[402] "Miscellaneous Subjects,"in *Improving Health Care: A Dose of Competition*, "Miscellaneous Subjects," A Report by the Federal Trade Commission and Department of Justice, July 2004, p. 2.

[403] National Conference of State Legislatures, "Certificate of Need: State Health Laws and Programs," March, 2012, http://www.ncsl.org/issues-research/health/con-certificate-of-need-state-laws.aspx (accessed September 20, 2012).

Factoid

Currently, 36 states and the District of Columbia retain some sort of CON program.

"Certificate of Need: State Health Laws and Programs," National Conference of State Legislatures, March 2012, http://www.ncsl.org/issues-research/health/con-certificate-of-need-state-laws.aspx#Program (accessed September 10, 2012).

TABLE 3.12 States with CON Legislation

	A	B	C		D	E	F
	State	C.O.N. Program[1]	Dates of Program		State	C.O.N. Program	Dates of Program
1	Alabama	X	1979-Present	27	Montana	X	1975-Present
2	Alaska	X	1976-Present	28	Nebraska	X	1979-Present
3	Arizona		1971-1985	29	Nevada	X	1971-Present
4	Arkansas	X	1975-Present	30	New Hampshire	X	1979-Present
5	California		1969-1987	31	New Jersey	X	1971-Present
6	Colorado		1973-1987	32	New Mexico		1978-1983
7	Connecticut	X	1973-Present	33	New York	X	1966-Present
8	Delaware	X	1978-Present	34	North Carolina	X	1978-Present
9	District of Columbia	X	1977-Present	35	North Dakota		1971-1995
10	Florida	X	1973-Present	36	Ohio	X	1975-Present
11	Georgia	X	1979-Present	37	Oklahoma	X	1971-Present
12	Hawaii	X	1974-Present	38	Oregon	X	1971-Present
13	Idaho		1980-1983	39	Pennsylvania		1979-1996
14	Illinois	X	1974-Present	40	Rhode Island	X	1968-Present
15	Indiana		1980-1996; 1997-1999	41	South Carolina	X	1971-Present
16	Iowa	X	1977-Present	42	South Dakota		1972-1988
17	Kansas		1972-1985	43	Tennessee	X	1973-Present
18	Kentucky	X	1972-Present	44	Texas		1975-1985
19	Louisiana	X	1991-Present	45	Utah		11979-1984
20	Maine	X	1978-Present	46	Vermont	X	1979-Present
21	Maryland	X	1968-Present	47	Virginia	X	1973-Present
22	Massachusetts	X	1972-Present	48	Washington	X	1971-Present
23	Michigan	X	1972-Present	49	West Virginia	X	1977-Present
24	Minnesota	X	1971-Present	50	Wisconsin		1977-1987; 1993-2011
25	Mississippi	X	1979-Present	51	Wyoming		1977-1989
26	Missouri	X	1979-Present				

[1]"Certificate of Need: State Health Laws and Programs," National Conference of State Legislatures, March 2012, http://www.ncsl.org/issues-research/health/con-certificate-of-need-state-laws.aspx (accessed September 20, 2012). Note Although not every state has an active CON program, each state does have a Health Planning Agency which deals with many of the same issues covered by CON legislation.

CERTIFICATE OF NEED (CON LAW)

Requires that healthcare providers obtain state approval before either developing new services or expanding existing services.

"Certificate-of-Need Law in Illinois Slammed by Feds, AMA," by Amy Lynn Sorrel, American Medical News, *October 6, 2008, http://www.ama-assn.org/amednews/2008/10/06/gvsb1006.htm (accessed on June 22, 2009).*

3.4.3.1 History of CON Program Development The enactment of federally mandated CON laws was the product of government-mandated health policy planning efforts that dated back to the post–World War II era. While federal regulations provided legislation and enforcement provisions, program development and implementation generally took place on the state or local level.[404] The *National Health Planning and Resources Development Act of 1974* pushed CON regulations to the forefront of government healthcare cost containment efforts and required that federal agencies pass health policy planning guidelines and establish "a statement of national health planning goals."[405] The act prompted states to enact CON programs by guaranteeing federal funding for state CON review programs and conditioned the receipt of certain healthcare funding on states' enactment of CON programs.[406] It also specified that state CON programs must meet federal guidelines in order to receive federal funding.[407] In response to the act, all 50 states developed

[404] Patrick John McGinley, "Beyond Health Care Reform: Reconsidering Certificate of Need Laws in a 'Managed Competition' System," *Florida State University Law Review* 23 (Summer 1995): 141, 145–148; Herbert Harvey Hyman, "Health Regulation: Certificate of Need and 1122" (Germantown, MD: Aspen Systems Corp., 1977), p. 7.

[405] "The National Health Planning and Resources Development Act of 1974," *Pub. L.* 93-641, January 4, 1975, § 1501; Frank A. Sloan, et al., *Cost, Quality, and Access in Health Care: New Roles for Health Planning in a Competitive Environment* (San Francisco: Jossey-Bass Publishers, 1988), p. 31.

[406] Patrick John McGinley, "Beyond Health Care Reform: Reconsidering Certificate of Need Laws in a 'Managed Competition' System," *Florida State University Law Review* 23 (Summer 1995): 147–148.

[407] Carolyn W. Madden, "Excess Capacity: Markets, Regulation, and Values," *Health Servs. Research* 33, no. 6 (February 1999): 1651, 1658.

NATIONAL HEALTH PLANNING AND RESOURCES DEVELOPMENT ACT OF 1974

Legislation that pushed CON regulations to the forefront of government healthcare cost containment efforts. The act required that federal agencies pass health policy planning guidelines and establish "a statement of national health planning goals."

"The National Health Planning and Resources Development Act of 1974," Pub. L. *93–641, January 4, 1975, § 1501; Frank A. Sloan, et al.*, Cost, Quality, and Access in Health Care: New Roles for Health Planning in a Competitive Environment *(San Francisco: Jossey-Bass Publishers 1988), p. 31.*

some form of *CON review.*[408] In 1987, Congress repealed the act, leading to 14 states discontinuing their CON programs.[409] Despite the elimination of a formal CON program, all 14 states retained certain regulatory mechanisms aimed at preventing "*duplication*" of healthcare services.[410]

3.4.3.2 Current CON Regulatory Environment Although early state CON laws were modeled after federal legislation, current CON regulation is based on various state statutes, rules, and regulations that designate an agency or a board to administer the application approval process.[411] State CON programs are administered according to statutes and regulations controlling market entry for regulated facilities, services, and equipment. Hospitals, nursing homes, certain freestanding clinics, home health agencies, and ASCs are often among the healthcare enterprises covered by CON restrictions.[412]

---

[408] "National Health Planning and Resources Development Act, Sec. 1601, et. seq.," *Pub. L.* 93-641, 88 Stat 2225 (January 4, 1975), pp. 2258–2270.

[409] National Conference of State Legislatures, "Certificate of Need: State Health Laws and Programs," April 30, 2009, http://www.ncsl.org/IssuesResearch/Health/CONCertificateofNeedStateLaws/tabid/14373/Default.aspx (accessed June 24, 2009).

[410] Ibid.

[411] Robert James Cimasi, *The U.S. Healthcare Certificate of Need Sourcebook* (Washington, DC: BeardBooks, 2005), pp. 30–33.

[412] Frank A. Sloan, et al., *Cost, Quality, and Access in Health Care: New Roles for Health Planning in a Competitive Environment* (San Francisco: Jossey-Bass Publishers, 1988), p. 44.

CON restrictions also often apply to healthcare services (including the change of one service to another), as well as healthcare assets, for example, the purchase of medical equipment and new technology.

CON regulatory policy has been highly contentious in both the state legislative and the judicial arena for many years and has been the subject of significant administrative agency study and review. Beyond these activities, the grant or denial of a CON application has frequently resulted in complex and costly litigation.[413] One argument against CON regulatory policy is that its intervention disrupts natural market forces and limits competition.[414] Seeking to preserve competition in healthcare markets, the FTC has consistently criticized the CON concept as a failed public health regulatory policy that creates barriers to new market competitors.[415] Another contention of CON is that it elicits political fraud within the states. For example, former Alabama governor Don Siegelman was resentenced in 2012 for convictions of bribery, conspiracy, fraud, and obstruction of justice charges involving former HealthSouth CEO Richard Scrushy, in connection with Alabama's CON program, while former Illinois governor Rod Blagojevich was sentenced in 2011 for convictions on 18 counts of corruption, in part related to fraudulent conduct with the Illinois Health Facilities Planning Board.[416]

3.4.3.3 FTC Pronouncements on CON The FTC has evaluated the impact of CON restrictions on competition for many years. A 1988 FTC study estimated that total hospital costs might decline by 1.4 percent, or $1.3 billion per year, if all states with CON laws doubled the dollar thresholds at which

---

[413] Robert James Cimasi, "Duped by Cries of Duplication: The Failure of Certificate of Need Regulation," Academy for Health Services Research and Policy, 2002 Annual Research Meeting (June 23, 2002).

[414] S. Houston Payne, "State Commission on the Efficacy of the Certificate of Need Program and Its Effect on Cost, Quality, and Access in Georgia," Georgia State Government, August 8, 2005, http://www.georgia.gov/vgn/images/portal/cit_1210/30/8/41941228Dr_Payne_Testimony.pdf (accessed February 10, 2010).

[415] *Improving Health Care: A Dose of Competition*, Chapter 8: "Miscellaneous Subjects," A Report by the Federal Trade Commission and Department of Justice, July 2004, pp. 1–2; Robert James Cimasi, "Duped by Cries of Duplication: The Failure of Certificate of Need Regulation," Academy for Health Services Research and Policy, 2002 Annual Research Meeting (June 23, 2002).

[416] "Former Alabama Governor Don Siegelman Re-Sentenced on Bribery, Conspiracy, Fraud and Obstruction of Justice Charges," news release, U.S. Department of Justice (August 3, 2012); United States Attorney's Office, Northern District of Illinois, "Summary of Selected Matters: September 2001–May 2012," U.S. Department of Justice, p. 1.

they required CON review of hospital expenditures.[417] In November 2002, then FTC chairman Timothy J. Muris announced that the FTC would hold joint hearings with the DOJ in 2003 regarding competition in healthcare.[418] On July 23, 2004, following the conclusion of the hearings, the FTC and the DOJ issued a joint report, in which the agencies *recommended that states decrease barriers to entry into provider markets*.[419] Following the testimony, the agencies suggested that instead of reducing costs, there is evidence that CON programs actually increase costs by "fostering anticompetitive barriers to entry."[420] In addition to raising prices, the FTC has *condemned CON regulation as causing lower quality and reduced innovation* in healthcare markets.[421]

3.4.3.4 The Application Process Every CON state has its own unique CON application process; however, general procedures tend to guide the application process in all CON states. The typical application process involves submission of an application for review, followed by agency review for consistency with planning criteria, and a public hearing and issuance of a decision by the granting authority.[422] In addition, each state will have its own unique criteria and thresholds related to what type of CON "review" will be required, for example, (1) *Full Review*: both utilization and population thresholds must be met; (2) *Expedited Review*: utilization threshold standards are not used, but rather "questions" related to "quality of care" and "technological advancements" must be answered; and (3) *Non-Substantive Review*: no formal application is required. If an application is approved, the project must typically begin within a specified amount of

[417] Daniel Sherman, "The Effect of State Certificate-of-Need Laws on Hospital Costs: An Economic Policy Analysis," Federal Trade Commission, January 1988, p. vi, http://www.ftc.gov/be/econrpt/232120.pdf (accessed October 29, 2009).

[418] FTC, "FTC Chairman Announces Public Hearings on Health Care and Competition Law and Policy to Begin in February 2003," press release, (Nov. 7, 2002), http://www.ftc.gov/opa/2002/11/murishealthcare.htm (accessed August 5, 2004).

[419] *Improving Health Care: A Dose of Competition: Executive Summary*, A Report by the Federal Trade Commission and the Department of Justice, July 2004, p. 22.

[420] Ibid., pp. 1–2.

[421] "Letter to Senator Culver Kidd," by the Federal Trade Commission (March 4, 1988), http://www.ftc.gov/opp/advocacy/1988/V880021.PDF (accessed October 29, 2009).

[422] Ann Huckstep, James C. Wilson Jr., and Richard P. Carmody, *Corporate Law for the Healthcare Provider: Organization, Operation, Merger and Bankruptcy* (Washington, DC: National Health Lawyers Association, 1993), p. 122.

time.[423] If a CON holder fails to fulfill the requirements of the CON, the state may retain the right to revoke it.[424] In some states, a CON may be transferable (and valued), but laws governing such rights to ownership differ from state to state. Because obtaining a CON is an administrative process, appeals of a negative application decision must first go through the proper administrative channels in jurisdictions with an applicable administrative procedures act and may then be appealed to the appropriate state court.[425]

3.4.4 Covenants Not to Compete

Covenants not to compete, in a general sense, restrict one party from competing with another party in a geographically defined area for a specific period of time and are often considered *intangible assets* of an organization that have the potential to hold significant value to that organization.[426] (See Chapter 14, "The Valuation of Tangible and Intangible Assets.") *Covenants not to compete* may be agreements between buyers and sellers, as well as between employers and employees. For example, *covenants not to compete* are often desirable for hospitals to possess in order to prevent an employed physician from establishing a competing medical practice on termination of his hospital employment or following a physician's sale of his practice to another healthcare enterprise, such as a medical group practice.[427] However, some states have passed legislation prohibiting the use of *noncompete agreements* among certain healthcare providers. See Table 3.13 for a further description of states that have statutes that expressly allow, or prohibit, *covenants not to compete* for certain healthcare providers.

3.5 PRIVACY REGULATIONS

Due to the fact that healthcare practitioners, providers, and organizations have regular access to patient health records, the possession of *confidential healthcare information* is regulated on a federal level to ensure that

[423] Ibid.

[424] Ibid.

[425] Ibid.

[426] Robert F. Reilly, "The Valuation and Amortization of Noncompete Covenants," *Business Valuation Review* (December 1989): 160.

[427] Robert R. Roper, "Restrictive Covenants in Professional Employment Contracts," *American Journal of Roentgenology* (March 28, 1989).

TABLE 3.13 State Covenants Not to Compete

	A	B	C	D	E
	State	**Statute**	**Effective Date**	**Noncompete Covenants Permitted?**	**Healthcare Specific Provision**
1	Alabama	Ala. Code § 8–1–1	1975	Yes	Covenants not to compete restraining "professionals" such as medical providers are void.
2	California	California Business and Professions Code §§ 16600–16602.5	1941	No	
3	Colorado	Colo. Rev. Stat § 8–2–113	April 6, 1982	Yes	Covenants not to compete restraining physicians are void.
4	Delaware	6 Del. Code Ann. § 2707	1983	Yes	Covenants not to compete restraining physicians are void.
5	District of Columbia	D.C. Code § 28–4502	1981	Yes	
6	Florida	Fla. Stat. Ann. § 542.335	1996	Yes	
7	Georgia	Ga. Const. of 1983, Art. III, Sec. VI, Par. V(c)	November 2, 2010	Yes	
8	Hawaii	Haw. Rev. Stat. § 480–4(c)	1984	Yes	
9	Idaho	Idaho Code §§ 44–2701 –44–2704	July 1, 2008	Yes	

10	Kentucky	N/A	N/A	Yes	Ky. Rev. Stat. § 311.285, prohibiting noncompetition clauses between healthcare providers lasting more than one year, was repealed by 1996 Kentucky Laws Ch. 371 (S.B. 343).
11	Louisiana	La. Rev. Stat. Ann. § 23:921	2010	Yes	
12	Massachusetts	M.G.L.A. 112 § 12X	1977	Yes	Covenants not to compete restraining physicians are void.
13	Michigan	Mich. Comp. Laws Ann. § 445.774a	December 28, 1987	Yes	
14	Missouri	Mo. Stat. Ann. § 431.202	July 1, 2001	Yes	
15	Montana	Mont. Code. Ann. §§ 28–2–703–28–2–705	1947	Yes	
16	Nevada	Nev. Rev. Stat. § 613.200	May 21, 2003	Yes	
17	North Carolina	N.C. Gen. Stat. § 75–4		Yes	
18	North Dakota	N.D. Cent. Code § 9–08–06	1943	No	
19	Oklahoma	Okla. Stat. tit. 15 §§ 217–219	June 4, 2001	No	
20	Oregon	Or. Rev. Stat. § 653.295	January 1, 2008	Yes	

(*continued*)

TABLE 3.13 State Covenants Not to Compete (*continued*)

	A	B	C	D	E
	State	**Statute**	**Effective Date**	**Noncompete Covenants Permitted?**	**Healthcare Specific Provision**
21	South Dakota	SDC §§ 53–9–1–53–9–12	1939	Yes	
22	Tennessee	Tenn. Code. Ann. § 63–1–148	January 1, 2012	Yes	Restrictions on the rights of contracted healthcare providers are deemed reasonable as specified by the conditions of the statute. The statute does not apply to emergency medicine providers.
23	Texas	Tex. Bus. & Com. Code §§ 15.50-.52	September 1, 2009	Yes	A covenant not to compete relating to the practice of medicine is enforceable against a person licensed as a physician by the Texas Medical Board if such covenant complies with the requirements specified in the statute.

Covenants Not to Compete: A State-by-State Survey, 7th ed., by Brian M. Malsberger (Arlington, VA: BNA Books, 2010); *Covenants Not to Compete: A State-by-State Survey*, 2011 Supplement, by Brian M. Malsberger (Arlington, VA: BNA Books, 2011).

patient privacy is maintained. Specifically, the *Health Insurance Portability and Accountability Act of 1996* (HIPAA) regulates access to *medical information*, while the *Red Flag Rules* regulate access to certain *financial information*. With healthcare organizations typically managing both patient medical information and billing for services, healthcare enterprises with varying degrees of complexity and size are expected to comply with both laws, with *HIPPA* containing provisions for criminal penalties, in addition to civil penalties, for violations of the law. The *FTC* may seek both civil penalties and injunctive relief under the *Red Flag Rules*.[428]

3.5.1 Health Insurance Portability and Accountability Act (HIPAA)

While *HIPAA* serves many purposes, it is most widely used for safeguarding the privacy of *Protected Health Information* (*PHI*), that is, individually identifiable health information.[429] This protection extends to information related to the "past, present or future physical or mental health condition of an individual; the provision of healthcare services to an individual; or the past, present or future payment for the provision of healthcare to an individual."[430] The *HIPAA Privacy Rule* provides standards for the use and disclosure of PHI by *covered entities*, as well as rights for individuals to control how their PHI is used.[431] The *Privacy Rule* governs covered entities, such as "health plans, healthcare clearinghouses, and any health care provider who transmits health information in electronic form in connection with a transaction for which the Secretary of HHS has adopted [HIPAA] standards."[432]

---

[428] Federal Trade Commission, "Fighting Fraud with the Red Flag Rules," http://www.ftc.gov/bcp/edu/microsites/redflagsrule/index.shtml (accessed November 6, 2012).

[429] "Definitions," 45 CFR. 160.103 (May 31, 2002), p. 701; "Health Insurance Portability and Accountability Act of 1996," *Pub. L.* No. 104-191 (August 21, 1996).

[430] "Definitions," 45 CFR. 160.103 (May 31, 2002), p. 701.

[431] United States Department of Health and Human Services, "Summary of the HIPAA Privacy Rule," OCR Privacy Brief, May 2003, http://www.hhs.gov/ocr/privacy/hipaa/understanding/summary/privacysummary.pdf (accessed June 17, 2009), pp. 4, 9.

[432] Ibid., p. 2.

COVERED ENTITIES UNDER HIPAA

Health plans, healthcare clearinghouses, and any healthcare provider who transmits health information in electronic form in connection with a transaction for which the secretary of HHS has adopted HIPAA standards.

"Summary of the HIPAA Privacy Rule," OCR Privacy Brief, United States Department of Health and Human Services, May 2003, p. 2, http://www.hhs.gov/ocr/privacy/hipaa/understanding/summary/privacysummary.pdf (accessed June 17, 2009).

HEALTH INSURANCE PORTABILITY AND ACCOUNTABILITY ACT OF 1996 (HIPPA)

The HIPAA Privacy Rule provides standards for the use and disclosure of "protected health information" (PHI) to safeguard patient privacy. PHI is anything that relates to a patient's past, present, or future physical or mental health condition and the provision of healthcare services to the patient, and to the past, present or future payment for the provision of healthcare to the individual. The Privacy Rule governs health plans, healthcare clearinghouses, and any healthcare provider who transmits health information in electronic form in connection with a transaction for which the secretary of HHS has adopted HIPPA standards ("covered entities"). The act was updated by the Health Information Technology for Economic Clinical Health (HITECH) Act, within the Recovery and Reinvestment Act of 2009, allowing patients to request an audit trail that shows all disclosures of their PHI, prohibiting the sale of a patient's PHI without his or her authorization and requiring individuals to be notified if there is an unauthorized disclosure or use of their PHI.

45 CFR. 160.103; 45 CFR. 164; "Summary of the HIPAA Privacy Rule," OCR Privacy Brief, United States Department of Health and Human Services, May 2003, p. 4, http://www.hhs.gov/ocr/privacy/hipaa/understanding/summary/privacysummary.pdf (accessed June 17, 2009).

Protected Health Information

Protected health information is individually identifiable health information that is transmitted by, or maintained in, electronic media or any other form or medium. This information must relate to (1) the past, present, or future physical or mental health, or condition of an individual; (2) the provision of healthcare to an individual; or (3) the payment for the provision of healthcare to an individual.

"Definitions," 45 CFR. 160.103 (May 31, 2002), p. 701; "Health Insurance Portability and Accountability Act of 1996," Pub. L. *No. 104–191 (August 21, 1996).*

Transactions by healthcare providers falling under the *Privacy Rule* include claims, benefit eligibility inquiries, referral authorization requests, and other transactions for which HHS has established particular standards.[433] These transactions are covered regardless of whether they are performed by the healthcare provider, a billing service, or any other third party under contract with the provider.[434] When a *covered entity* contracts with a third-party entity to perform billing or other *business associate* activities, such as claims processing, data analysis, or utilization review, the *covered entity* must impose specific safeguards to protect PHI.[435] *Unintentional HIPAA violations* carry fines of $100 per occurrence, up to $25,000 per year. However, *intentional HIPAA violations* carry criminal penalties that include fines of up to $250,000 and 10 years in prison.[436] Significantly, though, HIPAA *does not provide for private rights of action* for patients who were harmed by the dissemination of their PHI, but rather it provides patients with the option of filing a complaint with the *HHS Office for Civil Rights*

[433] Ibid.

[434] Ibid.

[435] "Uses and Disclosures of Protected Health Information: General Rules," 45 CFR. § 164.502(e), October 1, 2003, p. 3; United States Department of Health and Human Services, "Summary of the HIPAA Privacy Rule," OCR Privacy Brief, May 2003, http://www.hhs.gov/ocr/privacy/hipaa/understanding/summary/privacysummary.pdf (accessed June 17, 2009), p. 3.

[436] "Health Insurance Portability and Accountability Act, Sec. 262," *Pub. L.* 109-191 (August 21, 1996); "General Penalty for Failure to Comply with Requirements and Standards," 42 U.S.C. § 1320d-5 (2010); 42 U.S.C. § 1320d-7 (2010).

(OCR) in the event of a violation that resulted in harm to the patient.[437] The proper destruction of PHI is also protected under HIPAA.[438]

As the healthcare industry transitions to *electronic transactions*, the current version of the HIPAA standards that regulate the transmission of specific health care information, known as the *Accredited Standards Committee X12 Version 4010/4010AI*, has become increasingly less functional for the coding and transactional updates providers are currently required to accommodate (i.e., the coming *ICD-10 transition*). To rectify any inefficiency, the HHS approved *ASC X12 Version 5010*, whose improvements in Version 5010 include technical, structural, and data content requirements; transactional business standardization; data transmission specifications; and delineation of various patient codes.[439] The transition to *HIPAA Version 5010* will affect many healthcare industry stakeholders, including providers, health plans, healthcare clearinghouses, and business associates who participate in electronic transactions, such as billing/service agents and vendors.[440] According to a *2011 Medical Group Management Association report*, 45 percent of practices would have to replace their practice management systems completely to manage Version 5010, and 50.3 percent of practices would need to install upgrades to accommodate Version 5010.[441]

Despite the fact that according to the 2011 *MGMA report*, 34.5 percent of private physician practices did not currently have practice management

---

[437] Office for Civil Rights, "Health Information Privacy: How to File a Complaint," U.S. Department of Health and Human Services, http://www.hhs.gov/ocr/privacy/hipaa/complaints/index.html (accessed September 26, 2012).

[438] "Uses and Disclosures of Protected Health Information: General Rules," 45 CFR. § 164.502(e), October 1, 2003, p. 3; United States Department of Health and Human Services, "Summary of the HIPAA Privacy Rule," OCR Privacy Brief, May 2003, http://www.hhs.gov/ocr/privacy/hipaa/understanding/summary/privacysummary.pdf (accessed June 17, 2009), p. 3.

[439] Centers for Medicare and Medicaid Services, "New Health Care Electronic Transactions Standards: Versions 5010, D.0, and 3.0," January 2010, http://www.cms.gov/ICD10/Downloads/w5010 BasicsFctSht.pdf (accessed November 29, 2011); "Is Your Practice Ready for Version 5010?" MGMA Connexion Supplement, October 2011, p. 9.

[440] Centers for Medicare and Medicaid Services, "New Health Care Electronic Transactions Standards: Versions 5010, D.0, and 3.0," January 2010, http://www.cms.gov/ICD10/Downloads/w5010 BasicsFctSht.pdf (accessed November 29, 2011).

[441] "Statement of the Medical Group Management Association to the National Committee on Vital and Health Statistics Subcommittee on Standards: RE: HIPAA Version 5010," Medical Group Management Association, June 17, 2011, Englewood, CO, p. 5.

vendors that can upgrade their current systems, 42.5 percent of practices had not started the implementation of Version 5010.[442] One barrier to implementation is the cost of the new HIPAA Version 5010 software, hardware, and staff training, which may total approximately $16,575 per practice.[443] Although the final HIPAA rule introducing the changes was published on January 16, 2009, the *CMS Office of E-Health standards and Services (OESS*), responsible for enforcement of compliance with electronic transaction standards, delayed enforcement until July 1, 2012, partially due to industry feedback suggesting that many covered entities would be unable to comply with the new transaction standards by the original January 1, 2012, deadline.[444]

3.5.2 Red Flags Rules

On November 9, 2007, the FTC and other agencies published a list of "*red flags*," or "*warnings*" related to potential indicators of identity theft and mandated the implementation of an *Identity Theft Prevention Program* that is intended to apply to all creditors who deal with "*covered accounts.*"[445] Under the "*Red Flag Clarification Act of 2010*," a creditor is defined as one who "regularly, and in the ordinary course of business . . . obtains or uses consumer reports . . . in connection with a credit transaction; furnishes information to consumer reporting agencies . . . in connection with a credit transaction; or, advances funds to or on behalf of a person," except for funds for expenses "incidental to a service provided by the creditor to that person."[446]

---

[442] Ibid., p. 7.

[443] Ibid., p. 6.

[444] "Health Insurance Reform; Modifications to the Health Insurance Portability and Accountability Act (HIPAA); Final Rules," *Federal Register* 74, no. 10 (January 16, 2009): 3297–3299; Centers for Medicare and Medicaid Services, "Centers for Medicare & Medicaid Services' Office of E-Health Standards and Services Announces 90-Day Period of Enforcement Discretion for Compliance with New HIPAA Transaction Standards," November 17, 2011, http://www.cms.gov/ICD10/Downloads/CMSStatement5010EnforcementDiscretion111711.pdf (accessed November 28, 2011); "Health Insurance Reform; Modifications to the Health Insurance Portability and Accountability Act (HIPAA); Final Rules," *Federal Register* 74, no. 10 (January 16, 2009): 3297–3299.

[445] Federal Trade Commission, "Identify Theft Red Flags and Address Discrepancies under the Fair and Accurate Credit Transactions Act of 2003; Final Rule," 16 CFR. 681, November 9, 2007, p. 63719.

[446] "Red Flag Program Clarification Act of 2010," *Pub. L.* No. 111-319, 124 Stat 3457 (December 18, 2010).

Under the *Red Flag Rules*, a *covered account* includes:

1. *A [consumer] account primarily for personal, family or household purposes, that involves or is designed to permit multiple payments or transactions; or,*
2. *Any other account for which there is a reasonably foreseeable risk to customers or the safety and soundness of the financial institution or creditor from identity theft . . . including financial, operational, compliance, reputation, or litigation risks.*[447]

According to the FTC's *Fighting Fraud with the Red Flag Rules: A How-to Guide for Business*, healthcare enterprise creditors must (1) review their billing practices and payment procedures, and (2) create a program to ensure compliance.[448] Written compliance programs must include (1) strategies and procedures for *identifying* existing "*red flags*," (2) *avoiding* future "*red flag*" violations, (3) *preventing and mitigating* identity theft, and (4) *developing and implementing* a procedure for reevaluating and updating program protocols.[449] Penalties for noncompliance with the *Red Flag Rules* include monetary civil penalties, with a maximum amount per violation set at $3,500 as of October 2012. In addition, the FTC may seek injunctive relief, requiring companies to comply with the *Red Flag Rules* and maintain certain records documenting their compliance going forward.[450]

3.5.3 Health Information Technology for Economic and Clinical Health (HITECH) Act

The American Recovery and Reinvestment Act of 2009 (ARRA) made significant changes to HIPAA's health information privacy and security provisions.[451] The ARRA enacted the *Health Information Technology for*

[447] "Identity Theft Red Flags and Address Discrepancies under the Fair and Accurate Credit Transactions Act of 2003," *Federal Register* 72, no. 217 (November 9, 2007): 63719, 63721.

[448] Federal Trade Commission, "Fighting Identity Theft with the Red Flags Rule: A How-To Guide for Business," May 2013, http://www.business.ftc.gov/documents/bus23-fighting-identity-theft-red-flags-rule-how-guide-business (accessed November 26, 2013).

[449] Ibid., pp. 14–15.

[450] Federal Trade Commission, "Fighting Fraud with the Red Flag Rules: A How-To Guide for Business," http://www.ftc.gov/bcp/edu/microsites/redflagsrule/index.shtml (accessed November 6, 2012).

[451] Sheri Porter, "Stimulus Package Includes New HIPAA Security Rules: Small Practices Face Greatest Financial Impact," *AAFP News Now*, March 18, 2009, http://www.aafp.org/online/en/home/ (accessed June 17, 2009); "American Recovery and Reinvestment Act of 2009," *Pub. L.* No. 111-5, 123 Stat 115 (February 17, 2009).

Electronic Health Records

An electronic record of patient health information, such as patient demographics, notes, medications, medical history, laboratory dates, or medical reports, which are generated by one or more encounters in any care delivery setting.

"Electronic Health Record," Healthcare Information and Management Systems Society, 2009, http://www.himss.org/ASP/topics_ehr.asp (accessed September 22, 2009).

Economic Clinical Health (HITECH) Act in order to promote widespread adoption of health information technology, particularly *electronic health records* (*EHR*).[452] (See Chapter 5, "Technology," for an in-depth discussion of *EHR* as related to the *HITECH Act.*) Provisions in the *HITECH Act* protect the privacy and security of *PHI* by:

1. *Allowing patients to request an electronic copy of their records*, as well as an audit trail that shows all disclosures of their PHI;
2. *Prohibiting the sale of a patient's PHI* without his or her authorization; and,
3. Requiring individuals to be *notified if there is an unauthorized disclosure* or use of their PHI.[453]

This latter provision requires *public notification* to the HHS website, prominent media outlets, and the secretary of HHS when breaches affecting 500 patients or more occur.[454] Though these new notification requirements were effective as of September 23, 2009, enforcement was delayed until February 22, 2010.[455]

Exceptions to the *HITECH Act* for *PHI* include:

1. *Unintentional access* to, acquisition of, or use of PHI by a worker of the *covered entity*, acting in good faith, within the scope and course of duties, as long as the act does not lead to disclosure under HIPAA;

[452] "American Recovery and Reinvestment Act of 2009, Sec. 3001, 13400 et seq.," *Pub. L.* No. 111-5, 123 Stat 115 (February 17, 2009), pp. 230, 258.

[453] Ibid., pp. 260–268.

[454] Ibid., pp. 260–262.

[455] "Breach Notification for Unsecured Protected Health Information," *Federal Register* 74, no. 162 (August 24, 2009): 42740, 42756–42757.

2. *Inadvertent disclosure* from one worker of the *covered entity* to another, where both workers were authorized to access information and no future disclosure occurs; and
3. *Unauthorized disclosure* to an unauthorized person, where there is reasonable belief that the recipient would not retain information.[456]

HEALTH INFORMATION TECHNOLOGY FOR ECONOMIC CLINICAL HEALTH (HITECH) ACT

Legislation used to promote widespread adoption of health information technology, particularly electronic health records (EHR). Also used to protect the privacy and security of PHI by allowing patients to request an audit trail that shows all disclosures of their PHI, prohibiting the sale of a patient's PHI without his or her authorization, and requiring individuals to be notified if there is an unauthorized disclosure or use of their PHI.

"Health Information Technology for Economic and Clinical Health," found in "American Recovery and Reinvestment Act of 2009," Pub. L. *111–5 (February 17, 2009), Title XIII.*

In addition, the *HITECH Act* expanded the applicability of privacy laws to "*business associates*" (who are defined as people who are not employees but act on behalf of a "*covered entity or organized health care arrangement*" to perform a *function or activity* that involves disclosure of an individual's PHI) by requiring them to enter into a *written contract with the covered entity* for which it provides services detailing the contractual relationship and agreement provisions.[457] *Functions and activities* can include, but are not limited to:

1. Billing, claims, and data processing or administration;
2. Utilization review and quality assurance;

---

[456] "American Recovery and Reinvestment Act of 2009, Sec. 3001, 13400, et seq.," *Pub. L.* 111-5, 123 Stat 115 (February 17, 2009), pp. 230, 258.

[457] "American Reinvestment and Recovery Act, Sec. 13400," *Pub. L.* 111-5, 123 Stat 115 (February 17, 2009), p. 258; "Definitions," 45 CFR. § 160.103 (2010); "American Reinvestment and Recovery Act, Sec. 13401, 13402, 13408," *Pub. L.* 111-5, 123 Stat 115 (February 17, 2009), pp. 260, 264, 271.

3. Benefit management;
4. Practice management;
5. Legal, actuarial, accounting, consulting, or data aggregation; and
6. Management, administrative, accreditation, or financial services.[458]

PATIENT SAFETY AND QUALITY IMPROVEMENT ACT (PSQIA)

Legislation that established a voluntary reporting system for medical errors to increase the availability of such and more efficiently address issues related to patient care and quality.

"Patient Safety and Quality Improvement; Final Rule," 42 CFR. Part 3, Centers for Medicare and Medicaid Services, November 21, 2008, p. 70732.

Significant attention has been given to the *HITECH Act*, with the passage of the ACA in regards to the adoption of *electronic health records*. For example, since 2011, more than 3,300 hospitals and 120,000 eligible healthcare professionals have qualified for participation in the *Electronic Health Record Incentive Program*, exceeding the government's target by approximately 23,000 individuals.[459] (See Chapter 5, "Technology.")

3.5.4 Patient Safety and Quality Improvement Act

The Patient Safety and Quality Improvement Act (PSQIA) of 2005, effective January 19, 2009, established a voluntary reporting system for medical errors.[460] Under PSQIA, confidentiality provisions regarding the protection of "patient safety work product" were established, which mandated

[458] "Definitions," 45 CFR. § 160.103 (2010).

[459] Diana Manos and Mary Mosquera, "Final Rules for Stage 2 Meaningful Use Released," *Healthcare IT News*, August 23, 2012, http://www.healthcareitnews.com/news/final-rules-stage-2-meaningful-use-released (accessed September 22, 2012).

[460] U.S. Department of Health and Human Services, "Health Information Privacy: Understanding Patient Safety Confidentiality," http://www.hhs.gov/ocr/privacy/psa/understanding/index.html (accessed February 4, 2010); Centers for Medicare and Medicaid Services, "Patient Safety and Quality Improvement; Final Rule," 42 CFR. Part 3, November 21, 2008, p. 70732.

that reporting organizations must maintain compliance with HIPAA and other regulations, guidelines, and rules.[461] "Patient safety work product" includes any information that is collected while reporting and analyzing a patient safety event, that is, "a process or act of omission or commissions that resulted in hazardous health care conditions and/or unintended harm to the patient."[462] Under PSQIA, Patient Safety Organizations (PSOs) are charged with collecting and analyzing data under the supervision of the Agency for Healthcare Research and Quality (AHRQ), one of the 12 agencies within HHS that is tasked with improving the quality, safety, efficiency, and effectiveness of healthcare in the United States through conducting and supporting research that is then translated into improved healthcare delivery and policy initiatives.[463]

3.5.5 Custodial Rights to Patient Charts

As discussed in Chapter 14, "The Valuation of Tangible and Intangible Assets," patient medical charts and records are a significant asset of a physician's professional practice enterprise. The *patient information and data recorded* and contained within the medical records themselves belong to the patient, not to the physician or the owner of the physician practice and, accordingly, cannot be sold. However, the *custody* of the medical charts and records and patient recall lists does, in fact, constitute an *intangible asset* of the physician practice that may be (and often is) *transferred and valued.* That confidential *PHI* contained within the medical chart/record is subject to the privacy regulations (e.g., *HIPAA, HITECH*) discussed earlier in this chapter. A description of state *medical record retention laws* for both hospitals and physicians is set forth in Table 3.14 and Table 3.15.

---

[461] "Patient Safety and Quality Improvement: Final Rule," *Federal Register* 73, no. 226 (November 21, 2008): 70734.

[462] Ibid., p. 70739 referring to footnote 7, in "Patient Safety and Quality Improvement: Proposed Rule," *Federal Register* 73, no. 29 (February 12, 2008): 8113.

[463] U.S. Department of Health and Human Services, "Health Information Privacy: Understanding Patient Safety Confidentiality," http://www.hhs.gov/ocr/privacy/psa/understanding/index.html (accessed February 4, 2010); Carolyn M. Clancy, "Welcome to the AHRQ Black Bag," *Agency for Healthcare Research and Quality*, 2004, http://www.ahrq.gov/research/blackbag.htm (accessed September 29, 2012).

TABLE 3.14 Medical Record Retention Laws by State—Physicians, as of August 2009

State	Rights to Access Law	Maximum Response Time Law[1]	Maximum Copying Fee Law[2]	State	Right to Access Law	Maximum Response Time Law	Maximum Copying Fee Law
Alabama	X		X	Montana	X	X	X
Alaska	X			Nebraska	X	X	X
Arizona	X		X	Nevada	X	X	X
Arkansas	X	X	X	New Hampshire	X	X	X
California	X	X	X	New Jersey	X	X	X
Colorado	X	X	X	New Mexico	X	X	X
Connecticut	X	X	X	New York	X	X	X
Delaware	X	X	X	North Carolina		X	
District of Columbia	X	X	X	North Dakota	X		X
Florida	X	X	X	Ohio	X	X	X
Georgia	X	X	X	Oklahoma	X		X
Hawaii	X		X	Oregon	X	X	X
Idaho				Pennsylvania	X		X
Illinois	X	X	X	Rhode Island	X	X	X
Indiana	X		X	South Carolina	X		X
Iowa	X	X	X	South Dakota	X		X[3]
Kansas	X	X	X	Tennessee	X	X	X

(*continued*)

TABLE 3.14 Medical Record Retention Laws by State—Physicians, as of August 2009 (*continued*)

State	Rights to Access Law	Maximum Response Time Law[1]	Maximum Copying Fee Law[2]	State	Right to Access Law	Maximum Response Time Law	Maximum Copying Fee Law
Kentucky	X		X	Texas	X	X	X
Louisiana	X	X	X	Utah	X	X	X
Maine	X	X	X	Vermont	X	X	X
Maryland	X	X	X	Virginia	X	X	X
Massachusetts	X	X	X	Washington	X	X	X
Michigan	X	X	X	West Virginia	X	X	X
Minnesota	X	X	X	Wisconsin	X	X	X
Mississippi	X	X	X	Wyoming	X	X	X
Missouri	X	X	X				

"Table A-1a. General Overview of State Medical Record Access Laws: Medical Doctors," in *Privacy and Security Solutions for Interoperable Health Information Exchange*, by P. Jon White, August 2009, http://www.healthit.gov/sites/default/files/rules-regulation/appa-1.pdf (accessed November 6, 2012).

[1] Maximum Response Time Laws either are based on a "*reasonable*" standard or specify a number of days.
[2] Maximum Copying Fee Laws either are based on a "*reasonable*" standard or specify a maximum dollar amount.
[3] South Dakota law requires fees equal to the actual costs of copying the records.

TABLE 3.15 Medical Record Retention Laws by State—Hospitals, as of August 2009

State	Right to Access Law	Maximum Response Time Law[1]	Maximum Copying Fee Law[2]	State	Right to Access Law	Maximum Response Time Law	Maximum Copying Fee Law
Alabama		X		Montana	X	X	X
Alaska	X			Nebraska	X	X	X
Arizona	X		X	Nevada	X	X	X
Arkansas	X	X	X	New Hampshire	X		X
California	X	X	X	New Jersey	X	X	X
Colorado	X	X	X	New Mexico			
Connecticut	X		X	New York	X	X	X
Delaware	X	X	X	North Carolina	X		X
District of Columbia				North Dakota	X		X
Florida	X	X	X	Ohio	X	X	X
Georgia	X	X	X	Oklahoma	X		X
Hawaii	X		X	Oregon	X		X
Idaho				Pennsylvania	X		X
Illinois	X	X	X	Rhode Island	X	X	X
Indiana	X		X	South Carolina	X	X	X
Iowa				South Dakota	X		X[3]
Kansas	X	X	X	Tennessee	X	X	X

(*continued*)

TABLE 3.15 Medical Record Retention Laws by State—Hospitals, as of August 2009 (*continued*)

State	Right to Access Law	Maximum Response Time Law[1]	Maximum Copying Fee Law[2]	State	Right to Access Law	Maximum Response Time Law	Maximum Copying Fee Law
Kentucky	X		X	Texas	X	X	X
Louisiana	X	X	X	Utah	X	X	X
Maine	X	X	X	Vermont			X
Maryland	X	X	X	Virginia	X	X	X
Massachusetts	X		X	Washington	X	X	X
Michigan	X	X	X	West Virginia	X	X	X
Minnesota	X	X	X	Wisconsin	X	X	X
Mississippi	X		X	Wyoming	X	X	X
Missouri	X	X	X				

"Table A-1a. General Overview of State Medical Record Access Laws: Medical Doctors," in *Privacy and Security Solutions for Interoperable Health Information Exchange*, by P. Jon White, August 2009, http://www.healthit.gov/sites/default/files/rules-regulation/appa-1.pdf (accessed November 6, 2012).

[1]Maximum Response Time Laws either are based on a "*reasonable*" standard or specify a number of days.
[2]Maximum Copying Fee Laws either are based on a "*reasonable*" standard or specify a maximum dollar amount.
[3]South Dakota law requires fees equal to the actual costs of copying the records.

3.6 SAFETY REGULATIONS

According to the Economic Research Institute's "*Top 10 Health Technology Hazards for 2013*," the following healthcare technologies have been identified as potential "*hazards*" to the delivery of high-quality and safe patient care in the United States:

1. Medical device alarm hazards;
2. Medication administration errors using infusion pumps;
3. Unnecessary exposures and radiation burns from diagnostic radiology procedures;
4. Patient/data mismatches in EHRs and other health IT systems;
5. Interoperability failures with medical devices and health IT systems;
6. Air embolism hazards;
7. Inattention to the needs of pediatric patients when using "adult" technologies;
8. Inadequate reprocessing of endoscopic devices and surgical instruments;
9. Patient caregiver distractions from smartphones and other mobile devices and surgical fires.[464]

A variety of safety regulations applicable to healthcare enterprises and providers have been enacted at the federal and state level that aim to improve patient safety, several of which will be discussed next.

3.6.1 Clinical Laboratory Improvement Amendments (CLIA)

Prior to 1988, only independent and hospital laboratories were subject to federal regulation under the *Medicare, Medicaid, and Clinical Laboratories Improvement Act of 1967*.[465] Following a public outcry after numerous reports of inaccurate Pap smear results, Congress passed the *Clinical Laboratory Improvement Amendments* (CLIA) in 1988 (and its subsequent amendments) in order to improve the *accuracy, reliability, and timeliness* of laboratory test results.[466]

---

[464] "Top 10 Health Technology Hazards for 2013," Economic Research Institute, November 2012, p. 1.

[465] "Medicare, Medicaid, and Clinical Laboratories Improvement Act," *Pub. L.* 90-174, 81 Stat 536 (December 5, 1967), pp. 536, 538.

[466] "Laboratory Requirements," 42 CFR. § 493 (2003); Centers for Medicare and Medicaid Services, "Clinical Laboratory Improvement Amendments: Overview," May 07, 2009, http://www.cms.hhs.gov/clia/ (accessed June 30, 2009); United States Food and Drug Administration, "Clinical Laboratory Improvement Amendments," June 16, 2009, http://www.fda.gov/MedicalDevices/DeviceRegulationandGuidance/IVDRegulatoryAssistance/ucm124105.htm (accessed June 30, 2009).

CMS assumes the responsibility for overseeing the CLIA program and is charged with regulating healthcare providers who perform laboratory testing on specimens derived from humans for the "*diagnosis, prevention, or treatment of disease*" to ensure that they abide by federally established quality standards.[467] Laboratory testing performed for forensic purposes, on human specimens without patient-specific results, or drug testing by *Substance Abuse and Mental Health Service Administration* (SAMHSA) laboratories are exempted from CLIA's requirements.[468]

CLIA regulations categorize laboratory testing procedures by *complexity*, assigning each test to a *low, moderate, or high level*, that is, a test's category is determined by assessing its complexity, on a scale of 1 to 3, based on seven distinct areas:

CLINICAL LABORATORY IMPROVEMENT ACT (CLIA)

The act requires laboratories to regulate all laboratory testing performed on humans, except the testing performed for research purposes, in order to improve the accuracy, reliability, and timeliness of test results. It requires that healthcare providers who perform laboratory testing on specimens derived from humans obtain a certificate and abide by established standards in order to operate these services. Overseen by the Centers for Medicare and Medicaid Services.

"Overview: Clinical Laboratory Improvement Amendments," Centers for Medicare and Medicaid Services, May 07, 2009, http://www.cms.hhs.gov/clia/ (accessed June 30, 2009); "Clinical Laboratory Improvement Amendments," United States Food and Drug Administration, June 16, 2009.

[467] Centers for Medicare and Medicaid Services, "Clinical Laboratory Improvement Amendments: Overview," May 07, 2009, http://www.cms.hhs.gov/clia/ (accessed on June 30, 2009); "Laboratory Requirements," 42 CFR. § 493, (2003); United States Food and Drug Administration, "Clinical Laboratory Improvement Amendments," June 16, 2009, http://www.fda.gov/MedicalDevices/DeviceRegulationandGuidance/IVDRegulatoryAssistance/ucm124105.htm (accessed June 30, 2009); Centers for Medicare and Medicaid Services, "CMS Initiatives to Improve Quality of Laboratory Testing under the CLIA Program," July 2006, http://www.cms.hhs.gov/CLIA/downloads/060630.Backgrounder.rlEG.pdf (accessed November 2, 2009).

[468] "Laboratory Requirements," 42 CFR. § 493.3 (2003).

1. The level of scientific and technical knowledge required to perform the test;
2. The level of training and experience required for the three *preanalytic*, *perianalytic*, and *postanalytic* phases of the test;
3. The stability and reliability of the materials needed for the test;
4. The relative ease or difficulty of each step of the testing process;
5. The calibration, control, and proficiency of the testing materials;
6. The relative ease or difficulty of maintaining or troubleshooting the testing system; and
7. The amount of interpretation and judgment needed during the three phases of the test.[469]

Lowest level complexity tests, known as "*waived tests*," are virtually exempt from CLIA rules and must only follow the instructions provided by the manufacturer.[470] *Moderate* and *high level complexity tests* are subject to more stringent rules that set minimum qualifications for individuals who perform or supervise testing procedures. The labs themselves are also required to pass an external evaluation program every two years, which tests the proficiency and accuracy of results and maintains a system to monitor and calibrate equipment.[471] In addition to CMS's enforcement of CLIA regulations, the CDC monitors laboratory quality improvement measures.[472] Penalties for noncompliance include "(A) Use of intermediate sanctions; (B) Suspension, limitation, or revocation of the certificate of a laboratory that is out of compliance with one or more requirements for a certificate; and, (C) Civil suit to enjoin any laboratory activity that constitutes a significant hazard to the public health."[473]

---

[469] "Categories of Tests by Complexity," 42 CFR. § 493.5 (2012); "Test Categorization," 42 CFR. § 493.17 (2012); ibid.

[470] Centers for Medicare and Medicaid Services, "CMS Initiatives to Improve Quality of Laboratory Testing under the CLIA Program," July 2006, http://www.cms.hhs.gov/CLIA/downloads/060630.Backgrounder.rlEG.pdf (accessed November 2, 2009).

[471] Robert I. Field, *Health Care Regulation in America: Complexity, Confrontation, and Compromise* (New York: Oxford University Press, 2007), p. 55; Centers for Medicare and Medicaid Services, "CMS Initiatives to Improve Quality of Laboratory Testing under the CLIA Program," July 2006, http://www.cms.hhs.gov/CLIA/downloads/060630.Backgrounder.rlEG.pdf (accessed November 2, 2009).

[472] Robert I. Field, *Health Care Regulation in America: Complexity, Confrontation, and Compromise* (New York: Oxford University Press, 2007), p. 55.

[473] "Title 42: Public Health, Part 493-Laboratory Requirements," 42 CFR. § 493.1800 (2012).

3.6.2 Occupational Safety and Health Act (OSHA)

The *Occupational Safety and Health Act of 1970* (OSHA) established standards for occupational health and safety and required states to enact legislation implementing standards and procedures developed by the *Department of Labor* regarding the protection of healthcare employees from *blood borne diseases, latex allergies, needle sticks, tuberculosis, patient violence, ionizing radiation,* and *anesthetic gasses* that leak into the surrounding room during medical procedures, among others.[474] OSHA works closely with the *National Institute for Occupational Safety and Health* (NIOOSH), a CDC agency dedicated to researching and developing occupational and health standards for the workplace.[475] The NIOSH *Health Hazard Evaluation Program* specifically evaluates whether a workplace exposes employees to *hazardous materials* or *harmful conditions* that have the potential to be damaging to the employee's health.[476] Penalties for noncompliance with OSHA include, generally, "a civil penalty of not more than $70,000 for each violation, but not less than $5,000 for each willful violation."[477] *Willful*

THE OCCUPATIONAL SAFETY AND HEALTH ACT OF 1970 (OSHA)

The OSHA Act established standards for occupational health and safety and requires states to enact legislation implementing standards and procedures developed by the Department of Labor.

Problems in Health Care Law*, 8th ed., by Robert D. Miller and Rebecca C. Hutton (Mississauga, ON: Jones and Bartlett, 2004), p. 327.*

[474] "Occupational Safety and Health Act," *Pub. L.* 91-596, 84 Stat 1590 (December 29, 1970); Robert D. Miller and Rebecca C. Hutton, *Problems in Health Care Law*, 8th ed. (Mississauga, ON: Jones and Bartlett, 2004), p. 327; Robert K. Lewis, "Radon in the Workplace: The OSHA Ionizing Radiation Regulations," Bureau of Radiation Protection, http://www.aarst.org/proceedings/2004/2004_07_Radon_in_the_Workplace_The_OSHA_Ionizing_Radiation.pdf (accessed October 13, 2009).

[475] Centers for Disease Control and Prevention, "About NIOSH," June 12, 2011, http://www.cdc.gov/niosh/about.html (accessed September 26, 2012).

[476] Ibid.

[477] "Occupational Safety and Health Act," Civil and Criminal Penalties, 29 CFR. §666(a).

violations causing death to an employee "shall, upon conviction, be punished by a fine of not more than $10,000 or by imprisonment for not more than six months, or by both; except that if the conviction is for a violation committed after a first conviction of such person, punishment shall be by a fine of not more than $20,000 or by imprisonment for not more than one year, or by both."[478]

3.6.3 United States Nuclear Regulatory Commission (NRC)

The *United States Nuclear Regulatory Commission* (*NRC*), an independent agency created by Congress in 1974, is tasked with ensuring the safe use of *radioactive material* for civilian purposes through a combination of regulatory requirements, licensing, safety oversight, operational evaluation, and support activities.[479] Under § 274 of *the Atomic Energy Act of 1954*, the NRC is authorized to delegate its authority to oversee the licensing of certain radioactive material to *state regulatory commissions*, otherwise known as *Agreement States*.[480] A state must sign a formal agreement with the RNC to become an *Agreement State*.[481] On the NRC delegating authority to a state regulatory commission, that *Agreement State* may then regulate the *use* of nuclear material by certain licensees related to (1) the production of radiation from imaging devices used by hospitals, physicians, dental offices, and podiatry offices; (2) the use of nuclear material to deliver pain-relieving or therapeutic doses to parts of the body; and (3) medical research involving the use of nuclear material in human subjects.[482]

As of October 2012, the NRC has entered into agreements with 37 states.[483]

---

[478] Ibid.

[479] United States Nuclear Regulatory Commission, "About NRC," April 28, 2009, http://www.nrc.gov/about-nrc.html (accessed September 1, 2009); United States Nuclear Regulatory Commission, "Medical Uses of Nuclear Material," February 12, 2007, http://www.nrc.gov/materials/miau/med-use.html (accessed June 30, 2009).

[480] "Atomic Energy Act, Sec. 274," *Pub. L.* 83-703, 42 U.S.C. § 2021 (1954).

[481] "List of Agreement States," Conference of Radiation Control Program Directors, January 2012, http://www.crcpd.org/Map/ListAgreementStates.pdf (accessed September 20, 2012).

[482] United States Nuclear Regulatory Commission, "Medical Uses of Nuclear Material," February 12, 2007, http://www.nrc.gov/materials/miau/med-use.html (accessed June 30, 2009).

[483] United States Nuclear Regulatory Commission, "Office of Federal and State Materials and Environmental Management Programs," April 10, 2009, http://nrc-stp.ornl.gov/ (accessed November 6, 2012).

THE UNITED STATES NUCLEAR REGULATORY COMMISSION (NRC)

An independent agency created by Congress in 1974 to ensure the safe use of radioactive material (including those used in medical facilities) for civilian purposes through a combination of regulatory requirements, licensing, safety oversight, operational evaluation, and support activities. Under § 274 of the Atomic Energy Act of 1954, the NRC is authorized to delegate its authority to oversee certain licensees to state regulatory commissions, or Agreement States.

"Medical, Industrial, and Academic Uses of Nuclear Material," United States Nuclear Regulatory Commission, June 2, 2008, http://www.nrc.gov/materials/medical.html (accessed June 30, 2009); "Atomic Energy Act, Sec. 274," Pub. L. *83–703, 42 U.S.C. § 2021 (1954).*

3.6.4 Environmental Laws

3.6.4.1 Disposal of Hazardous Waste While hazardous waste rules may often be seen as being directed more toward industrial facilities, hazardous waste disposal regulation applies to healthcare providers as well. Title 40, Part 262, of the U.S. Code contains the federal requirements specified by the Environmental Protection Agency (EPA) for "*hazardous waste generators*," defined as any *person*, by site, whose *processes* and *actions create hazardous waste*.[484] *Hazardous waste generators* are divided into three classes, each with its own set of regulations, by the amount of monthly hazardous waste produced, that is, (1) *Conditionally Exempt Small Quantity Generators* produce less than 100 kilograms per month; (2) *Small Quantity Generators* produce between 100 and 1,000 kilograms per month; and (3) *Large Quantity Generators* produce more than 1,000 kilograms per month.[485] Similar to the regulation of *hazardous waste generators*, the EPA is also charged with the regulation of *hazardous waste incinerators*, which are defined as being "any enclosed device that: (1) Uses controlled flame combustion and neither meets the criteria for classification as a boiler, sludge dryer, or carbon

[484] EPA Hazardous Waste Management System: General, "Definitions," 40 CFR. § 260.10.

[485] U.S. Environmental Protection Agency, "Hazardous Waste Generators," http://www.epa.gov/waste/hazard/generation/index.htm (accessed September 13, 2012).

regenerator unit, nor is listed as an industrial furnace; or (2) Meets the definition of infrared incinerator or plasma arc incinerator."[486]

The Resource Conservation and Recovery Act (RCRA) of 1976 provided the EPA with "the authority to control hazardous waste from the 'cradle-to-grave'. . . [which] includes the generation, transportation, treatment, storage, and disposal of hazardous waste."[487] In 1984, the Federal Hazardous and Solid Waste Amendments Act amended the RCRA, emphasizing waste minimization and the transition to eliminate land disposal of hazardous waste and the consequences for violations of proper disposal.[488] Typically, however, medical waste disposal is often more specifically regulated on a state level, with all 50 U.S. states having some type of state regulation governing the disposal of medical waste.[489]

The RCRA also regulates the proper management of unused pharmaceuticals that fall under the act's definition of "hazardous waste."[490] In addition to pharmaceutical waste, "hazardous waste" includes, generally, "a solid waste, or combination of solid wastes, which because of its quantity, concentration, or physical, chemical or infectious characteristics may (A) cause, or significantly contribute to an increase in mortality or an increase in serious irreversible, or incapacitating reversible, illness; or (B) pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, or disposes of, or otherwise managed."[491] Similar to the definition of "hazardous waste," the RCRA defines "medical waste" as "any solid waste which is generated in the diagnosis, treatment, or immunization of human beings or animals, in research pertaining thereto, or in the production or testing of biologicals."[492] In regulating

---

[486] EPA Hazardous Waste Management System: General, "Definitions," 40 CFR. § 260.10.

[487] "Resource Conservation and Recovery Act," *Pub. L.* 107-377 (December 31, 2002); U.S. Environmental Protection Agency, "Summary of the Resource Conservation and Recovery Act," August 23, 2012, http://www.epa.gov/lawsregs/laws/rcra.html (accessed September 14, 2012).

[488] "The Hazardous and Solid Waste Amendments of 1984," *Pub. L.* 98-616 (November 8, 1984).

[489] U.S. Environmental Protection Agency, "Where You Live: State Medical Waste Programs," September 14, 2012, http://www.epa.gov/osw/nonhaz/industrial/medical/programs.htm (accessed September 14, 2012).

[490] "Resource Conservation and Recovery Act," *Pub. L.* 94-580, 42 U.S.C. § 6901, et seq. (October 21, 1976).

[491] "Resource Conservation and Recovery Act," *Pub. L.* 94-580, 42 U.S.C. § 6903 (October 21, 1976).

[492] Ibid.

the handling and disposal of controlled substances, the U.S. Drug Enforcement Agency (DEA) has different rules for registered (e.g., hospitals) and nonregistered (e.g., nursing homes) entities.[493] In December 2008, the EPA proposed adding hazardous waste pharmaceuticals to the Universal Waste Program.[494] However, that proposal was never finalized, due to numerous industry concerns regarding lack of notification and tracking requirements.[495] The EPA has attempted to address these concerns in a proposed rule slated for release in 2013, which is anticipated to cover pharmaceutical waste that is (1) produced by "healthcare-related facilities," and (2) falls under RCRA's hazardous waste definition.

3.6.4.2 Regulation of Chemotherapy/Cancer Treatment Drugs *Cytotoxic drugs* used during cancer treatment affect not only harmful cancerous cells but "can also harm normal cells and their DNA," thereby posing risks to those exposed to these drugs, including hospital pharmacy and drug infusion center employees.[496] Exposure to *cytotoxic drugs* is associated with increased rates of DNA damage, infertility, miscarriage, premature birth, and congenital problems in children exposed in utero (e.g., low birth weight, learning disabilities, and physical abnormalities).[497] While such drugs may have significant benefits during cancer treatment, the *Centers for Disease Control*

---

[493] Ungaretti & Harris, LLP, "Environmental Law Developments Affecting the Healthcare Sector," *Healthcare Update*, March 1, 2010, http://www.uhlaw.com/healthcare_environmental_law (accessed September 8, 2012); "Procedure for Disposing of Controlled Substances," 21 CFR 1307.21, April 1, 2011, http://www.gpo.gov/fdsys/pkg/CFR-2011-title21-vol9/pdf/CFR-2011-title21-vol9-sec1307-21.pdf (accessed September 19, 2012).

[494] "Amendment to the Universal Waste Rule: Addition of Pharmaceuticals: Proposed Rule," *Federal Register* 73, no. 232 (December 2, 2008).

[495] "Management of Hazardous Waste Pharmaceuticals," U.S. Environmental Protection Agency, http://www.epa.gov/wastes/hazard/generation/pharmaceuticals.htm (accessed September 13, 2012).

[496] Bryant Furlow, Oncology Nurse Advisor, "How to Improve the Safety of Chemotherapy Administration," June 2010, p. 21, citing Thomas H. Connor and Melissa A. McDiarmid, "Preventing Occupational Exposures to Antineoplastic Drugs in Health Care Settings," *CA Cancer Journal for Clinicians* 56, no. 6 (November/December 2006): 354.

[497] Ibid.; P. V. Rekhadevi, et al., "Genotoxicity Assessment in Oncology Nurses Handling Anti-Neoplastic Drugs," *Mutagenesis* 22, no. 6 (September 13, 2007); Barbara Vilanis, et al., "Occupational Exposure to Antineoplastic Agents and Self-Reported Infertility among Nurses and Pharmacists," *Journal of Occupational & Environmental Medicine* 39, no. 6 (June 1997).

(*CDC*) has recommended that healthcare personnel who are exposed to these types of *antineoplastic agents* should take appropriate precautions to eliminate or reduce exposure. Other healthcare personnel who may be exposed to the *antineoplastic drugs* include, but are not limited to, physicians, operating room personnel, hospital staff (shipping and receiving personnel, custodial workers, laundry room employees, and waste handlers).[498]

Activities using hazardous drugs in a powdered form, such as *cytotoxic drug*s, may be conducted only in a controlled environment, such as in a *biological safety cabinet* (BSC) or a *chemical fume hood*, both of which may be referred to as a *vertical flow hood*.[499] The exhaust fan within the BSC must remain on at all times, except during repair or movement of the BSC. Other components of the use, maintenance, storage, and cleaning of the BSC are regulated by the *American Society of Hospital Pharmacists* (ASHP) and OSHA.[500]

3.6.5 Food and Drug Administration (FDA) Enforcement

The *Food and Drug Administration* (FDA) regulates food, dietary supplements, pharmaceuticals, vaccines, blood products and other biologics, medical devices, electronic products, cosmetics, veterinary products, and tobacco products.[501] Some of the most valuable assets held by healthcare enterprises include the patents related to *pharmaceuticals* and *medical devices*. Both pharmaceuticals and medical devices are *required* to have *approval* from the Food and Drug Administration (FDA) prior to *commercialization* of the pharmaceutical or medical device. Therefore, the future economic benefit from the patent cannot be realized until *after* the approval is gained from the FDA.

The requirement of obtaining approval from the FDA as a precondition to creating a revenue stream and subsequent economic benefit stream

---

[498] Centers for Disease Control and Prevention, "Occupational Exposure to Antineoplastic Agents," April 13, 2012, http://www.cdc.gov/niosh/topics/antineoplastic/ (accessed September 14, 2012).

[499] "Safe Handling of Hazardous Drugs," August 29, 2011, http://www.safety.duke.edu/safetymanuals/university/V-HazardousDrugs.pdf (accessed September 14, 2012), p. 3.

[500] Ibid., p. 11; Occupational Safety & Health Administration, "Pharmacy," http://www.osha.gov/SLTC/etools/hospital/pharmacy/pharmacy.html (accessed September 14, 2012).

[501] U.S. Food and Drug Administration," "What Does FDA Regulate?" http://www.fda.gov (accessed November 6, 2012).

represents a *risk* to the future economic benefit to be obtained from the ownership of the patent. This risk, and the concomitant economic value of a patent without FDA approval, is manifest in the perception of the probability of obtaining FDA approval for the patent and therefore a reasonable likelihood of exceptional returns related to an investment in the patent. Because the healthcare enterprise can typically control the price of the product, and the population of potential customers is typically well known, gaining FDA approval removes the single largest uncertainty related to the future economic benefit to be derived from ownership of the patent. This explains the means by which patents may hold significant value after the pharmaceutical or medical device has gained FDA approval.

As applied to pharmaceuticals, this risk (i.e., not obtaining FDA approval) has been stratified into a minimum of four measurable levels:

1. *Investigational New Drug permission* is a pretrial approval with the intent to ensure that the new drug is safe for clinical trials;
2. *New Drug Application—Phase 1 Clinical Trials*: Testing on healthy volunteers to determine toxicity;
3. *New Drug Application—Phase 2 Clinical Trials*: Testing on patients to determine appropriate doses;
4. *New Drug Application—Phase 3 Clinical Trials*: Double-blind, placebo-controlled trials for a demonstration of efficacy.[502]

Sometimes the FDA will require a *Phase 4 Clinical Trial* after approval has already been given, to collect further evidence of efficacy and any other side effects related to the new drug. Advancement to each step in the approval process may increase the value of patents in two ways. First, the investment time horizon of achieving the future economic benefit is reduced. That is, there is a reduction in the *future* part of the *future* economic benefit, in that both the holding period and the carrying cost of illiquidity are reduced. Second, advancement to the next step in the approval process reduces the risk related to the investment, achieving the future economic benefit of the patent. This reduction in risk correspondingly reduces the risk-adjusted required rate of return demanded by investors, resulting in a higher economic value.

Once a pharmaceutical or medical device has been approved by the FDA, ongoing regulatory compliance is often required. For example, in addition to the approval process, the FDA regulates medical devices through such measures as (1) medical device reporting regulations, (2) good

[502] 21 CFR. 312.21.

manufacturing practice requirements, and (3) inspection requirements. The FDA's authority to regulate medical devices was first granted in 1976 under the *Medical Device Amendments* to the *Food, Drug, and Cosmetic Act of 1938*, which *amendments* required the registration and premarket approval for medical devices.[503]

The FDA *Medical Device Reporting Regulations* (MDR) require manufacturers to notify the FDA if they receive complaints of *device malfunctions*, *serious injuries*, or *deaths* associated with the device. The goal of the regulation is to detect and correct problems in a timely manner, such that manufacturers are required to have the following information in a format that allows timely follow-up and inspection by the FDA.[504]

In 1978, the FDA prescribed *Current Good Manufacturing Practices (CGMP)* requirements to regulate the methods used in, and the facilities and controls used for, the manufacture, packing, storage, and installation of medical devices.[505] The *Safe Medical Devices Act of 1990* (*SMDA*) gave the FDA the authority to impose *GMP* controls necessary to ensure proper device design but did not extend its authority to include an evaluation of device safety and effectiveness.[506] In 1996, the FDA revised the *CGMP* requirements for medical devices and incorporated them into a *quality system regulation*. In addition to the requirements set forth in the *CGMP* for the *manufacture, packing, storage and installation of medical devices*, the *quality system regulations* added controls for the *designing, labeling, and servicing of medical devices* intended for human use. These regulations became effective June 1, 1997, and the name of the regulation was changed from *Good Manufacturing Practice* to *Quality System* (*QS*) regulation to reflect that the *CGMP* requirements now cover a *full quality system spectrum*.[507]

---

[503] "Medical Device Regulation Act," *Pub. L.* 94-295, 90 Stat 539 (May 28, 1976); "Federal Food, Drug, and Cosmetic Act," *Pub. L.* 75-717, 52 Stat 1040, codified at 21 U.S.C. § 301 et seq. (June 25, 1938); "Medical Device Regulation Act," *Pub. L.* 94-295, 90 Stat 539 (May 28, 1976), pp. 552–559, 579–580.

[504] "Medical Device Regulation Act," *Pub. L.* 94-295, 90 Stat 539 (May 28, 1976), pp. 552–559, 579–580.

[505] "Medical Devices; Current Good Manufacturing Practice (CGMP) Final Rule: Quality System Regulation," *Federal Register* 61, no. 195 (October 7, 1996): 52602.

[506] Center for Devices & Radiological Health, "Human Factors in the GMP Inspection Process," December 3, 1996, http://www.fda.gov/cdrh/humfac/hufacgwo.html (March 12, 2003).

[507] "Medical Devices; Current Good Manufacturing Practice (CGMP) Final Rule: Quality System Regulation," *Federal Register* 61, no. 195 (October 7, 1996): 52602, 52605.

Under the *QS/CGMP* regulations, manufacturers are expected to control their products from "*cradle to grave*," that is, from *design process through postmarket surveillance* through implementation of the *Quality Systems Inspections Technique* (*QSIT*), a top-down inspection of a manufacturer's quality system that places responsibility on the manufacturer to monitor its compliance with the *QS/CGMP* requirements. In addition to requirements that manufacturers establish and maintain plans that describe or reference their design and development activities, the *QS* requires that manufacturers ensure that a formal, documented review process is conducted at appropriate stages during the design development process.[508] Continuing compliance with these standards requires technical information, drawings, written procedures, software configuration, and other records, all of which must be recreated if lost or absent.[509] Penalties for noncompliance can range from warning letters to "any necessary regulatory action for violations of all other provisions of the CGMP final rule."[510] The *QS* applies to all devices introduced after 1997 and for changes made to pre-1997 devices.[511]

3.7 CORPORATE PRACTICE OF MEDICINE AND RELATED PROVISIONS

The *Corporate Practice of Medicine* doctrine is perhaps the most fundamental legislative manifestation of healthcare's transition from a "*cottage industry*," with little crossover between medical specialties and physician professional practices, to the *corporatization of medicine*. The *American Medical Association* (*AMA*) promulgated the *Corporate Practice of Medicine* (*CPOM*) doctrine to prohibit unlicensed individuals or corporations from engaging in the practice of medicine by employing licensed physicians.[512] CPOM was established with the intent of ensuring that licensed

[508] Center for Devices & Radiological Health, "Human Factors in the GMP Inspection Process," December 3, 1996, http://www.fda.gov/cdrh/humfac/hufacgwo.html (March 12, 2003).

[509] "Medical Devices; Current Good Manufacturing Practice (CGMP) Final Rule: Quality System Regulation," *Federal Register* 61, no. 195 (October 7, 1996): 52661.

[510] Ibid., p. 52604.

[511] Center for Devices & Radiological Health, "Human Factors in the GMP Inspection Process," December 3, 1996, http://www.fda.gov/cdrh/humfac/hufacgwo.html (March 12, 2003).

[512] John W. Jones, "Corporate Medicine in 21st Century Health Care," *Physician's News Digest*, June 2007, http://www.physiciansnews.com/law/607jones.html (accessed July 9, 2009).

CORPORATE PRACTICE OF MEDICINE (CPOM)

The Corporate Practice of Medicine doctrine was created to prevent the practice of medicine by unlicensed individuals and ensured that entities could hire only licensed physicians. The intent of the CPOM doctrine was to prevent lay people from influencing physicians' treatment decisions.

"Corporate Medicine in 21st Century Health Care," by John W. Jones, Esq., Physician's News Digest, *June 2007, http://www.physiciansnews.com/law/607jones.html (accessed July 9, 2009);* People v. United Medical Services, *362 Ill. 442, 200 N.E. 157, 163 (1936).*

physicians could practice medicine without pressure from lay persons or being "subject to commercialization or exploitation."[513]

The CPOM is regulated on a state level, with regulations varying significantly by state.[514] Restrictions on the CPOM vary by jurisdiction, with some states expressly prohibiting the practice, including laws restricting unlicensed individuals from owning or operating a business in which medical services are provided to patients. For example, several states, that is, (1) *California*, (2) *Colorado*, (3) *Illinois*, (4) *Iowa*, (5) *New York*, (6) *New Jersey*, and (7) *Texas*, prohibit hospital employment of physicians for the provision of *outpatient services*.[515] Other restrictions include placing limitations on physicians and their ability to enter into professional relationships with unlicensed individuals or nonprofessional business entities. In addition, some states may limit the number of offices a physician may operate.[516] Collectively, each state and the District of Columbia have an extensive collection of statutory legislature dealing with topics affecting the CPOM. Set forth in Table 3.16 is a summary of the CPOM legislation that has been enacted by all 50 U.S. states and the District of Columbia.

---

[513] *People v. United Medical Service*, 362 Ill. 442, 200 N.E. 157, 163 (1936), p. 6.

[514] John W. Jones, "Corporate Medicine in 21st Century Health Care," *Physician's News Digest*, June 2007, http://www.physiciansnews.com/law/607jones.html (accessed July 9, 2009).

[515] Stephen Shortell, et al., "Implementing Accountable Care Organizations." Advancing National Health Reform, Berkeley Law, Berkeley Center on Health, Economic & Family Security, May 2010, p. 11.

[516] Thomson/Reuters, "Corporate Practice of Medicine," *50 State Statutory Surveys: Health Care: Health Care Facilities*, October 2011.

TABLE 3.16 Summary of State Corporate Practice of Medicine Statutes

State	Citation	Statute Heading	Statute Summary
Alabama	AL ST § 10A-4-2.01	Purposes for which professional corporations may be organized	Professional corporations may be organized to render professional services.
	AL ST § 10A-4-2.04	Rendition of professional services	Employees of professional corporation must be licensed to render professional services.
Alaska	AK ST § 10.20.005	Purposes	Corporations may be organized for any lawful purpose.
	AK ST § 10.45.010	Incorporation	One or more individuals licensed to render professional services may incorporate a professional corporation.
Arizona	AZ ST § 10-301	Purposes	Corporations may be organized for purpose of engaging in any lawful business activity.
	AZ ST § 20-823	Incorporation of hospital, medical, dental, and optometric service corporations	Hospitals, medical, dental, and optometric service corporations organized as not-for-profits are not engaged in the corporate practice of medicine.
Arkansas	AR ST § 4-27-301	General purpose	Corporations may be organized for any lawful purpose.
	AR ST § 4-29-305	Formation of corporation—Employee licensing required	One or more individuals licensed to render medical services may incorporate a healthcare services establishment.

State	Citation	Statute Heading	Statute Summary
California	CA BUS & PROF § 2406	Medical or podiatry corporation; corporate status; regulatory agency	A medical corporation is a corporation that is authorized to render professional services so long as that corporation and its shareholders, officers, directors, and employees rendering professional services who are physicians are in compliance with all statutes and regulations pertaining to the corporation.
	CA HLTH & S § 1395	Soliciting and advertising; nature of plan; operation; ownership by a professional; construction	Healthcare service plans may not be deemed to be engaged in the practice of a profession, or employ any licensed professional.
Colorado	CO ST § 7-103-101	Purposes and applicability	Corporations may be organized for purpose of engaging in any lawful business activity.
	CO ST § 12-36-134	Professional service corporations, limited liability companies, and registered limited liability partnerships for the practice of medicine—definitions	Individuals licensed to practice medicine may form a professional services corporation for the practice of medicine.
Connecticut	CT ST § 33-182c	Organization	Individuals licensed to render a professional service may form a professional corporation for profit for the purpose of rendering the professional service.

(*continued*)

TABLE 3.16 Summary of State Corporate Practice of Medicine Statutes (*continued*)

State	Citation	Statute Heading	Statute Summary
District of Columbia	DC CODE § 29-101.03	Authorized purposes for organization of corporation	Corporations, for profit, may be organized for any lawful purpose, with exceptions.
	DC CODE § 29-405	Purpose for organization; powers authorized	Professional corporations may be organized to render professional services through licensed shareholders, directors, officers, employees, or agents.
Delaware	DE ST TI 8 § 601	Legislative intent	A group of individuals licensed to render the same professional service may incorporate.
	DE ST TI 8 § 605	Authority to organize; law governing	Individuals licensed to render a professional service may form, and become shareholders of, a professional corporation for profit for the purpose of rendering the professional service.
Florida	FL ST § 607.0301	Purposes and application	Corporations may be organized for any lawful purpose.
	FL ST § 641.51	Quality assurance program; second medical opinion requirement	An HMO may not control the professional judgment of a licensed physician concerning proper patient treatment.
Georgia	GA ST § 14-10-3	Formation; limitation on services to be performed	Individuals licensed to render a professional service may form a professional association.
	GA ST § 33-18-17	Sale of contracts; right to choose physician; prohibition against corporate practice of medicine	Medical service corporations may not practice medicine, dentistry, or podiatry.

State	Citation	Statute Heading	Statute Summary
Georgia (*cont.*)	GA ST § 33-20-18	Sale of contracts; right to choose physician; prohibition against corporate practice of medicine	Healthcare corporations may not practice medicine.
Hawaii	HI ST § 415A-3	Purposes	Professional corporations may be organized to render a single professional service or two or more professional services depending on licensing laws.
Idaho	ID ST § 30-1-301	Purposes	Corporations may be organized for purpose of engaging in any lawful business activity.
	ID ST § 30-1301	Intent of legislature	Individuals licensed to render a professional service may incorporate to render the same professional service.
Illinois	IL ST CH 805 § 10/2	Legislative intent	Individuals licensed to render a professional service may incorporate to render the same professional service.
	IL ST CH 805 § 15/2	Formation	Individuals licensed to practice medicine may form a professional services corporation for the practice of medicine.
Indiana	IN ST 23-1.5-2-8	Corporate name	Only a professional corporation in which all shareholders are licensed physicians may use the term "medical" in its corporate name.
	IN ST 25-22.5-1-2	Exclusions	A hospital employing a physician does not partake in unlicensed practice of medicine if the hospital does not control the independent judgment of the physician.

(*continued*)

TABLE 3.16 Summary of State Corporate Practice of Medicine Statutes (*continued*)

State	Citation	Statute Heading	Statute Summary
Iowa	IA ST § 496C.4	Purposes and powers	Professional corporations may be organized to render a single professional service or two or more professional services depending on licensing laws.
	IA ST § 496C.7	Practice by professional corporation	Professional corporations may practice a profession, but only through licensed shareholders, directors, officers, employees, and agents.
Kansas	KS ST 40-19c03	Organization; purposes; board of directors	Nonprofit corporations may organize for the purpose of entering into contracts with participating health providers and hospitals to provide professional and hospital services.
Kentucky	KY ST § 271B.3-010	Purposes	Every corporation has the purpose of engaging in any lawful business activity unless a more limited purpose is set forth in the articles of incorporation.
	KY ST § 274.015	Professional service corporation authorized; articles of incorporation requirements; authority	Individuals licensed to render a professional service may incorporate to render the same professional service.
Louisiana	LA R.S. 12:22	Purposes	Corporations may be organized for any lawful business purpose, with exceptions.
	LA R.S. 12:902	Professional corporations	One or more individuals licensed to practice medicine or podiatry may form a corporation for the purpose of practice medicine or podiatry.

State	Citation	Statute Heading	Statute Summary
Maine	ME ST T. 13 § 732	Purposes	A corporation may elect professional corporation status solely for the purpose of rendering professional services within two or more professions to the extent that the combination of professional purposes is not prohibited by the licensing law applicable to each profession in the combination.
	ME ST T. 32 § 3270	Licensure required	Unless licensed, an individual may not practice medicine or surgery or claim to be licensed to practice medicine or surgery.
Maryland	MD CORP & ASSNS § 2-101	Permissible corporate purposes	Corporations may be organized for any lawful business purpose.
	MD CORP & ASSNS § 5-102	Single, multiple professions; organization	A corporation that is eligible to be a professional corporation may not organize under any other corporate form.
	MD HEALTH GEN § 19-704	Construction with prohibition against the corporate practice of medicine	A health maintenance organization may operate as authorized by law notwithstanding any prohibition against the corporate practice of medicine.
Massachusetts	MA ST 156A § 3	Professional services provided	A corporation may be organized for the purpose of rendering professional services within two or more professions to the extent that the combination of professional purposes is not prohibited by the licensing law applicable to each profession in the combination.

(*continued*)

TABLE 3.16 Summary of State Corporate Practice of Medicine Statutes (*continued*)

State	Citation	Statute Heading	Statute Summary
Massachusetts (*cont.*)	MA ST 176B § 2	Incorporators; formation; articles of organization; certification	Seven or more individuals may form a medical service corporation for the purpose of operating a nonprofit medical service plan.
Michigan	MI ST 450.224	Organization and purpose of corporation; shareholder to be licensed professional; professional service within public health code; nonresidents	One or more licensed physician and surgeons may organize a professional corporation.
	MI ST 450.1251	Purpose of corporation; war or national emergency operation	Corporations may be formed for any lawful purpose.
Minnesota	MN ST § 62R.03	Applicability of other laws	A healthcare network cooperative must be licensed as a health maintenance organization, a nonprofit health service plan corporation, or a community integrated service network.
	MN ST § 302A.101	Purposes	Corporations may be incorporated for any business purpose.
Mississippi	MS ST § 79-4-3.01	Purpose; eligibility under act	Every corporation has the purpose of engaging in any lawful business activity unless a more limited purpose is set forth in the articles of incorporation.
	MS ST § 79-10-13	Purposes	A corporation may elect professional corporation status solely for the purpose of rendering professional services within two or more professions to the extent that the

State	Citation	Statute Heading	Statute Summary
Mississippi (*cont.*)			combination of professional purposes is not prohibited by the licensing law applicable to each profession in the combination.
Missouri	MO ST 351.020	What corporations may organize under this law	Corporations for profit may be organized for any lawful business purpose.
	MO ST 354.025	Corporate purposes and authority	A health services plan may be organized for the purposes of operating a voluntary, nonprofit plan under which healthcare may be furnished to members or beneficiaries.
Montana	MT ST 35-1-114	Purposes	Corporations may be organized for any lawful business purpose, with exceptions.
	MT ST 35-4-205	Purposes of corporation	Professional corporation may be organized for the purpose of rendering professional services within two or more professions to the extent that the combination of professional purposes is not prohibited by the licensing law applicable to each profession in the combination.
	MT ST 37-3-325	Violations—penalties	An association or corporation practicing medicine without a license is guilty of a misdemeanor.
Nebraska	NE ST § 21-2024	Corporation; purpose	Every corporation has the purpose of engaging in any lawful business activity unless a more limited purpose is set forth in the articles of incorporation.

(*continued*)

TABLE 3.16 Summary of State Corporate Practice of Medicine Statutes (*continued*)

State	Citation	Statute Heading	Statute Summary
Nebraska (*cont.*)	NE ST § 21-2205	Professional services that may be rendered	No corporation may render professional services except through licensed officers, employees, and agents.
Nevada	NV ST 89.050	Scope of business; property and investments; professional services by officers and employees	Any authorized health maintenance organization will not be deemed to be practicing medicine.
	NV ST 89.230	Restrictions on membership and rendering of professional services	A professional association may render professional service only through its licensed members and employees.
	NV ST 630.305	Accepting compensation to influence evaluation or treatment; inappropriate division of fees; inappropriate referral to health facility, laboratory, or commercial establishment; charging for services not rendered; aiding practice by unlicensed person; delegating responsibility to unqualified person; failing to disclose conflict of interest; failing to initiate performance of community service; exception	Receiving from any person, corporation, or other business organization any form of compensation that is intended to influence a physician's objective evaluation of a patient is grounds for denial of a license to practice medicine.

State	Citation	Statute Heading	Statute Summary
New Hampshire	NH ST § 294-A:2	Permissible purposes of professional corporations	Professional corporations may be organized for the purpose of rendering professional services within two or more professions to the extent that the combination of professional purposes is not prohibited by the licensing law applicable to each profession in the combination.
New Jersey	NJ ST 14A:2-1	Purposes	Corporations may be organized for any lawful business purpose.
	NJ ST 14A:17-7	Rendering of professional service limited to licensed personnel; charges authorized	A professional corporation may render professional service only through its licensed officers, employees, and agents.
	NJ ST 17:48A-2	Nonprofit corporation; trustees and physicians; who may operate medical service plan; certificate of authority	No medical service corporation may impose any restrictions on physicians who administer to its subscribers as to methods of treatment.
New Mexico	NM ST § 53-4-3	Purposes	Corporations may be organized for any lawful business purpose, with exceptions.
	NM ST § 53-6-5	Purposes for which incorporated	Professional corporations may be organized to render a single professional service.

(*continued*)

TABLE 3.16 Summary of State Corporate Practice of Medicine Statutes (*continued*)

State	Citation	Statute Heading	Statute Summary
New York	NY BUS CORP § 1504	Rendering of professional service	No professional corporation may render professional services except through licensed individuals.
	NY EDUC § 6527	Special provisions	A not-for-profit medical corporation may employ licensed physicians and enter into contracts with partnerships, medical corporations, health maintenance organizations, professional corporations, or other groups of physicians to practice medicine on its behalf.
North Carolina	NC ST § 55-3-01	Purposes	Every corporations has the purpose of engaging in any lawful business activity unless a more limited purpose is set forth in the articles of incorporation.
	NC ST § 55B-14	Types of professional services	Professional corporations may be organized to render a single professional service.
North Dakota	ND ST 26.1-49-02	Organization—licensure	A health provider cooperative does not violate limitations on the corporate practice of medicine
	ND ST 43-17-42	Employment of physicians by hospitals	A licensed hospital may employ a physician so long as the employment relationship does not affect the physician's independent judgment in the practice of medicine as evidenced in the written employment contract language.

State	Citation	Statute Heading	Statute Summary
Ohio	OH ST § 1701.03	Purposes of corporation	No corporation formed for the purpose of providing professional services may control the professional judgment of a licensed doctor of medicine and surgery in rendering treatment to a patient.
	OH ST § 4731.226	Practice through corporation, limited liability company, partnership or professional association permitted	A corporation, limited liability company, or partnership may be formed for the purpose of providing professional services by licensed doctors of medicine and surgery.
Oklahoma	OK ST T. 18 § 806	Purpose of formation of professional entity	Professional entity may be formed to render a single professional service.
	OK ST T. 36 § 2613	Relationship of physician and patient	No hospital service and medical indemnity corporation may be deemed to be engaged in the corporate practice of medicine.
Oregon	OR ST § 58.076	Organization of professional corporations; purpose	Professional corporations may be organized for the purpose of rendering professional services within two or more professions to the extent that the combination of professional purposes is not prohibited by the licensing law applicable to each profession in the combination.

(*continued*)

TABLE 3.16 Summary of State Corporate Practice of Medicine Statutes (*continued*)

State	Citation	Statute Heading	Statute Summary
Pennsylvania	15 Pa.C.S.A. § 1301	Purposes	Every corporations has the purpose of engaging in any lawful business activity unless a more limited purpose is set forth in the articles of incorporation.
	40 Pa.C.S.A. § 6322	Scope of service	A professional health service corporation shall not provide professional health services for its subscribers otherwise that through licensed doctors.
Rhode Island	RI ST § 7-1.2-301	Purposes	Professional corporations may be organized to render a single professional service provided that every officer, director, and shareholder is authorized to practice that profession and is employed by the corporation.
South Carolina	SC ST § 33-3-101	Purposes	Every corporation has the purpose of engaging in any lawful business activity unless a more limited purpose is set forth in the articles of incorporation.
South Dakota	SD ST § 36-4-8.1	Corporation prohibited from practice of medicine or osteopathy	Under certain circumstances, a corporation does not engage in the practice of medicine by employing licensed physicians.

State	Citation	Statute Heading	Statute Summary
South Dakota (*cont.*)	SD ST § 47-11F-3	Professional corporations rendering more than one professional service authorized	A professional corporation may not employ an individual licensed to render a professional service unless at least one shareholder of the professional corporation is a licensee of the same profession.
Tennessee	TN ST § 48-13-101	Purposes; engaging in business subject to regulation under other statutes	Every corporation has the purpose of engaging in any lawful business activity unless a more limited purpose is set forth in the charter.
	TN ST § 48-101-607	Rendering professional services	A corporation may render professional services only through licensed individuals.
	TN ST § 56-29-101	Purpose; construction	Hospitals may not practice medicine.
	TN ST § 68-11-205	Authorization in practice of healing arts or medicine; employing entities; definitions	A hospital may employ physicians but shall not practice medicine.
Texas	TX OCC § 164.052	Prohibited practices by physician or license applicant	A physician commits a prohibited practice if that persons aids in the practice of medicine.
	TX INS § 842.051	Application for corporate charter; nonprofit status required	Seven or more individuals, a majority of whom are superintendents of hospitals or physicians, may apply for a corporate charter to operate a group service hospital service corporation.

(*continued*)

TABLE 3.16 Summary of State Corporate Practice of Medicine Statutes (*continued*)

State	Citation	Statute Heading	Statute Summary
Utah	UT ST § 16-11-6	Purpose of professional corporation—power to own property and invest funds	Professional corporations may be organized to render a single professional service. "Professional service" means the personal service rendered by a licensed physician, surgeon, or doctor of medicine.
	UT ST § 58-67-802	Form of practice	An entity licensed to practice medicine may permit the practice of medicine only by a licensed individual.
Vermont	VT ST T. 8 § 4581	Incorporation of medical service corporations	Three or more individuals licensed by the state board of medical practice to practice medicine and surgery may incorporate for the purpose to forming a medical service corporation.
	VT ST T. 26 § 1403	Professional corporations; medicine	Permitting one's name or license to be used by a corporation when not responsible for the treatment given constitutes unprofessional conduct.
Virginia	VA ST § 13.1-544	Who may organize and become shareholder	Individuals licensed to render a professional service may organize a professional corporation for profit or organize a professional corporation as a nonstock corporate for the sole purpose of rendering the same professional service, with exceptions.
Washington	WA ST 18.100.050	Organization of professional service corporations authorized generally—architects, engineers,	Certified or licensed healthcare professionals may own stock in and render their professional services through one

State	Citation	Statute Heading	Statute Summary
Washington (*cont.*)		and healthcare professionals—nonprofit corporations	professional service corporation and are to be considered as rendering the "same professional services."
	WA ST 18.100.060	Rendering of services by authorized individuals	No corporation may render professional services except through licensed individuals.
	WA ST 25.05.510	Rendering professional services	Certified or licensed healthcare professionals may render their professional services through one limited liability partnership and are to be considered as rendering the "same professional services."
	WA ST 25.15.045	Professional limited liability companies	Certified or licensed healthcare professionals may render their professional services through one limited liability company and are to be considered as rendering the "same professional services."
West Virginia	WV ST § 30-3-15	Medical corporations; podiatry corporations; application for registration; fees; notice to secretary of state of issuance of certificate; action by secretary of state; rights and limitations generally; biennial registration; when practice to cease; admissibility and effect of certificate signed by secretary of board; criminal penalty; severability	A medical corporation may practice medicine and surgery only through licensed physicians, but such physicians may be employees rather than shareholders.

(*continued*)

TABLE 3.16 Summary of State Corporate Practice of Medicine Statutes (*continued*)

State	Citation	Statute Heading	Statute Summary
West Virginia (*cont.*)	WV ST § 31D-3-301	Nature of business and powers	Every corporation has the purpose of engaging in any lawful business activity unless a more limited purpose is set forth in the articles of incorporation.
Wisconsin	WI ST 180.0301	Purposes	Every corporation has the purpose of engaging in any lawful business activity unless a more limited purpose is set forth in the articles of incorporation.
	WI ST 180.1903	Formation of service corporation	One or more licensed individuals. If all have the same license or if all are healthcare professionals, may organize and own shares in a service corporation.
Wyoming	WY ST § 17-3-101	Practice of profession through licensed stockholder or employee authorized	A corporation whose capital stock is owned exclusively by individuals licensed to practice a profession, may, by and through such licensed stockholders, or licensed employees, offer professional services in such profession.
	WY ST § 17-19-301	Purposes	Every corporation has the purpose of engaging in any lawful business activity unless a more limited purpose is set forth in the articles of incorporation.

"Corporate Practice of Medicine," Thomson Reuters/West, 50 State Statutory Surveys, October 2011.

A comprehensive look at the consolidated state CPOM legislation can be found online at www.wiley.com/go/healthcarevaluation.

Certain healthcare organizations are generally exempt from the application of the CPOM doctrine, for example, physicians are allowed to incorporate as *professional corporations* in all 50 states. In some states, the organization of *Health Maintenance Organizations* (*HMOs*) and contracts between HMOs and professionals for the provision of services are specifically exempted from the doctrine.[517] Further, some states except tax-exempt healthcare entities from liability under the CPOM, with the rationale that the lack of a "*profit incentive*" eliminates the dangers associated with the CPOM.[518] In states that do not provide an *exception* for *tax-exempt organizations* from CPOM laws, due to IRC 501(c)(3) exemption mandates requiring that a *charitable purpose* is met, tax-exempt hospitals may experience the increased challenge of fitting into safeguards that establish *wholly-owned outpatient clinics*. The status of a 501(c)(3) *sub-organization* is determined by providing evidence that the *sub-organization* furthers the exclusive *charitable purpose of the exempt parent organization.*[519]

As a result of changes in the delivery of healthcare, new practice areas have surfaced that may be prone to running afoul of current statutes restricting the CPOM, for example, the growth in "*quick clinics*," or physician offices generally found in large "*doc-in-a-box*" stores or pharmacies.[520] Although retailers in states with CPOM restrictions typically cannot open in-store clinics with staffed physicians, CPOM laws generally allow corporations to rent or lease space to providers.[521] In addition, *nonphysician-owned spas* offering Botox injections and other medical procedures with

---

[517] Ann Huckstep, James C. Wilson Jr., and Richard P. Carmody, *Corporate Law for the Healthcare Provider: Organization, Operation, Merger and Bankruptcy*, (Washington, DC: National Health Lawyers Association, 1993), p. 123.

[518] Ibid., p. 124.

[519] Charles F. Kaiser III and Marvin Friedlander, "Corporate Practice of Medicine," http://www.irs.gov/pub/irs-tege/eotopicf00.pdf (accessed July 3, 2012).

[520] Devon Herrick, "Demand Growing for Corporate Practice of Medicine," Consumer Driven Health Care, National Center for Policy Analysis, January 1, 2006, http://healthcare.ncpa.org/commentaries/demand-growing-for-corporate-practice-of-medicine (accessed June 24, 2009).

[521] Devon M. Herrick and John C. Gordon, "The Market for Medical Care: Why You Don't Know the Price; Why You Don't Know about Quality; and What Can Be Done about It," National Center for Policy Analysis, February 2007, http://www.ncpa.org/pub/st296 (accessed July 9, 2009), p. 25.

Factoid

As a result of changes in the delivery of healthcare, new practice areas have surfaced that may be prone to running afoul of current statutes restricting the CPOM, for example, the growth in "quick clinics" or physician offices generally found in large "doc-in-a-box" stores or pharmacies. Although retailers in states with CPOM restrictions typically cannot open in-store clinics and staff physicians, CPOM laws generally allow corporations to rent or lease space to providers.

"Demand Growing for Corporate Practice of Medicine," by Devon Herrick, Consumer Driven Health Care, National Center for Policy Analysis, January 1, 2006, http://healthcare.ncpa.org/commentaries/demand-growing-for-corporate-practice-of-medicine (accessed June 24, 2009); "The Market for Medical Care: Why You Don't Know the Price; Why You Don't Know about Quality; and What Can Be Done about It," by Devon M. Herrick and John C. Gordon, National Center for Policy Analysis, February 2007, http://www.ncpa.org/pub/st296 (accessed July 9, 2009), p. 25.

physicians staffed as medical directors also have the potential to run afoul of CPOM regulations.[522]

Related to the CPOM doctrine, states also often restrict the legal structure by which healthcare enterprises may choose to organize. For example, 37 states and the District of Columbia have specific restrictions related to a medical practice's organization as a *limited liability company.*[523] Healthcare enterprises structured as *limited liability companies* (LLC) have the advantages of both *partnerships* and *corporations*, in that LLCs *shield members* from the general liabilities and debts of the business, with the exception of personal liability for negligence, wrongful acts, or misconduct while operating within the scope of their employment. In addition, revenues of an LLC are not taxed; rather, each individual's share of the income is taxed.[524] A discussion of the prospective benefits of a healthcare enterprise electing to *S-Corp* versus *C-Corp* status is discussed earlier in this chapter in Section 3.2, "Tax Regulations."

---

[522] Medical Board of California, "Corporate Practice of Medicine," Department of Consumer Affairs, 2007, http://www.mbc.ca.gov/licensee/corporate_practice.html (accessed July 9, 2009).

[523] "Health Care Facilities," *Corporate Practice of Medicine Statutes*, Thomson Reuters/West (October 2011).

[524] Jefferey P. Daigrepont, *Starting a Medical Practice,* 2nd ed. (Chicago: American Medical Association, 2003), pp. 17–31.

3.7.1 False Advertising

In the last several years, the healthcare industry has seen increased scrutiny by the FTC regarding how healthcare goods, services, and procedures are advertised or labeled. *Prescription drug labeling* encompasses all labeling that is attached to, or accompanies, the medication, including dosage information and package inserts.[525] General requirements for prescription drug labeling include instructions for safe and effective use of the drug that (1) are informative and accurate; (2) are not promotional, false, or misleading; (3) do not imply any claims or suggestions for use if there is insufficient evidence of safety for that use; and (4) are based on human clinical trials whenever possible.[526]

In 2003, the FTC charged two of the largest providers of *LASIK* eye surgery with false advertising violations, asserting that their marketing claims were not sufficiently supported by scientific evidence. The advertisements claimed that after undergoing the eye surgery, patients would no longer have any need for glasses or bifocals for the remainder of their lives.[527] In their settlement agreements, *LCA Vision, Inc.* and *The Laser Vision Institute* were barred from making any similar claims in the future.[528] In a 2006 push for more *transparent* drug labeling, the FDA and HHS released a final rule requiring manufacturers to assess the effect of any change in "*identity, strength, quality, purity, and potency*" of a drug as it relates to the safety and effectiveness of that drug, as well as requiring manufacturers to submit the changes for FDA approval at least 30 days prior to public distribution.[529]

In addition, while false advertising in the pharmaceutical industry has been regulated for several years, advertising by the hospitals and the physicians, while legal, has come under increasing scrutiny in recent years.[530] For example, in May 2012, Memorial Healthcare Group, d/b/a Memorial Hospital in Jacksonville, Florida, was ordered to pay $10 million in punitive

[525] "Definitions, Generally," 21 U.S.C. § 321(m).

[526] "Labeling Requirements for Prescription Drugs and/or Insulin," 21 CFR. 201.56.

[527] Federal Trade Commission, "Federal Trade Commission Stops Allegedly Misleading Representations for Lasik Eye Surgery," http://ftc.gov/opa/2003/03/lasikads.shtm (accessed September 14, 2012).

[528] *FTC v. LCA-Vision, Inc.*, Decision and Order, Docket No. C-4083, July 8, 2003; ibid.

[529] "Supplements and Other Changes to Approved New Animal Drug Applications," *Federal Register* 71, no. 239 (December 13, 2006): 74766.

[530] Richard Quinn, "Advertise at Your Own Risk," *The Hospitalist, The Society of Internal Medicine* (April 15, 2009).

damages for what a jury deemed to be fraudulent advertising related to its weight loss "*Center of Excellence*" designation.[531]

3.8 LICENSURE, CERTIFICATION, AND ACCREDITATION REGULATIONS

State laws typically control the *licensure, certification*, and *accreditation* of *healthcare facilities* and *healthcare providers* under the state's *police powers*, which allow states to regulate entry into the medical field, restrict the professional scope of practice, and, accordingly, hold professionals accountable for the delivery of healthcare services. State licensing requirements specify the minimum level of qualification needed for *healthcare facilities* to operate and *healthcare services* to be delivered.[532]

3.8.1 Healthcare Facilities

Licensure is the primary way that states regulate healthcare facilities, often by mandating the range of services a given facility may provide.[533] Although the licensing of healthcare enterprises is typically handled by state governments, there is significant interplay between state and federal government regulations, as most states require healthcare enterprises to meet the practice standards set forth by Medicare as a *condition of licensure*, and participation in the *Medicare* and *Medicaid program* requires *certification* through CMS and *accreditation* by a national accrediting agency.[534]

Each state governs healthcare enterprises via boards or agencies that are authorized to regulate minimum educational and experience requirements, scope of practice, employment of professionals by for-profit entities, use of trade names, and the operation and location of multiple-branch offices,

---

[531] *Chandler v. Laparoscopic Weight Loss Surgery Centers, LLC, and Memorial Healthcare Group, Inc., d/b/a Memorial Hospital*, Final Judgment: Chandler Family—Punitive Damages, Case No: 16-2009-CA-013207; Circuit Court Duval County, Florida (May 9, 2012).

[532] Donald H. Caldwell Jr., *U.S. Health Law and Policy 2001: A Guide to the Current Literature* (San Francisco: Jossey-Bass, 2001), p. 253.

[533] Barry R. Furrow, et al, *Health Law* 4th ed. (St. Paul, MN: West Group, 2000), p. 92.

[534] Alice G. Gosfield, *Medicare and Medicaid Fraud and Abuse* 2012 edition (New York: Thomson Reuters, 2012), p. 31; "Agreements with States," 42 U.S.C. § 1395aa (2010); "Effect of Accreditation," 42 U.S.C. § 1395bb (2010).

Licensure

Licensure is a governmental body's process of issuing a license, or a federal or state charter granting its holder the right to practice a profession, such as medicine, podiatry, dentistry, law, and so on.

Black's Law Dictionary, *9th ed., edited by Bryan Garner (St. Paul, MN: Thompson Reuters, 2009), p. 1005;* Dictionary of Health Economics and Finance, *by David E. Marcinko (New York: Springer, 2007), p. 214.*

among others.[535] Business *licensing regulations* vary by the regulated entity. Hospitals regulations generally require an organized governing board, medical and nursing staff, and administration staff, as well as minimum services (e.g., radiology, pharmacy, laboratory, and emergency services).[536] Other facility and equipment standards will address issues such as safety, sanitation and infection control, and record management and retention.[537]

3.8.1.1 Licensure As with other types of *professional licensure*, the *licensure* of healthcare facilities is intended to ensure that patients receive quality healthcare. All 50 states require hospitals and skilled nursing facilities to be licensed.[538] Many states require further *licensure* of specialized areas within an already-licensed facility, including clinical laboratories and hospital-based ASCs.[539] In order to maintain *licensure*, facilities may need to meet certain building requirements, as well as comply with limits on the number of beds allowed in a given facility.[540]

[535] Deborah Haas-Wilson, "The Regulation of Health Care Professionals Other Than Physicians," The Cato Institute, *Regulation* 15, no. 4 (1992), http://www.cato.org/pubs/regulation/regv15n4/reg15n4d.html (accessed September 17, 2012).

[536] Robert D. Miller and Rebecca C. Hutton, *Problems in Health Care Law*, 8th ed. (Mississauga, ON: Jones and Bartlett, 2004), p. 61.

[537] Ibid., p. 62.

[538] Thomson Reuters, "State Licensure of Facilities," *50 State Regulatory Surveys: Health Care: Long Term Care*, June 2012.

[539] Thomson Reuters, "State Licensure of Clinical Laboratories," *50 State Regulatory Surveys: Health Care: Health Care Facilities*, May 2012; Thomson Reuters, "Ambulatory Surgery Centers," *50 State Regulatory Surveys: Health Care: Health Care Facilities*, May 2012.

[540] "Excluded Hospital Units: Common Requirements," 42 CFR. 412.25, Centers for Medicare and Medicaid Services.

Despite their prevalence, other types of healthcare services or facilities may not be subject to licensure requirements. For example, while the prevalence of *office-based surgeries* (*OBSs*) has increased significantly in recent years, with the number of surgeries performed in 2010 totaling 10 million procedures, there is no *federal regulation* of surgeries performed in this setting.[541] As only approximately half of the states currently regulate OBSs, some in the healthcare industry have deemed it the "*Wild West of healthcare.*"[542]

Similar to *healthcare facility licensure,* health insurance plans, such as HMOs and PPOs, must meet certain state regulatory requirements related to the level of *statutory reserves* the plan must maintain in order to operate; *in other words, state regulations require that health insurance providers, such as HMOs and PPOs, maintain* liquefiable assets, *known as* statutory reserves, *in their operational budgets that can be readily available in the wake of a catastrophic event (e.g., the 2008 banking crisis) in order to prevent the organization from irreparable financial harm.* Statutory reserves, *which are held against anticipated claims and related commitments, are distinct from an insurance organization's uncommitted assets, known as* "surplus."[543] *While the computational methods by which states calculate the amount of statutory reserves required may vary between the states, the reserved funds must be able to support all of the financial risks and liabilities (e.g., insurance policies and contracts) that the insurance provider has assumed or underwritten.*[544]

---

[541] Letitia Stein, "Cost and Convenience Prompt More to Choose Surgery in Doctors' Offices," *Tampa Bay Times*, July 5, 2011, http://www.tampabay.com/news/health/cost-and-convenience-prompt-more-to-choose-surgery-in-doctors-offices/1178811 (accessed May 28, 2012); Fred E. Shapiro and Richard D. Urman, "Office-Based Anesthesia and Surgery: Creating a Culture of Safety," *American Society of Anesthesiologists* 75, no. 8 (August 2011): 14.

[542] Fred E. Shapiro and Richard D. Urman, "Office-Based Anesthesia and Surgery: Creating a Culture of Safety," *American Society of Anesthesiologists* 75, no. 8 (August 2011): 14.

[543] "State Insurance Regulation," National Association of Insurance Commissioners and the Center for Insurance Policy and Research, 2011, p. 1; Deborah Collet, "National Healthcare Reform and Solvency Risk," *Mathematica Policy Research* (May 29, 2012): 1.

[544] Kris DeFrain, "U.S. Insurance Financial Regulatory Oversight and the Role of Capital Requirements," *CIPR Newsletter*, National Association of Insurance Commissioners and the Center for Insurance Policy and Research, January 2012, http://www.naic.org/cipr_newsletter_archive/vol2_oversight.htm (accessed September 27, 2012).

Accreditation

Accreditation is a process in which private organizations assess participating institutions and programs and issue accreditation certificates to those that meet their requirements. Ensuring the quality and safety of services is the focus of most accreditation standards; however, many also include documentation and other requirements.

Problems in Health Care Law, *8th ed., by Robert D. Miller (Sudbury, MA: Jones and Bartlett, 2004), pp. 59, 84.*

3.8.1.2 Medicare and Medicaid Certification Healthcare provider organizations must be *certified participants* in the *Medicare and Medicaid programs* in order to receive reimbursement for services provided to patients who are Medicare or Medicaid beneficiaries. *Certification* for participation in the programs is contingent on an organization having been "*deemed*" to satisfy the health and safety standards component of the Medicare certification process.[545] As indicated earlier in this chapter, providers can achieve "*deemed status*" by earning a *certificate of compliance* with the *Conditions of Participation* established in federal regulations.[546] *Section 1864(a) of the Social Security Act* requires the secretary of *HHS* to grant state health agencies the authority to approve, disapprove, or terminate the Medicare participation of certified providers, based on whether providers have met the *Conditions of Participation*.[547] Medicaid eligibility for providers is determined by the same state agencies that determine Medicare eligibility.[548] Alternatively, a

[545] Centers for Medicare and Medicaid Services, "Accreditation and Its Impact on Various Survey and Certification Scenarios," Center for Medicaid and State Operations/Survey and Certification Group, October 17, 2008.

[546] *Facts about Federal Deemed Status and State Recognition*, the Joint Commission, June 19, 2012, http://www.jointcommission.org/assets/1/18/Facts_about_Federal_Deemed_Status.pdf (accessed September 14, 2012).

[547] "Use of State Agencies to Determine Compliance by Providers of Services with Conditions of Participation," 42 U.S.C. § 1395aa(a); *Facts about Federal Deemed Status and State Recognition*, Joint Commission, June 19, 2012, http://www.jointcommission.org/assets/1/18/Facts_about_Federal_Deemed_Status.pdf (accessed September 14, 2012).

[548] Centers for Medicare and Medicaid Services, *State Operations Manual*, May 21, 2004, http://www.cms.gov/Regulations-and-Guidance/Guidance/Manuals/Downloads/som107c01.pdf (accessed September 14, 2012), Sections 1008A, 1008B.

healthcare provider has the option of achieving *Medicare certification* by obtaining accreditation through an accepted national *accreditation organization* (*AO*). Currently, CMS uses *seven AOs* for the purpose of overseeing the health and safety compliance of accredited program participants.[549] An AO may obtain CMS "*deeming*" authority if it enforces standards that meet or exceed the *Conditions of Participation*.[550] Additional information on Medicare and Medicaid reimbursement can be found in Chapter 2, "Reimbursement Environment."

Unlike Medicare and Medicaid, *TRICARE*, the military healthcare program for uniformed service members, their families, and survivors, is available worldwide. *TRICARE* uses healthcare resources of both military services and civilian networks to maximize access for beneficiaries.[551] *TRICARE* providers are classified into six regions: North United States, South United States, West United States, Eurasia-Africa, Latin America and Canada, and the Pacific. Structurally, *TRICARE* providers are classified into a hierarchy of *network* and *non-network providers*. To be authorized to provide services to *TRICARE* beneficiaries, a healthcare provider must meet *TRICARE's licensing and certification requirements*, in addition to obtaining certification from a *managed care support contractor* (*MCSC*).

Each *TRICARE* region maintains its own *MCSC*. *TRICARE* providers have the option of being designated as either a *networ*k or a *non-network* provider. *Network providers* participate in contractual agreements with their respective region's *MCSC* and provide care at a negotiated rate.[552] *Non-network providers* are still certified through the *MCSC*, but are *not* under any contractual obligation. *Participating non-network providers* file claims for beneficiaries and accept payment directly from *TRICARE* for the *maximum allowable charge as payment in full for their services*.

---

[549]Centers for Medicare and Medicaid Services, "Accreditation and Its Impact on Various Survey and Certification Scenarios" Center for Medicaid and State Operations/Survey and Certification Group, October 17, 2008; Centers for Medicare and Medicaid Services, *CMS-Approved Accreditation Organization Contact Information*, April 2012, https://www.cms.gov/Medicare/Provider-Enrollment-and-Certification/SurveyCertificationGenInfo/downloads/AOContactInformation.pdf (accessed September 14, 2012).

[550]*Facts about Federal Deemed Status and State Recognition*, Joint Commission, June 19, 2012, http://www.jointcommission.org/assets/1/18/Facts_about_Federal_Deemed_Status.pdf (accessed September 14, 2012).

[551]TRICARE, *TRICARE Provider Handbook*, http://www.triwest.com/en/provider/provider-handbook/provider_handbook.pdf (accessed September 14, 2012).

[552]TRICARE, "Type of TRICARE Providers," http://www.tricare.mil/providers/typesofproviders.aspx (accessed September 14, 2012).

Nonparticipating non-network providers do not file claims for *TRICARE* beneficiaries, nor do they agree to accept the *TRICARE* maximum allowable charge as payment in full.[553]

3.8.1.3 Accreditation *Accreditation* is the process by which private organizations evaluate participating institutions and programs and issue accreditation certificates to institutions that meet their organization's requirements.[554] If a participating institution or program fails to maintain the requisite standards, it may not incur penalties, other than the loss of its accreditation by the given organization. In most states, there is no "*link*" between *accreditation* and *institutional licensure*; however, some states will forgo further inspection and accept accreditation by certain organizations, such as *the Joint Commission*, as the basis for the state licensure of certain providers.[555]

Accreditation can be beneficial to organizations for purposes of federal compliance. Medicare grants "*deemed status*" to hospitals accredited by the

EMERGENCY MEDICAL TREATMENT AND ACTIVE LABOR ACT (EMTALA)

Enacted by Congress in 1986 "to ensure public access to emergency services regardless of ability to pay. Section 1867 of the Social Security Act imposes specific obligations on Medicare-participating hospitals that offer emergency services to provide a medical screening examination (MSE) when a request is made for examination or treatment for an emergency medical condition (EMC), including active labor, regardless of an individual's ability to pay. Hospitals are then required to provide stabilizing treatment for patients with EMCs. If a hospital is unable to stabilize a patient within its capability, or if the patient requests, an appropriate transfer should be implemented."

"EMTALA Overview," Department of Health and Human Services, Centers for Medicare and Medicaid, http://www.cms.hhs.gov/emtala/ (accessed July 14, 2009).

[553] Ibid.

[554] Robert D. Miller, *Problems in Health Care Law*, 9th ed. (Mississauga, ON: Jones and Bartlett, 2006), p. 73.

[555] Ibid.

National Committee on Quality Assurance (NCQA)

A not-for-profit organization that works to improve the quality of healthcare through the accreditation of managed care plans. NCQA performs this duty, much as do other accrediting bodies, through the setting of standards and the collection of outcome and performance data.

"About NCQA," National Committee for Quality Assurance, http://www.ncqa.org/tabid/675/Default.aspx (accessed September 22, 2009).

Joint Commission or the *American Osteopathic Association.*[556] *Deemed status* allows providers to be *certified to participate in the Medicare and Medicaid Program* unless a later validation survey finds noncompliance with the *Conditions of Participation* (*CoP*) requirements set forth in the federal regulations.[557] In addition, some payors will only enter into contacts with providers who have been accredited by a specific organization.[558] Major accrediting bodies in the United States include *the Joint Commission*, *the American Osteopathic Association* (AOA), and the *National Committee for Quality Assurance* (NCQA).

3.8.1.3.1 The Joint Commission The *Joint Commission* is a nongovernmental organization that strives to ensure the safety and quality of healthcare services provided to the public by providing *accreditation* for ambulatory care centers, behavioral health centers, critical access hospitals, home care, general hospitals, laboratory services, long-term care facilities,

[556] "Agreements with States," 42 U.S.C. § 1395aa; Robert D. Miller, *Problems in Health Care Law*, 9th ed. (Mississauga, ON: Jones and Bartlett, 2006), p. 60; "Medicare and Medicaid Programs; Recognition of the American Osteopathic Association (AOA) for Continued Approval of Deeming Authority for Hospitals," *Federal Register* 70, no. 57 (March 25, 2005): 15333(I)-(II).

[557] American Society for Healthcare Engineering of the American Hospital Association, "JCAHO Federal Deemed Status and State Recognition," http://www.ashe.org/ashe/codes/jcaho/deemed_status.html (accessed June 30, 2009).

[558] Robert Kurtz, "Is Accreditation Really Worth It?" *Outpatient Surgery Magazine*, March 2008, http://www.outpatientsurgery.net/issues/2008/03/is-accreditation-really-worth-it (accessed May 13, 2010).

office-based surgery centers, and international healthcare providers.[559] The *Joint Commission* pursues this goal by conducting on-site reviews and setting standards for institutional governance, support services, and patient care.[560] As indicated earlier, in some states, *Joint Commission accreditation* may be a requirement for the *licensure* of certain facilities.[561]

3.8.1.3.2 American Osteopathic Association The *American Osteopathic Association* (*AOA*) is the primary board-certifying entity for *osteopathic physicians* (D.O.) and is the accrediting body for *every osteopathic healthcare facility and medical college*.[562] The AOA strives to promote the practice of osteopathic medicine by ensuring quality in education, research, and the delivery of healthcare services and functions similarly to *the Joint Commission*.[563]

3.8.1.3.3 National Committee on Quality Assurance (NCQA) The *National Committee for Quality Assurance* (*NCQA*) is a not-for-profit organization that works with employers, physicians, policy makers, patients, and health plans to improve the quality of healthcare through the *accreditation of managed care plans*.[564] The NCQA functions much as other accrediting bodies do, through the setting of standards and the collection of *outcome and performance data*.[565] In 1991, the NCQA accredited its first HMO and focused its accreditation efforts during the 1990s primarily on

---

[559]The Joint Commission, "The Joint Commission Code of Conduct," 2009, http://www.jointcommission.org/NR/rdonlyres/5B9CE6DD-FA09-465E-BDA8-C1FBCE03A555/0/TJCCodeofConduct09.pdf (accessed February 10, 2010); The Joint Commission, "What Is Accreditation?" http://www.jointcommission.org/accreditation/accreditation_main.aspx (accessed August 30, 2012).

[560]The Joint Commission, "Facts about the Joint Commission" November 13, 2009, http://www.jointcommission.org/AboutUs/Fact_Sheets/joint_commission_facts.htm (accessed February 10, 2010).

[561]The Joint Commission, "State Recognition Details" http://www.jointcommission.org/state_recognition/state_recognition_details.aspx?ps=25 (accessed September 18, 2012).

[562]American Osteopathic Association, "About the AOA," http://www.osteopathic.org/index.cfm?PageID=aoa_main (accessed June 30, 2009).

[563]American Hospital Association, "New Hospital Accreditation Program Offers Hospitals More Choices," October 7, 2008, http://www.ashrm.org/ashrm/advocacy/advisories/files/2008accreditation.pdf (accessed February 10, 2010).

[564]National Committee for Quality Assurance, "About NCQA," http://www.ncqa.org/tabid/675/Default.aspx (accessed June 29, 2009).

[565]National Committee for Quality Assurance, *2009 Programs and Initiatives Case Statement*, April 2009, http://www.ncqa.org/Portals/0/Sponsor/2009_Case_Statement.pdf (accessed February 10, 2010).

the development of *quality metrics* for *managed care organizations*. These efforts led to the development of the *Health Employer Data Information Set* (HEDIS), which measured essential elements of clinical care. By 1998, 75 percent of all HMO enrollees were enrolled in plans that were subject to NCQA accreditation.[566] HEDIS was formally integrated into NCQA's accreditation procedures in 1999, with an emphasis on establishing preventive services (e.g., immunizations and screening tests) in the primary care setting. Since that time, HEDIS has grown to include additional programs related to disease management and the protection of human research test subjects.[567]

3.8.1.3.4 Accreditation Association for Ambulatory Health Care (AAAHC) Founded in 1979, the *Accreditation Association for Ambulatory Health Care* (AAAHC) has evaluated thousands of organizations, including *federally qualified health centers* (FQHCs), *office-based surgery* centers, and ASCs. In April 2012, the AAAHC announced a new hospital accreditation program to be offered through the independently operated and governed *Accreditation Association for Hospital/Health Systems, Inc.* (AAHHS).[568] Set to launch as a pilot program, it will limit its scope to small hospitals located in rural, suburban, and urban settings. The AAHHS program has attempted to distinguish itself from other accreditation organizations by stating that it takes a more "*consultative*" approach, rather than a "*punitive*" one.[569]

3.8.1.4 Emergency Medical Treatment and Active Labor Act (EMTALA) The Emergency Medical Treatment and Labor Act (EMTALA) was enacted in 1986 by the Consolidated Omnibus Budget Reconciliation Act of 1985 (COBRA '85) and requires "covered hospitals" that participate in the Medicare program and have an emergency room to provide a "medical screening" to any patient coming to the hospital's emergency department.[570] In addition, EMTALA

---

[566] Robert I. Field, *Health Care Regulation in America: Complexity, Confrontation, and Compromise* (New York: Oxford University Press, 2007), p. 84.

[567] Ibid., pp. 83–84.

[568] Accreditation Association for Ambulatory Health Care, "AAAHC Announces New Accreditation Program for Hospitals: Will Be Independent of Ambulatory Accreditation Program," press release (April, 25, 2012), http://www.aaahc.org/news/archives/2012/Hospital-Program/ (accessed September 12, 2012).

[569] Ibid.

[570] "Examination and Treatment for Emergency Medical Conditions and Women in Labor," 42 U.S.C.A. §1395dd(e)(2) (December 8, 2003), p. 2534; "Agreements with Providers of Services; Enrollment Process," 42 U.S.C. § 1395cc (October 21, 2011). "Examination and Treatment for Emergency Medical Conditions and Women in Labor," 42 U.S.C.A. §1395dd(a) (December 8, 2003), p. 2534.

provides for civil penalties against the hospital for noncompliance, and if anyone suffers harm as a "direct result" of a hospital's violation of EMTALA, he or she can bring a claim against the hospital.[571] While EMTALA does not require hospitals to have an emergency department, some specialty/surgical hospitals are required by state licensure laws to have an emergency department for participation in the Medicare program.[572]

3.8.1.5 Occupancy Regulations In order for a healthcare facility or any new building to be operational, it must pass a building inspection by a licensing agency in order to secure a *certificate of occupancy* (CO) from the local municipal government.[573] In some circumstances, local authorities may grant waivers or vary the rules if (1) strict enforcement causes an "*undue hardship*" for the healthcare provider, (2) the rules are so complex that they begin to conflict with one another as applied, (3) the public purpose would be better served, or (4) a waiver would allow for experimentation with innovative practices.[574]

In recent years, healthcare facility occupancy regulations have shifted in focus from the "*well-established" building safety regulation*s to those regulations aimed at preventing infection. The *National Fire Protection Association* reported in 2009 that hospital fires—most in cooking and laundry areas—resulted in only five patient deaths since 2004.[575] Yet the CDC reported in 2009 that 4.5 percent of all hospital inpatients suffered a *healthcare associated infection* (HAI), with associated costs of approximately $6.65 billion in 2007.[576] In an effort to combat this problem, healthcare

---

[571] "Examination and Treatment for Emergency Medical Conditions and Women in Labor," 42 U.S.C.A. §1395dd(d)(1)(A)-(B) (December 8, 2003), p. 2535.

[572] Kelly J. Devers, Linda R. Brewster, and Paul B. Ginsburg, "Specialty Hospitals: Focused Factories or Cream Skimmers?" Center for Studying Health System Change, Issue Brief No. 62, April 2003, p. 3.

[573] Robert D. Miller and Rebecca C. Hutton, *Problems in Health Care Law*, 8th ed. (Mississauga, ON: Jones and Bartlett, 2004), p. 62.

[574] Ibid., pp. 62–63.

[575] Jennifer D. Flynn, "Structure Fires in Medical, Mental Health, and Substance Abuse Facilities," National Fire Protection Association, February 2009; Douglas S. Erickson, "The Lean Approach to Health Care Building Codes and Standards," American Society of Healthcare Engineers, http://www.ashe.org/advocacy/advisories/code_reform/lean_building_codes.html (accessed September 20, 2012).

[576] R. Douglas Scott II, "The Direct Medical Costs of Healthcare-Associated Infections in U.S. Hospitals and the Benefits of Prevention," Centers for Disease Control and Prevention, March 2009, http://www.cdc.gov/HAI/pdfs/hai/Scott_CostPaper.pdf (accessed September 20, 2012); Douglas S. Erickson, "The Lean Approach to

facility designs have begun taking into account the *infection control risk assessment* (ICRA) *process* to focus on prevention when designing the *environment of care* (EoC) at the given healthcare facility.[577] Supported by the *Facility Guidelines Institute*, the most important design elements to reduce *HAIs* have been shown to be *single-occupancy patient rooms* and *better ventilation* in operating and patient rooms.[578] Other design elements include redesigning restrooms to improve hand hygiene and waste management.[579]

In addition to municipal occupancy permits, healthcare facilities must meet the requirements of the *National Fire Protection Association's Life Safety Code* (LSC) in order to comply with Medicare's *Conditions of Participation*. In a December 17, 2010, letter to *State Survey Agency Director*s, CMS clarified the applicable LSC *occupancy classifications* for healthcare entities.[580] To satisfy the LSC requirements, any hospital must be classified as a *Health Care Occupancy* facility. Facilities falling under this classification are required to (1) provide sleeping accommodations, (2) maintain the availability of medical treatment on a 24-hour basis, and ensure that patients are *mostly incapable* of self-preservation. An *Ambulatory Health Care Occupancy* clarification applies to a facility, or a portion thereof, used to provide ambulatory healthcare services to at least four patients who are *mostly incapable* of self-preservation. An *Ambulatory Health Care Occupancy* facility does not provide sleeping accommodations, nor does it provide healthcare services on a 24-hour basis; however, it must provide anesthesia services. A *Business Occupancy* classification is similar in nature to an *Ambulatory Health Care Occupancy* classification, but the facility does not provide anesthesia services, and the patients treated in *Business Occupancy* facilities are *mostly capable* of self-preservation.[581]

Health Care Building Codes and Standards," American Society of Healthcare Engineers, http://www.ashe.org/advocacy/advisories/code_reform/lean_building_codes.html (accessed September 20, 2012).

[577] Judene M. Bartley, et al., "Current Views of Health Care Design and Construction: Practical Implications for Safer, Cleaner Environments," *American Journal of Infection Control* 28 (June 2010): S1–S12.

[578] Ibid.

[579] Ibid.

[580] "Hospital and Critical Access Hospital (CAH) Facility Life Safety Code (LSC) Occupancy Classification Update," by the director of the Survey and Certification Group, Centers for Medicare and Medicaid Services, to State Survey Agency directors, December 17, 2010, http://www.cms.gov/Medicare/Provider-Enrollment-and-Certification/SurveyCertificationGenInfo/downloads/SCLetter11_05.pdf (accessed September 20, 2012).

[581] Ibid.

In addition to certain healthcare provider occupancy requirements, local municipalities and counties have the authority to regulate healthcare facility development through zoning and planning laws. Most municipalities have complex zoning programs in place, dictating how land can be used.[582] The municipality may also prohibit certain land uses within its boundaries.[583]

3.8.2 Healthcare Professionals

The practice of medicine within the U.S. healthcare delivery system has historically been viewed as a learned profession, where physicians were perceived as professionals who applied significant training and knowledge to provide quality patient care from within their independent practice "*silos*." However, the recent shift from small, physician-owned, independent private practices to *captive* practices with multiple provider affiliations within larger integrated health systems has been yet another step toward the "*corporatization*" of healthcare, resulting in a new paradigm for healthcare delivery that promotes a managed "*continuum of care*," across a spectrum of providers.[584] This shift toward the further *corporatization* of medicine has led to the development of an increasing array of federal and state laws that regulate the scope of services physicians are permitted to provide.

3.8.2.1 Scope of Practice A physician's scope of practice is typically limited by state *credentialing* and *licensing* regulations, as well as by *specialty board certification* requirements. The unique aspects and distinctions between the types of regulatory oversight governing physicians' scope of practice will be discussed next.

3.8.2.2 Licensure *Every state and the District of Columbia require licensure of all allopathic (M.D.) and osteopathic (D.O.)* physicians.[585] Although the

---

[582] Juliana Maantay, "Zoning Law, Health, and Environmental Justice: What's the Connection?" *Journal of Law, Medicine & Ethics* 30 (Winter 2002): 572.

[583] Montrece McNeill Rnadom, et al., "Pursuing Health Equity: Zoning Codes and Public Health," *Journal of Law, Medicine & Ethics* 39 (Spring 2011): 94.

[584] Gardiner Harris, "More Doctors Giving Up Private Practices," *New York Times*, March 25, 2010, http://www.nytimes.com/2010/03/26/health/policy/26docs.html (accessed May 18, 2010); Paul Starr, *The Social Transformation of American Medicine: The Rise of a Sovereign Profession and the Making of a Vast Industry* (New York: Basic Books, 1982), p. ix.

[585] James N. Thompson, "State Medical Boards: Future Challenges for Regulation and Quality Enhancement of Medical Care," *Journal of Legal Medicine* 33, no. 9 (January–March 2012).

specific criteria for licensure vary by state, each state requires candidates to submit proof of completion of the requisite number of years of *graduate medical education* and passage of examinations verifying that "the physician is ready and able to practice competently and safely in an independent setting."[586]

A physician applying for licensure is typically found to be of "*good moral character*" absent his or her involvement in illegal activities.[587] Most physicians satisfy the exam requirement by submitting proof of their successful completion of the *United States Medical Licensing Examination* (*USMLE*) or the *Comprehensive Osteopathic Medical Licensing Examination* (*COMLEX-USA*) to the licensure board.[588] However, as some practicing physicians may have been licensed under a previously administered exam, certain state licensing boards may consider a combination of other examinations sufficient to meet licensure requirements, so long as those exams were completed prior to 2000.[589]

As part of the *Health Care Quality Improvement Act of 1986*, Congress established the *National Practitioner Data Bank* to improve the availability of information obtained during the peer review process.[590] HHS is responsible for overseeing the *National Practitioner Data Bank* system and requires state medical and dental licensing boards to report *disciplinary action* taken against a licensed professional in regard to his or her professional competence and professional conduct.[591] Hospitals are also required to periodically check the status of the database for each member of their medical staff. The general public does not currently have access to the data bank.[592]

---

[586] Ibid.

[587] S. Sandy Sanbar et al., "Medical Practice: Education and Licensure," in *Legal Medicine*, 6th ed. (Philadelphia: Mosby, 2004), p. 81.

[588] American Medical Association, "Medical Licensure," 2009, http://www.ama-assn.org/ama/pub/education-careers/becoming-physician/medical-licensure.shtml (accessed July 9, 2009); see also National Board of Osteopathic Medical Examination, "About NBOME," 2008, http://www.nbome.org/about.asp (accessed July 9, 2009).

[589] American Medical Association, "Medical Licensure," 2009, http://www.ama-assn.org/ama/pub/education-careers/becoming-physician/medical-licensure.shtml (accessed July 9, 2009).

[590] Troyen A. Brennan, "Hospital Peer Review and Clinical Privileges Actions: To Report or Not Report," *Journal of the American Medical Association* (July 28, 1999): 381; "Health Care Quality Improvement Act of 1986," 42 U.S.C. 11111, et seq. (2006).

[591] "Health Care Quality Improvement Act of 1986," 42 U.S.C. 11132-33, 11151 (2006).

[592] "Health Care Quality Improvement Act of 1986," 42 U.S.C. 11134-35 (2006).

HEALTH CARE QUALITY IMPROVEMENT ACT OF 1986

Among other things, it established the National Practitioner Data Bank to improve the availability of information obtained during the peer review process.

"Title IV of Public Law 99–660: The Health Care Quality Improvement Act of 1986."

In addition to physician *licensure* requirements, all states mandate the *licensure* of dentists, registered nurses, practical nurses, and pharmacists.[593] Frequently, physical therapists, dental hygienists, physicians' assistants, midwives, psychologists, social workers, opticians, physical therapy assistants, audiologists, speech pathologists, optometrists, podiatrists, chiropractors, and nursing home administrators are also subject to *state licensure laws*.[594] As with physician licensure regulation, state rules vary on *licensure requirements* for these professions.

Technological advances during the last few decades have resulted in a greater amount of specialization in the healthcare workforce.[595] Accompanying this rise in specialization is the development of new categories of providers, for example, hospitalists.[596] The creation of these specialties has been mirrored by a rise in various professional medical associations, which have created their own systems for *credentialing* specialists.[597] Although *certification requirements* vary by medical specialty, these requirements typically

[593] Robert D. Miller and Rebecca C. Hutton, *Problems in Health Care Law*, 8th ed. (Mississauga, ON: Jones and Bartlett, 2004), p. 78; American Academy of Nurse Practitioners, "Licensure and Practice Location," http://www.aanp.org/component/content/article/107-all-about-nps/what-s-an-np-accordion/573-license-and-practice-locations (accessed September 18, 2012).

[594] Robert D. Miller and Rebecca C. Hutton, *Problems in Health Care Law*, 8th ed. (Mississauga, ON: Jones and Bartlett, 2004), p. 78; Thomson Reuters, "State Licensure of Nursing Home Administrators," *50 State Statutory Surveys: Health Care: Health Care Providers*, October 2011.

[595] Stephen J. Williams, et al., *Introduction to Health Services*, 7th ed. (Clifton Park, NY: Thomson Delmar Learning, 2008), p. 268.

[596] Ibid.

[597] Donald H. Caldwell Jr., *U.S. Health Law and Policy 2001: A Guide to the Current Literature* (San Francisco: Jossey-Bass, 2001), p. 253.

include additional educational attainment, examinations, and work experience.[598] Unlike a state licensure board, a *professional association* cannot bar a licensed physician from practicing in a particular specialty for failing to obtain *board certification*, although board certification is viewed favorably by hospitals and healthcare providers as an indicator of a provider's competence.[599]

3.8.2.2.1 Board Certification Physicians can seek specialty *certification* through the *American Board of Medical Specialties* (*ABMS*), an organization of 24 approved medical specialty boards.[600] As specialization took hold in the early and mid-1900s (ophthalmology being the first in 1917), medical professionals began to self-regulate the profession by forming boards to establish *standards of practice*.[601] Established in 1933, the ABMS certifies physicians in more than 150 general specialties and subspecialties, ensuring that they have completed the requisite training programs necessary for their areas of expertise, and that they can demonstrate competence in their specialties or subspecialties through a board-executed *evaluation*.[602] While *board certification* is not required of U.S. physicians in order to practice their chosen specialty, it has become the "*gold standard*" for demonstrating expertise and commitment in their field to patients, providers, insurance companies, and quality organizations across the nation.[603]

In 2000, the 24 member specialty boards of the ABMS agreed to a universal recertification program for all medical specialties, the *ABMC Maintenance of Certification* (*MOC*), which was formally approved in 2006. The MOC evaluates physician expertise in six core competencies: (1) patient care, (2) interpersonal and communication skills, (3) medical knowledge, (4) practice-based learning, (5) systems-based practice, and (6) professionalism, which are measured using a four-part process.[604] In 2010, some U.S.

---

[598] Ibid.

[599] Ibid.

[600] American Board of Medical Specialties, "American Board of Medical Specialties Board Certification Editorial Background," August 31, 2012, www.abms.org (accessed September 12, 2012).

[601] Ibid.

[602] Ibid.

[603] American Board of Medical Specialties, "What Board Certification Means," http://www.abms.org/About_Board_Certification/means.aspx (accessed April 22, 2010).

[604] American Board of Medical Specialties, "ABMS Maintenance of Certification," http://www.abms.org/Maintenance_of_Certification/ABMS_MOC.aspx (accessed April 22, 2010).

physicians began facing the necessity of taking *board recertification exams*. In the past, physicians were issued lifetime certification without renewal requirements; however, in recent years, the member boards of the ABMS have begun instituting a *continuing education and recertification program*, requiring that certified physicians renew their certification every 6 to 10 years.[605] While some subspecialty boards began issuing time-limited certification as early as the late 1980s, others did not implement such certification limits until much later.[606]

Doctors of Osteopathy seek board certification through 1 of 18 specialty boards approved by the AOA.[607] Once an osteopathic physician has acquired *primary certification*, he or she may seek *subspecialty certification* as well. Under *Resolution 56: Certification Eligibility for ABMS-Certified D.O.s*, the following eligibility criteria must be met:

1. Certification by the ABMS;
2. Completion of residency training prior to submitting an application;
3. Good standing as an AOA member; and
4. Maintenance of specified continuing medical education (CME) requirements.[608]

As communication and diagnostic technologies continue to advance, the trend of *telemedicine* has become increasingly prevalent (see Chapter 5, "Technology"). *Telemedicine* refers to the transfer of medical information via electronic communication from one location to another to enhance the quality and efficiency of patient comfort and care.[609] Instead of practicing at

---

[605] American Board of Medical Specialties, "What Board Certification Means," http://www.abms.org/About_Board_Certification/means.aspx (accessed April 22, 2010).

[606] Jeffrey M. Drazen and Debra F. Weinstein, "Considering Recertification," *New England Journal of Medicine* 362, no. 10 (May 19, 2010): 946; American Board of Radiology, "Maintenance of Certification: Diagnostic Radiology," http://theabr.org/moc/moc_faq_who.html (accessed May 19, 2010)

[607] American Osteopathic Association, "AOA Board Certification," 2012, http://www.osteopathic.org/inside-aoa/development/aoa-board-certification/Pages/default.aspx (accessed September 12, 2012).

[608] American Osteopathic Association, "Resolution 56: Certification Eligibility for ABMS-Certified D.O.s," 2012, http://www.osteopathic.org/inside-aoa/Education/postdoctoral-training/Documents/resolution-56-certification.pdf (accessed September 12, 2012).

[609] American Telemedicine Association, "Telemedicine Defined," 2011, http://www.americantelemed.org/i4a/pages/index.cfm?pageid=3333 (accessed February 18, 2011).

a *fixed location*, physicians are able to confer with colleagues, read patient charts and diagnostic images, and even meet with patients, all from a *remote location*. *Licensing* and *accreditation* requirements may present obstacles to *telemedicine* implementation. Depending on state licensing rules, practitioners using interstate *telemedicine* may have to obtain licenses in each state in which they treat patients. State *licensure laws* generally have some exceptions for the provision *interstate telemedicine*, such as *reciprocal licensure provisions*, which allows for a *mutual exchange of privileges between states*.[610] Additional regulatory concerns may arise as *telemedicine* falls under both the scope of the *Joint Commission's accreditation* standards and CMS *credentialing* requirements.[611]

On May 5, 2011, CMS issued a final rule on telemedicine *credentialing* and *privileging* that may help facilitate implementation of innovative medicine at non-urban hospitals. Under the newly established rule, effective July 5, 2011, CMS will allow *privileges and credentialing reciprocity* between an institution where a physician seeks to provide *telemedicine* services to Medicare and Medicaid patients and the hospital where a physician is already privileged.[612] To circumvent the more cumbersome *Conditions of Participation* previously required, hospitals seeking to provide telemedicine to their patients may simply form an agreement with the remote-site hospital.[613] This streamlined process may potentially lessen the challenges faced by rural hospitals in physician credentialing and may enable quicker and better access to care.

3.8.2.2.2 Nonphysician Scope of Practice The physician shortage, paired with declining reimbursement rates, has fueled demand for physician manpower relief (see Chapter 6, "Healthcare Reform"). To meet this demand,

---

[610] Glenn W. Wachter, "Interstate Licensure of Telemedicine Practitioners," Telemedicine Information Exchange, November 15, 2006.

[611] Joint Commission on the Accreditation of Healthcare Organizations, "Telemedicine Requirements," December 9, 2011, http://www.jointcommission.org/assets/1/6/PrePub_20111209_Telemedicine_HAP.pdf (accessed September 14, 2012); "Telemedicine Services in Hospitals and Critical Access Hospitals (CAHs)," by Director of Survey and Certification Group, to State Survey Agency Directors, July 15, 2011, http://www.cms.gov/Medicare/Provider-Enrollment-and-Certification/SurveyCertificationGenInfo/downloads/SCLetter11_32.pdf (accessed September 14, 2012).

[612] "Medicare and Medicaid Programs: Changes Affecting Hospital and Critical Access Hospital Conditions of Participation: Telemedicine Credentialing and Privileging," *Federal Register* 76, no. 87 (May 5, 2011): 25557.

[613] Ibid., pp. 25550, 25552.

the healthcare workforce has continued to diversify, with versatility no longer limited to the *horizontal* expansion of specialty and subspecialty areas of medical expertise. Rather, current trends have solicited a *vertical* expansion in the role of the *nonphysician workforce* to provide services that *support, supplement, and parallel physician services*.[614]

Traditionally, nonphysician providers (NPPs) were referred to, collectively, as "*allied health professionals.*"[615] However, NPPs have assumed multiple roles in the provision of healthcare services. They may work *synergistically with* physicians, *supplemental to* physicians for the provision of select services, or in *parallel to* physicians for the provision of services that, though comparable to physician services, are entirely outside the scope of physician practice. (See Chapter 4, "Competition.") As such, NPPs may be further classified into three categories based on the *types of services* they provide:

1. *Technicians and Paraprofessionals* (*a/k/a "Physician extenders"*), who provide either manpower support or highly technical services, both necessary for and contingent on the provision of certain specialized physician services;
2. *Allied Health Professionals* (*a/k/a "Parallel providers"*), whose scope of professional practice is separate, distinct, and essentially parallel to the scope of physician practice; and
3. *Mid-Level Providers* (*a/k/a "Triage providers"*), who are trained to provide a specific subset of physician services, with the *original* objective of providing "*triage*" relief for physicians by enhancing patient throughput.[616] *Mid-Level Providers* are afforded a significant level of *autonomy* within their scope of practice, and as such, they may act alongside—or independent of—physicians under certain conditions for the provision of previously determined services.

The most predominant regulatory question pending for mid-level providers is *the level of physician supervision* mandated by federal and state law. Regulations governing the supervision and *scope of mid-level providers* differ by state, specialty, practice setting, and the provider's role in the

[614] "Nurse Practitioners and Primary Care," Health Policy Brief, *Health Affairs*, October 25, 2012, p. 1.

[615] by Alice B. Aiken and Mary Ann McColl, "Interprofessional Healthcare: A Common Taxonomy to Assist with Understanding," *Journal of Allied Health* 38, no. 3 (Fall 2009): e-92.

[616] Ibid., p. e-94.

provision of care. For example, federal Medicare rules and state laws overlap, so *Certified Registered Nurse Anesthetists* (*CRNAs*) are authorized to administer anesthesia, without supervision, to Medicare patients if a state's governor petitions CMS on the basis of state need.[617]

Incident-to services are defined as services provided by qualified NPPs that are integral to, and continuous with, the services provided by the primary/supervising physician.[618] While mid-level providers are relied on for the provision of specialized services that are *incident to* physician services, they may also exercise a certain measure of *independence*, because they can autonomously provide a specified scope of service *in lieu* of physicians. Services billed under Medicare *incident-to* rules include those services provided by an NPP without the direct supervision of a licensed physician, regardless of specialty or whether the NPP was the primary service provider.[619] Furthermore, Medicare allows physicians to bill for *incident-to* services provided by NPPs at 100 percent of the *Physician Fee Schedule*.

Some NPPs, that is, physician assistants, nurse practitioners, and clinical nurse specialists, are generally permitted to act as independent contractors and bill directly for their services at 85 percent of the *Physician Fee Schedule* amount when working *in lieu* of a physician-collaborator.[620] The autonomy afforded to these and other mid-level providers has even expanded to include supervision of other NPPs *in lieu* of physician supervision.[621] Under the January 2010 update of the *Hospital Outpatient Prospective Payment System Final Rule*, outpatient therapeutic services provided in a hospital setting may be directly supervised by certain NPPs, that is, clinical psychologists, physician assistants, nurse practitioners, clinical nurse specialists, and certified nurse midwives, who are permitted to provide direct supervision *in lieu* of physicians if they are *authorized to personally perform* the services they are overseeing.[622]

---

[617] "Condition of Participation: Anesthesia Service," 42 CFR 482.52(c), Centers for Medicare and Medicaid, p. 534.

[618] Centers for Medicare and Medicaid Services, "'Incident to' Services," MLN Matters, SE0441, 2004, http://www.cms.hhs.gov/mlnmattersarticles/downloads/se0441.pdf (accessed February 1, 2010).

[619] Ibid.

[620] Centers for Medicare and Medicaid Services, *Medicare Claims Processing Manual*, Chapter 12, Sections 110–120, December 18, 2009.

[621] Centers for Medicare and Medicaid Services, "January 2010 Update of the Hospital Outpatient Prospective Payment System (OPPS)," Transmittal 116, Pub. 100-02 Medicare Benefit Policy, Section 20.5.1, December 11, 2009.

[622] Ibid.

3.8.2.3 Tort Reform Malpractice, defined as "professional misconduct or unreasonable lack of skill," has always been a risk inherent in the practice of medicine.[623] As malpractice litigation has increased since the 1970s, physicians have been forced to pay higher premiums for malpractice insurance, which in turn has contributed, it is thought, to increases in the cost of healthcare services.[624]

Though medical malpractice law has traditionally been regulated at the state level, the federal government has taken an interest in tort reform. While there have been efforts at federal tort reform, a *federal cap* on damages has yet to be signed into law. Despite this lack of regulation at a federal level, many states have caps already in place.[625] Such caps, often modeled after California's *Medical Injury Compensation Reform Act* (*MICRA*), place limits on pain and suffering awards to plaintiffs.[626] As of

Factoid

Tort reform proponents have alleged that the United States has the most expensive tort system in the world.

"Tort Excess 2005: The Necessity for Reform from a Policy, Legal and Risk Management Perspective," by David Dial, et al., http://server.iii.org/yy_obj_data/binary/727182_1_0/tortreform.pdf (accessed September 8, 2009).

---

[623] Bryan A. Garner, *Black's Law Dictionary*, 5th ed. (New York: West Publishing, 1979), p. 864.

[624] Barry R. Furrow, et al., *Health Law: Cases, Materials and Problems*, 3rd ed. (St. Paul, MN: West Publishing Company, 1997), pp. 309–310; Marcia Nielsen, "The U.S. Health Care System: Stakeholders and Politics," Society of Actuaries, 2005 June Spring Meeting; Robert A. Berenseon, Sylvia Kuo, and Jessica H. May, "Medical Malpractice Liability Crisis Meets Markets: Stress in Unexpected Places," *Center for Studying Health System Change*, no. 68 (September 2003), http://www.hschange.com/CONTENT/605/ (accessed September 30, 2003); Michael A. Morrisey, Meredith L. Kilgore, and Leonard (Jack) Nelson, "Medical Malpractice Reform and Employer-Sponsored Health Insurance Premiums," *Health Services Research* 43, no. 6 (December 2008): 2129–2130; Norman K. Thurston, "Physician Market Power: Evidence from the Allocation of Malpractice Premiums," *Economic Inquiry* 39, no. 3 (July 2001): 487–498.

[625] National Conference of State Legislatures, "Medical Liability/Malpractice Laws," September 4, 2009, http://www.ncsl.org/default.aspx?tabid=18516 (accessed October 28, 2009).

[626] "Damages for Wrongs," Cal. Civ. Code § 3333.2; Fred J. Hellinger, "Impact of State Laws Limiting Malpractice Awards on Geographic Distribution of Physicians," Agency for Healthcare Research and Quality, http://www.ahrq.gov/research/tortcaps/tortcaps.htm (accessed August 30, 2012).

MEDICAL INJURY COMPENSATION REFORM ACT (MICRA)

California legislation that caps pain and suffering/malpractice damages.

"Cal. Civ. Code," § 3333.2.

2011, 38 jurisdictions had passed laws that place concrete limits, or caps, on noneconomic and/or punitive damages in medical malpractice suits. Other states (e.g., Connecticut and Minnesota) allow for judicial review of the damage awarded, rather than specifying a particular limit or cap. Of the 14 jurisdictions that do not place caps on damages, 5 have determined such caps to be unconstitutional.[627] Additional tort reform proposals include shifting *tribunals* from *judicial* to *administrative panels* and/or the creation of *federal safe harbors* for physicians who practice in accordance with credible comparative-effectiveness research.[628] Furthermore, some insurance companies are experimenting with *disclosure-and-offer programs*, in which providers offer compensation to patients immediately on disclosure of a negative outcome, with the hope of reducing the number of malpractice lawsuits.[629]

3.9 CONCLUSION

> *Perhaps this complex, hybrid regulatory structure has emerged because it fits America's temperament. It may, in fact, be the only kind with which the country would be truly comfortable. The decentralization and complexity of health care regulation are distinctively American in the interplay of layers of government, different agencies within each level, and private forces. It is a system of checks and balances that prevents any single regulatory authority*

[627] National Conference of State Legislatures, "Medical Liability/Malpractice Laws," September 4, 2009, http://www.ncsl.org/issues-research/banking/medical-liability-medical-malpractice-laws.aspx (accessed August 3, 2011).

[628] Michelle M. Mello and Troyen V. Brennan, "The Role of Medical Liability Reform in Federal Health Care Reform," *New England Journal of Medicine* 361, no. 1 (July 2, 2009): 3.

[629] Ibid.

> *from becoming too influential and that encourages diversity in programs and approaches. There is almost a "marketplace" of regulation, with a competitive harness that disciplines government policy in a similar manner to the discipline of a private market for goods and services. The system is unquestionably less efficient than one that is more centralized, but perhaps the inefficiency has its advantages. It may even enhance overall regulatory effectiveness.*[630]
>
> —Robert I. Field

In his 1982 book *The Social Transformation of American Medicine*, Paul Starr asserted that the *once sovereign medical profession* (at the turn of the twentieth century) was relatively free from government regulation of the profession's control over its organization, standard of practice, and the markets in which it operated. More recently, the rise of the "*corporatization of medicine*" has led to "[e]mployers and the government becom[ing] critical intermediaries in the system because of their financial role, and they are using their power to reorient the system."[631]

Arising from the *corporatization* of the U.S. healthcare delivery system, the ever-changing regulatory environment in which healthcare enterprises and providers operate presents the potential for severe penalties for entering into transactions and arrangements that may subsequently be found to be legally impermissible. In light of this heightened regulatory environment, healthcare providers should work closely and in a timely manner with competent healthcare legal counsel and certified valuation professionals to ensure that the prospective transactional arrangementsare in compliance with current laws and meet applicable regulatory thresholds. In addition to obtaining a determination that the transaction has met the requisite tax, corporate, organizational, licensure, and certification requirements, a certified opinion prepared in compliance with professional standards by an independent credential valuation professional (under the advice of legal counsel), and supported by adequate documentation as to whether each of the proposed elements of the transaction are both at *Fair Market Value* and *commercially reasonable* will significantly enhance the efforts of healthcare providers in establishing a risk-adverse, defensible position that the transactional arrangement is in compliance, in the event that it faces regulatory scrutiny.

---

[630] Robert I. Field, *Health Care Regulation in America: Complexity, Confrontation, and Compromise* (New York: Oxford University Press, 2007), pp. 241–242.

[631] Paul Starr, *The Social Transformation of American Medicine: The Rise of a Sovereign Profession and the Making of a Vast Industry* (New York: Basic Books, 1982), p. 445.

3.10 KEY SOURCES

Centers for Medicare and Medicaid Services

The Centers for Medicare and Medicaid Services administer the Medicare, Medicaid, and CHIP programs. The CMS website contains important information for beneficiaries of these programs, as well as guidelines for providers.

"Mission, Vision & Goals: Overview," Centers for Medicare and Medicaid Services, U.S. Department of Health and Human Services, http://www.cms.hhs.gov/MissionVisionGoals/ (accessed September 22, 2009)

http://www.cms.hhs.gov

National Committee for Quality Assurance

Provides standards of accreditation and certification to various types of health care entities, as well as performance measures, while recognizing providers who consistently provide high-quality care, in order to provide consumers with information on provider quality.

"About NCQA," National Committee for Quality Assurance, http://www.ncqa.org/tabid/675/Default.aspx (accessed September 21, 2009)

http://www.ncqa.org/

The Joint Commission

Provides information on accreditation and certification standards for more than 17,000 health care organizations and programs. Joint Commission accreditation and certification are recognized nationwide as a symbol of quality that reflects an organization's commitment to meeting certain performance standards.

"About the Joint Commission," the Joint Commission, http://www.jointcommission.org/AboutUs (accessed September 21, 2009)

http://www.jointcommission.org

Office of the Inspector General (OIG)

"The mission of the Office of Inspector General (OIG), as mandated by Public Law 95–452 (as amended), is to protect the integrity of Department of Health and Human Services (HHS) programs, as well as the health and welfare of the beneficiaries of those programs. OIG has a responsibility to report both to the Secretary and to the Congress program and management problems and recommendations to correct

them. OIG's duties are carried out through a nationwide network of audits, investigations, evaluations, and other mission-related functions performed by OIG components."

"Mission," U.S. Department of Health Services, Office of the Inspector General, http://oig.hhs.gov/ (accessed July 14, 2009)

https://oig.hhs.gov/

The Library of Congress: THOMAS

Provides up-to-date copies of pending legislation in the U.S. Congress.

"About Thomas," Library of Congress: THOMAS, http://thomas.loc.gov/home/abt_thom.html (accessed September 22, 2009)

http://thomas.loc.gov/

U.S. Government Printing Office (GPO)

The GPO's mission is to "*keep America informed*" of the work of all three branches of the U.S. government by digitizing a comprehensive set of publicly available government documents.

"About GPO," U.S. Government Printing Office, http://gpo.gov/about/ (accessed September 18, 2009)

http://gpo.gov/

United States Department of Health and Human Services Office of Inspector General

The Office of the Inspector General of the United States Department of Health and Human Services oversees all HHS programs in order to protect the integrity of the programs and the health and welfare of beneficiaries.

"Office of the Inspector General," U.S. Department of Health and Human Services, http://oig.hhs.gov/ (accessed September 22, 2009)

http://oig.hhs.gov/

Internal Revenue Service (IRS)

Under the Department of the Treasury, the IRS aims to help the large majority of compliant taxpayers with tax laws, while ensuring that the minority who are unwilling to comply pay their fair share.

"The Agency, Its Mission and Statutory Authority," U.S. Internal Revenue Service, http://www.irs.gov/uac/The-Agency,-its-Mission-and-Statutory-Authority (accessed September 18, 2009)

http://www.irs.gov/

3.11 ACRONYMS

Acronym	Full Title
AAAHC	Accreditation Association for Ambulatory Health Care
AAHHS	Accreditation Association for Hospital/Health Systems, Inc
ABMS	American Board of Medical Specialties
ACA	Patient Protection and Affordable Care Act
AGB	Amount Generally Billed
AHLA	American Health Lawyers Association
AHRQ	Agency for Healthcare Research and Quality
AMA	American Medical Association
AO	Accreditation Organization
AOA	American Osteopathic Association
ARRA	American Reinvestment and Recovery ActASC Ambulatory Surgery Centers
ASH	American Specialty Health
ASHP	American Society of Hospital Pharmacists
BME	Board of Medical Examiners
BSC	Biological Safety Cabinet
CDC	U.S. Centers for Disease Control and Prevention
CERT	Comprehensive Error Rate Testing
CFTC	Commodities Futures Trading Commission
CGMP	Current Good Manufacturing Practices
CHNA	Community Health Needs Assessments
CHSO	Cooperative Hospital Services Organization
CID	Civil Investigative Demands
CLIA	Clinical Laboratory Improvement Amendments
CME	Continuing Medical Education
CO	Certificate of Occupancy
CO-OP	Consumer Operated and Oriented Plan
COBRA	Consolidated Omnibus Budget Reconciliation Act of 1985
COMLEX-USA	Comprehensive Osteopathic Medical Licensing Examination
CON	Certificate of Need
CPOM	Corporate Practice of Medicine
CRNA	Certified Registered Nurse Anesthetists
DEA	U.S. Drug Enforcement Agency
DHS	Designated Health Services

DMEPOS	Durable Medical Equipment, Prosthetics, Orthotics, and Supplies
DOJ	U.S. Department of Justice
DRA	Deficit Reduction Act
DRG	Diagnostic Related Groups
ECA	Extraordinary Collection Actions
EHR	Electronic Health Records
EMTALA	Emergency Medical Treatment and Labor Act
EoC	Environment of Care
ERISA	Employee Retirement Income Security Act
FCA	False Claims Act
FDA	U.S. Food and Drug Administration
FERA	Fraud Enforcement and Recovery Act
FERA	Fraud Enforcement and Recovery Act of 2009
FFS	Fee-for-Service
FI	Fiscal Intermediary
FMAP	Federal Matching Funds
FIFO	First In, First Out
FQHC	Federally Qualified Health Centers
FTC	Federal Trade Commission
FY	Fiscal Year
GCM	General Counsel Memorandum
GMP	Good Manufacturing Practice
GP	General Partnerships
GPO	Group Purchasing Organization
HAI	Healthcare Associated Infection
HCFAC	Health Care Fraud and Abuse Control
HEAT	Healthcare Enforcement Action Team
HEAT	Health Care Fraud Prevention and Enforcement Action Team
HIPAA	Health Insurance Portability and Accountability Act of 1996
HITECH	Health Information Technology for Economic Clinical Health
HMO	Health Maintenance Organizations
HRDIS	Health Employer Data Information Set
ICRA	Infection Control Risk Assessment
IDS	Integrated Delivery Systems
IPA	Independent Practice Associations
IRC	Internal Revenue Code
IRS	Internal Revenue Service
LIFO	Last In, First Out

LLC	Limited Liability Companies
LP	Limited Partnerships
LSC	National Fire Protection Association's Life Safety Code
MAC	Medicare Administrative Contractor
MCSC	Managed Care Support Contractor
MDR	Medical Device Reporting Regulations
MIC	Audit Medicaid Integrity Contractors
MICRA	Medical Injury Compensation Reform Act
MMA	Medicare Prescription Drug, Modernization, and Improvement Act of 2003
MMPPA	Medicare and Medicaid Patient & Program Protection Act of 1987
MOC	Maintenance of Certification
NCQA	National Committee for Quality Assurance
NIOOSH	National Institute for Occupational Safety and Health
NPP	Nonphysician Providers
NRC	United States Nuclear Regulatory Commission
NTEE	National Taxonomy of Exempt Entities
OBS	Office-Based Surgeries
OCR	HHS Office for Civil Rights
ODTKE	Officers, Directors, Trustees, and Key Employees
OESS	CMS Office of E-Health standards and Services
OIG	U.S. Office of Inspector General
OSHA	Occupational Safety and Health Act of 1970
OTC	Over-the-Counter
PHI	Protected Health Information
PHO	Physician Hospital Organization
PSO	Patient Safety Organizations
PSQIA	Patient Safety and Quality Improvement Act
QS	Quality System
QSIT	Quality Systems Inspections Technique
RAC	Recovery Audit Contractors
RCRA	Resource Conservation and Recovery Act
RICO	Racketeer Influenced and Corrupt Organizations Act
SAMHSA	Substance Abuse and Mental Health Service Administration
SEC	Securities and Exchange Commission
SMDA	Safe Medical Devices Act of 1990
SRDP	Self-Referral Disclosure Protocol
UMDNJ	University of Medicine and Dentistry of New Jersey
USMLE	United States Medical Licensing Examination
ZIPC	Zone Program Integrity Contractors

CHAPTER 4

Competition

4.1 OVERVIEW

The potential benefits and costs of free market competition within the healthcare arena have been, and will continue to be, the focus of intense debate. Those who advocate market competition in healthcare stress numerous benefits, which include reduced costs, increased quality, improved efficiencies,

and an incentive to innovate. Those who oppose competition in healthcare argue that unique differences exist between healthcare provider and payor markets and the markets for other industry sectors, thus cautioning against the use of basic, and broadly applied, economic models when drawing conclusions concerning improving the healthcare delivery system.

In recent years, consumer-driven healthcare has increased due to the shift away from *defined benefits* to *defined contributions* of premium coverage plans, where more of the responsibility for premium payment is placed directly on the insured patients (see Section 2.5.2.3, "Consumer-Driven Health Plans," in Chapter 2, "Reimbursement Environment"). The resulting economic pressures from this new paradigm have been accompanied by greater direct-to-consumer advertising by providers, as well as by pharmaceutical companies.[1] As a result of soaring healthcare costs, with limited perceived improvements in the quality of care provided, economists and policy makers have advocated for a more standardized care process in which the patient is relegated to the role of a *consumer* and the physician is relegated to the role of the *provider* of healthcare services.[2] Other policy experts and physicians have decried the new consumer-driven aspects of healthcare delivery, which they believe removes the more traditional, humanistic elements from the *learned physician*/patient trust relationship.[3]

The debate regarding the importance of consumer-driven healthcare is further complicated by those unique characteristics of the healthcare industry that hinder the traditional notion of economic behavior. For example, as the relationship between price and quality of care is generally defined by providers, rather than by consumers, patients are less equipped to make informed healthcare purchase decisions in comparison to other markets. Further, the healthcare market's intensive regulation of medical professionals and historical and heretofore pervasive resistance to transparency and disclosure, as well as new facilities, technologies, treatments, and evolving drug therapies, may delay or disable the development of alternative substitutes of care. In addition to accentuating the knowledge imbalance between *patients* and *providers* as to the types of service needed and available alternatives, delays in the development of

---

[1] Marc-Andre Gagnon and Joel Lexchin, "The Cost of Pushing Pills: A New Estimate of Pharmaceutical Promotion Expenditures in the United States," *Public Library of Science* 5, no. 1 (January 2008): 0032.

[2] Pamela Hartzband and Jerome Groopman, "The New Language of Medicine," *New England Journal of Medicine* 365, no. 15 (October 13, 2011); citing Paul Krugman, "Patients Are Not Consumers," *New York Times*, April 21, 2011, http://www.nytimes.com/2011/04/22/opinion/22krugman.html?_r=1&pagewanted=print (accessed August 27, 2012).

[3] Pamela Hartzband and Jerome Groopman, "The New Language of Medicine," *New England Journal of Medicine* 365, no. 15 (October 13, 2011): 1372.

substitutes may also stymie innovation, which is one of the *fundamental drivers* of quality improvement and affects an organization's ability to compete.[4]

The last two decades have seen the accelerated transformation of the U.S. healthcare professions into a service *industry* enterprise, whereby health services have been *unitized*, *protocolized*, and *homogenized*, in order to facilitate their *sale* in the market, just as if they were any other fungible market commodity, for example, soybeans and pork bellies. These changes have accelerated the "*corporatization*" of medicine, as demonstrated by the increase in for-profit hospitals, outpatient/ambulatory facilities (e.g., *independent diagnostic testing facilities* [*IDTF*] and *ambulatory surgery centers* [*ASC*]) and large for-profit health insurance payors.

Several issues brought healthcare to the forefront of both consumer and political discourse, which led to the passage of the 2010 *Patient Protection and Affordable Care Act* (*ACA*), including the persistent disproportionate rise in the cost of healthcare, the perceived disproportionate breakdown of healthcare costs across industry segments, the socioeconomic disparities in access and quality, the falling rank of U.S. health status as compared to other developed nations, and the perceived threats of budget deficits and national debt related to the cost of care for a baby-boomer generation now becoming eligible for Medicare.[5]

The ACA has several provisions to address these concerns, including the development of new emerging healthcare organizations (EHOs) and healthcare delivery models, for example, *accountable care organizations* (*ACOs*) and *patient-centered medical homes* (*PCMHs*), with the goal of improving quality, while reducing cost, by providing for better communication and collaboration among providers within patients' continuum of care. Other ACA provisions that will likely affect competition in the healthcare marketplace

Ambulatory Surgery Center (ASC)

A freestanding facility that is certified by Medicare that performs certain types of same-day procedures on an outpatient basis without hospitalization.

Dictionary of Health Insurance and Managed Care *by David Marcinko (New York: Springer, 2006), p. 22.*

[4] Michael E. Porter, *Competitive Strategy: Techniques for Analyzing Industries and Competitors* (New York: Free Press, 1980).

[5] "Patient Protection and Affordable Care Act," *Pub. L.* 111-148 (March 23, 2010).

Emerging Healthcare Organization (EHO)

Physicians, hospitals, healthcare systems, clinics, and payors who are innovating, integrating, or merging because of the constant competitive influx of the healthcare industry.

A Guide to Consulting Services for Emerging Healthcare Organizations *by Robert James Cimasi (New York: John Wiley & Sons, 1999).*

Health Insurance Exchange (HIE)

"Public markets" for health insurance plans available within a state.

"Explaining Health Care Reform: What Are Health Insurance Exchanges?" Kaiser Family Foundation, May 2009.

Patient Centered Medical Home (PCMH)

A model of healthcare delivery that approaches the delivery of services through coordinated, centralized patient care, with an emphasis on the primary care physician as the manager of a beneficiary's care.

"Joint Principles of the Patient-Centered Medical Home," American Academy of Family Physicians, American Academy of Pediatrics, American College of Physicians, and American Osteopathic Association, February 2007.

Patient Protection and Affordable Care Act (ACA)

Landmark U.S. healthcare reform legislation passed on March 23, 2010.

Patient Protection and Affordable Care Act, Pub. L. *111-148 (March 23, 2010).*

VALUE-BASED PURCHASING (VBP)

Any reimbursement model that links reimbursement or incentive bonus payments to quality of care.

"Lessons from Medicare's Demonstration Projects on Disease Management, Care Coordination and Value-based Payment," by Lyle Nelson, Congressional Budget Office, January 2012, p. 1.

"CORPORATIZATION" OF MEDICINE

The transformation of vertically organized bureaucracies into government-owned corporations that are exposed to marketlike pressures. In healthcare this means the establishment of publically owned hospitals as private corporations. Corporatization is usually seen along with autonomization.

"Understanding Organizational Reforms: The Corporatization of Public Hospitals," by April Harding and Alexander S. Preker, in "Health, Nutrition, and Population," World Bank, September 2000, pp. vii, 15.

include those establishing *health insurance exchanges* (*HIEs*) and various *value-based purchasing* (*VBP*) initiatives.[6]

4.2 ECONOMICS OF HEALTHCARE

4.2.1 Healthcare Costs and the Gross Domestic Product (GDP)

Healthcare costs are not just rising but are growing disproportionately to the rise in the cost of other goods and services in the U.S. economy.[7] The percentage of the gross domestic product (GDP) devoted to healthcare services grew from 5.2 percent in 1960 to 17.9 percent in 2011 and is projected to surpass 20 percent by 2018.[8] While there are many causes

[6] Ibid.

[7] Andrea Sisko, et al., "Health Spending Projections through 2018: Recession Effects Add Uncertainty to the Outlook," *Health Affairs*, Web Exclusive, February 24, 2009, p. w346.

[8] "Table 1: National Health Expenditures Aggregate, Per Capita Amounts, Percent Distribution, and Average Annual Percent Change: Selected Calendar Years 1960–2010," in *National Health Expenditures Data*, Centers for Medicare and Medicaid Services, http://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/NationalHealthExpendData/Downloads/tables.pdf (accessed June 25, 2012); Centers for Medicare and Medicaid Services, "National Health Expenditure Projections 2011–2021," January 2012, http://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/NationalHealthExpendData/Downloads/Proj2011PDF.pdf (accessed June 25, 2012).

for the disproportionate growth between healthcare spending and the GDP (resulting in the higher percentage of the GDP being associated with healthcare costs), it should be noted that the discrepancy may be caused, in part, by the most recent economic recession, which started in 2008 and had a greater impact on the GDP than the discernibly lesser impact on healthcare spending.[9]

Some economists have cited the aging population as a reason for the increase in healthcare's share of the GDP.[10] In reality, the rise in healthcare expenditures is, at least in large part, the result of much deeper economic forces. As economist William J. Baumol explains, "[T]he relative increase in healthcare costs compared with the rest of the economy is [an] inevitable and ineradicable part of a developed economy. The attempt [to control relative costs] may be as foolhardy as it is impossible."[11] Baumol's observation is based on documented and significant differences in productivity growth between the healthcare sector of the economy and the economy as a whole.

Factoid

The percentage of the gross domestic product (GDP) devoted to healthcare services grew from 5.2 percent in 1960 to 17.9 percent in 2011, and is projected to surpass 20 percent by 2018.

"Table 1: National Health Expenditures Aggregate, Per Capita Amounts, Percent Distribution, and Average Annual Percent Change: Selected Calendar Years 1960-2010" in "National Health Expenditures Data" Centers for Medicare and Medicaid Services, http://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/NationalHealthExpendData/Downloads/tables.pdf (accessed June 25, 2012); "National Health Expenditure Projections 2011-2021" Center for Medicare and Medicaid Services, January 2012, http://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/NationalHealthExpendData/Downloads/Proj2011PDF.pdf (accessed June 25, 2012).

---

[9] Andrea Sisko, et al., "Health Spending Projections through 2018: Recession Effects Add Uncertainty to the Outlook," *Health Affairs*, Web Exclusive, February 24, 2009, p. w346.

[10] Mark W. Stanton, "The High Concentration of U.S. Health Care Expenditures," *Research in Action*, no. 19, http://www.ahrq.gov/research/ria19/expendria.htm (accessed January 5, 2010).

[11] William J. Baumol, "Do Health Care Costs Matter?" *New Republic*, November 22, 1993, p. 16.

Gross Domestic Product (GDP)

A measure of the total flow of goods and services produced by the economy over a specified time period (e.g., one year), calculated using an aggregate value of the outputs of goods and services used for final consumption or investment.

The American Dictionary of Economics, *3rd ed., by Douglas A. L. Auld, et al., (New York: Facts on File, 1983).*

4.2.2 Productivity Growth Rates of Healthcare Services

Documented and significant differences exist in productivity growth between the healthcare sector of the U.S. economy and the U.S. economy as a whole, with three predominant explanations as to why healthcare services experience significantly lower productivity growth rates, compared to other industry sectors.

First, because healthcare services are inherently resistant to automation, innovation (in the form of technological advancement) has not made the same impact on healthcare productivity as it has in other industry sectors of the economy. The manufacturing assembly line increases productivity by accelerating the process and by reducing labor input. Generally speaking, many healthcare providers cannot (and, most would agree, should not) try to operate as mass assemblage factories, because patients are each unique and disease is widely variable and, as such, cannot be readily adapted in order to achieve the productivity gains and efficiency derived from mass production techniques. In contrast, most healthcare delivery services are still applied in a labor-intensive process, that is, patients are cared for one at a time, and ill patients cannot be disposed of as routine work product error in the way automated factories can regularly accept the rejection of a percentage of defective items, under the concept of statistical process quality control, as the mere (and unavoidable) expected cost of manufacturing.

Second, unlike more labor-intensive industries, healthcare is complicated and local in nature and cannot be delegated to less expensive unskilled workers in foreign labor markets. Although advances in technology (especially in telehealth and medical tourism) have widened the geographic scope of access to healthcare services, most are still largely provided by skilled workers within the local market who are compensated at relatively higher

levels.[12] U.S. healthcare organizations must compete within a local community for high-quality skilled workers at a higher cost.

Third, in mass production, while the number of skilled, highly educated man-hours per unit is not a perceived predictor of product quality, in healthcare, consumers believe that quality is correlated with the amount of physician labor expended in providing an associated service, for example, the length of a physician/patient encounter.[13]

Since healthcare productivity grows at a slower rate than other industries, the higher *relative* costs for healthcare services pose a serious consequence, even though that circumstance is an inevitable and ineradicable part of a developed economy. For example, as technological advancements increased productivity in the computer manufacturing industry, wages for computer industry labor likewise increased. However, the *total cost* per computer produced actually declined. But in healthcare (where technological advancements do not currently have the same impact on the rate of growth of productivity), wage increases that would be consistent with other sectors of the economy yield a problem, that is, the cost per unit of healthcare produced increases, resulting in healthcare's share of the U.S. GDP growing, relative to other industry sectors, which have experienced greater productivity (see earlier discussion).

Despite slow productivity growth and the continually rising percentage of GDP spent on healthcare, Baumol noted that growth in other areas of the economy may be used to offset the relative growth in costs seen within the healthcare sector, to wit:

> *[P]roductivity growth in the entire economy means we can afford more of everything. In an economy in which productivity is growing in almost every sector and declining in none . . . consumers can have more of every good and service; they simply have to transfer gains from the sector that's becoming more productive into the sector that's only becoming a little more productive.*[14]

---

[12] Patricia E. Powers and Michael W. Painter, "A Checkup on Health Care Markets," Robert Wood Johnson Foundation, 2007, p. 2; Neeraj Sood, Arkadipta Ghosh, and Jose J. Escarse, "The Effect of Health Care Cost Growth on the U.S. Economy," Office of the Assistant Secretary for Planning and Evaluation, U.S. Department of Health and Human Services, September 2007, pp. 6, 9, 15, 22.

[13] William J. Baumol, "Do Health Care Costs Matter?" *New Republic*, November 22, 1993, p. 17.

[14] Ibid.

Factoid

Three reasons the healthcare sector is different from the rest of the U.S. economy:

1. Innovation does not impact healthcare productivity as it does in other industry sectors;
2. Skilled healthcare labor cannot be delegated to less expensive unskilled workers in foreign labor markets; and,
3. Unlike mass production, healthcare consumers believe that quality is correlated with the amount of physician labor expended, unlike mass production.

"A Checkup on Health Care Markets," by Patricia E. Powers and Michael W. Painter, Robert Wood Johnson Foundation, 2007, p. 2; "The Effect of Health Care Cost Growth on the U.S. Economy," by Neeraj Sood, Arkadipta Ghosh, and Jose J. Escarse, Office of the Assistant Secretary for Planning and Evaluation, U.S. Department of Health and Human Services, Washington, DC, September 2007, p. 6, 9, 15, 22; "Do Health Care Costs Matter?" by William J. Baumol, New Republic *(November 1993): 17.*

Therefore, Baumol posits that if the U.S. society deems health to be important, then its employers and governments must be willing to adopt policies that share productivity gains in other sectors with healthcare providers. Businesses cannot take increasing profits and governments cannot take burgeoning taxes from a growing, technologically efficient economy and expect healthcare services to survive at acceptable levels of quality and access. This economic theory has been implemented through several provisions of the ACA and other policies that affect the supply of, and demand for, healthcare services.

4.3 SUPPLY AND DEMAND IN HEALTHCARE

4.3.1 Healthcare Model

Historically, healthcare was considered a "*special*" economic market, where quality of care was perceived as more important than general economic notions of supply and demand. Competitive market theory, which considers quality as only one element of a good or a service, inherently conflicts with the traditional perspectives of providers and policy experts, who see quality

as "an irreducible minimum standard, to be determined by physicians without reference to cost."[15] Prior to the mid-twentieth century, healthcare was dominated by groups of providers who attempted to justify anticompetitive behavior under the guise of quality control, for example, restrictions by the American Medical Association (AMA) on chiropractors.[16] Soon afterward, debates over competitive policy became more strident in addressing anticompetitive behavior among provider segments. Subsequent laws regulating competition (e.g., antitrust law—see Section 3.4.1, "Antitrust Regulations," in Chapter 3, "Regulatory Environment") have recently begun to focus more on the healthcare industry directly.[17]

The traditional notion of the "*three-legged stool*" model of healthcare, under which cost, quality, and access are considered distinct elements of healthcare administration, has with the impact of new regulations now been shown to be interconnected, with price having a direct impact on quality of care. The laws regulating healthcare delivery system competition have been used to combat the practice of increasing prices above competitive levels, as well as to prevent providers from blocking new market entrant competitors from the market in the pursuit of "*higher quality of care.*"[18] (See Section 3.4.1, "Antitrust Regulations," in Chapter 3, "Regulatory Environment," and Section 4.4.2, "The Bargaining Power of Suppliers.")

Also unique to the healthcare sector is the widespread practice of healthcare providers supplying services irrespective of the "*client's*" ability to pay. Under laws such as the *Emergency Medical Treatment and Labor Act* (*EMTALA*), general hospital emergency departments are required to provide stabilizing care, even to patients who are uninsured and unable to pay for services rendered.[19] In addition, federal and state programs (which account for nearly 60 percent of hospital revenue) typically reimburse

---

[15] William M. Sage, David A. Hyman, and Warren Greenberg, "Why Competition Law Matters to Health Care Quality," *Health Affairs* 22, no. 2 (March/April 2003): 39.

[16] *Wilk, et al. v. American Medical Association, et al.*, 895 F.2d 352 (7th Cir. 1990), p. 378.

[17] William M. Sage, David A. Hyman, and Warren Greenberg, "Why Competition Law Matters to Health Care Quality," *Health Affairs* 22, no. 2 (March/April 2003): 34–35.

[18] Ibid., p. 35–36.

[19] "Emergency Medical Treatment and Labor Act," 42 U.S.C. 1395dd, *Pub. L.* 111-49; Stuart H. Altman, David Shactman, and Efrat Eilat, "Could U.S. Hospitals Go the Way of U.S. Airlines?" *Health Affairs* 25, no. 1 (January/February 2006): 11.

Factoid

Federal and state healthcare programs account for nearly 60 percent of hospital revenue.

"Could U.S. Hospitals Go the Way of U.S. Airlines?" by Stuart H. Altman, David Shactman, and Efrat Eilat, Health Affairs *25, no. 1 (January/February 2006): 14.*

"THREE-LEGGED STOOL" MODEL OF HEALTHCARE

The traditional notion that distinguishes cost, quality, and access as separate yet interconnected elements of healthcare administration.

"Why Competition Law Matters to Health Care Quality," by William M. Sage, David A. Hyman, and Warren Greenberg, Health Affairs *22, no. 2 (March/April 2003): 35–36.*

providers for only a fraction of the cost of those services, which is not a cost/price relationship experienced in other industries.[20]

4.3.2 Supply-Side

Contributing to the complexity of competition within the healthcare market is that the healthcare industry does not display the traditional relationship between supply and demand. Major *private payor* healthcare industry *suppliers*, encompassing the largest percentage of market power, are private insurance companies and large hospital systems. Insurance companies are able to limit access to services through the use of provider networks, for example, health maintenance organizations (HMOs) and preferred provider organizations (PPOs). In contrast to payors, hospitals and physician providers are incentivized to both keep costs low and maximize those services that offer the highest reimbursement yield.[21] HMOs and PPOs have sought to

[20] Stuart H. Altman, David Shactman, and Efrat Eilat, "Could U.S. Hospitals Go the Way of U.S. Airlines?" *Health Affairs* 25, no. 1 (January/February 2006): 14.

[21] Michael E. Porter and Elizabeth Olmsted Teisberg, "Redefining Competition in Health Care," *Harvard Business Review* (June 2004): 3.

combine the roles of insurance companies, utilization review organizations, and healthcare providers in order to offer prepaid medical plans to subscribers. *Primary care physicians* practicing within an HMO or a PPO are often relied on to act as a "*gatekeeper*" in order to restrict access to, and utilization of, services in order to contain costs.

Cost containment has continued to affect the way in which healthcare is delivered today, and current reform efforts tie reimbursement to cost and quality metrics. For example, bundled payment initiatives are designed to "align the incentives for both hospitals and physicians, leading to better quality and greater efficiency in the care that is delivered."[22] (See Section 2.7.1.1.1, "Bundled Payments," in Chapter 2, "Reimbursement Environment.") Public and private payors have implemented bundling into provider reimbursement models.

Payors operate as both *suppliers* and *consumers* of healthcare services by supplying insurance and paying for the services provided and deferring the direct payment of that cost from the patient.[23] On this side of the equation, large insurance companies have been able to enjoy *monopsony* (i.e., one buyer, many sellers) power in the United States, which has allowed them to demand "*Most Favored Nation*" status in their contracts with providers; that is, the provider contractually charges the insurance company the same as (or less than) any other customer.[24] This provision has allowed insurance companies to prevent competitors from entering the market and, combined with numerous insurance company mergers, has led to a highly concentrated U.S. medical insurance market, which reimburses providers at lower rates. This results in significant fiscal stress for physician groups and small hospitals, driving them out of business or forcing them to join large hospital system conglomerations.[25]

Conversely, private payors have stated that due to increasing hospital leverage, they are often unable to contain rate increases, which in turn are

---

[22] Centers for Medicare and Medicaid Services, "Press Release to Announce Sites for the CMS ACE Program," January 6, 2009, p. 1.

[23] *Improving Health Care: A Dose of Competition: Executive Summary*, a report by the Federal Trade Commission and the Department of Justice, July 2004, p. 5.

[24] Ibid., Chapter 6, "Competition Law: Insurers," p. 20.

[25] Albert A. Foer, ed., *The Next Antitrust Agenda: The American Antitrust Institute's Transition Report on Competition Policy to the 44th President of the United States*, American Antitrust Institute, Vandeplas Publishing (2008), p. 323; American Medical Association, "Statement of the American Medical Association to the Subcommittee on Health Committee on Ways and Means United States House of Representatives, RE: Health Care Industry Consolidation," September 9, 2011.

passed along to employers in the form of premium increases.[26] Despite the potential to raise premiums, most of the consolidation occurring in healthcare markets will likely avoid scrutiny under antitrust regulations, because many mergers take place over broad geographic areas and do not result in excessive market concentration as it has been defined, to date, by the Federal Trade Commission (FTC) and the Department of Justice (DOJ).[27] Several factors beyond mergers and acquisitions can contribute to hospitals' increased market power.[28] For example, a hospital's brand recognition or its ability to provide a specialized service confers significant leverage in negotiations with private payors.[29] With respect to multihospital systems, the ability to negotiate a single contract on behalf of all of the facilities allows systems to bargain for higher reimbursement rates.[30]

Many community hospitals are asserting that it is increasingly difficult to cost shift and cross-subsidize more expensive and less remunerative courses of treatment, due to competition from specialty providers and increased demands for price transparency by consumers.[31] Decreasing reimbursement yields that have limited hospitals' revenue streams, as well as difficulties in gaining access to capital to support the provision of money-losing services, are among the reasons that many smaller hospital systems have decided to consolidate with larger, for-profit systems.[32] By merging with larger health systems, *smaller hospitals* may be able to maintain viable margins, by increasing efficiency and lowering costs, and may more easily address their capital requirements. In addition, these mergers may help *larger*

---

[26] Laurie E. Felland, Joy M. Grossman, and Ha T. Tu, "Key Findings from HSC's 2010 Site Visits: Health Care Markets Weather Economic Downturn, Brace for Health Reform," Center for Studying Health System Change Issue Brief, no. 135 (May 2011), p. 3; Ann S. O'Malley, Amelia M. Bond, and Robert A. Berenson, "Rising Hospital Employment of Physicians: Better Quality, Higher Costs?" Center for Studying Health System Change Issue Brief, no. 136 (August 2011), pp. 3–4.

[27] Federal Trade Commission and Department of Justice, "Antitrust Guidelines for Collaborations among Competitors," April 2000, p. 6.

[28] Robert A. Berenson, et al., "The Growing Power of Some Providers to Win Steep Payment Increases from Insurers Suggest Policy Remedies May Be Needed," *Health Affairs* 31, no. 5 (May 2012): 975–976.

[29] Ibid., p. 975.

[30] Ibid., pp. 975–976.

[31] Stuart H. Altman, David Shactman, and Efrat Eilat, "Could U.S. Hospitals Go the Way of U.S. Airlines?" *Health Affairs* 25, no. 1 (January/February 2006): 11–12.

[32] Paul B. Ginsburg, "Competition in Health Care: Its Evolution over the Past Decade," *Health Affairs* 24, no. 6 (November/December 2005): 1521.

health systems reduce costs through economies of scale, care coordination, and consolidation.[33] The acquisition of other hospitals and physician group practices confers significant leverage to the acquiring hospitals when they are negotiating rates with private payors.[34] Hospital expansion through mergers and acquisitions of physician practices is further discussed in Section 4.6.4, "Provider Consolidation."

Within the current trend in hospital growth, hospitals have developed a new method for securing revenue that may result in disparities in the supply of providers. In what has been termed the "*geographic expansion race*," U.S. hospitals have begun employing new strategies to expand their market presence and compete for valuable insured patients.[35] In a 14-year study of 12 healthcare markets, the Center for Studying Health System Change observed facility growth in large metropolitan areas, analyzing the different expansion strategies employed and the market composition that resulted.[36] Though the study acknowledges it is likely too early to predict the impact that hospitals' geographic expansion will have on access, quality, and costs, others in the industry have both praised and sharply criticized this new trend for its anticipated effects.[37]

In order to target well-insured patients during geographic expansion, hospitals are increasingly using one or more expansion strategies, including acquiring existing full-service hospitals or constructing new ones, building freestanding emergency departments, building ambulatory care facilities,

---

[33] James Ellis and Aaron Razavi, "3 Reasons Why Not-For Profits Hospitals Are Merging," *Healthcare Finance News*, August 16, 2011, http://www.healthcarefinancenews.com/blog/3-reasons-why-not-profits-hospitals-are-merging (accessed July 9, 2012).

[34] Laurie E. Felland, Joy M. Grossman, and Ha T. Tu, "Key Findings from HSC's 2010 Site Visits: Health Care Markets Weather Economic Downturn, Brace for Health Reform," Center for Studying Health System Change, Issue Brief, no. 135 (May 2011): 3.

[35] Emily R. Carrier, et al., "Hospitals' Geographic Expansion in Quest of Well-Insured Patients: Will the Outcome Be Better Care, More Cost, or Both?" *Health Affairs* 31, no. 4 (April 2012): 827.

[36] Laurie E. Felland, Joy M. Grossman, and Ha T. Tu, "Key Findings from HSC's 2010 Site Visits: Health Care Markets Weather Economic Downturn, Brace for Health Reform," Center for Studying Health System Change Issue Brief, no. 135 (May 2011): 2.

[37] Emily R. Carrier, et al., "Hospitals' Geographic Expansion in Quest of Well-Insured Patients: Will the Outcome Be Better Care, More Cost, or Both?" *Health Affairs* 31, no. 4 (April 2012): 831, 832.

Preferred Provider Organization (PPO)

The PPO, a hybrid of an HMO and traditional health insurance plan, is a managed care plan that allows members to choose from an array of healthcare providers that have contracted with the plan to provide services on a discounted basis.

"Introduction to Healthcare Finance," by Louis C. Gapenski, in Louis C. Gapenski, ed., Healthcare Finance: An Introduction to Accounting and Financial Management, *3rd ed. (Chicago: Health Administration Press/Association of University Programs in Health Administration, 2004), p. 38; "Private Health Insurance and Managed Care," by Alma Koch, in Stephen Joseph Williams, Paul and Roger Torrens, eds.* Introduction to Health Services, *7th ed. (Clifton Park, NY: Thomson Delmar Learning, 2008), p. 124.*

and strengthening relationships with emergency medical transport systems or operating their own transport services. Though hospitals offer efficiency and quality justifications for these expansion methods, others in the healthcare industry assert that these strategies pose the potential to raise costs, reduce quality, and eliminate some patients' access to care.[38] The addition of locations may encourage overutilization of services, and quality of care may be diminished as a result. Furthermore, patients in lower-income communities may not experience any improvement in access to care, as resources continue to be invested elsewhere and hospitals abandon struggling facilities, despite considerations of community need, in favor of more profitable ventures.[39]

Monopsony

"A single purchaser in a healthcare market without rivals."

"Monopsony Power," in David Marcinko, ed., Dictionary of Health Economics and Finance *(New York: Springer, 2007), p. 242.*

[38] Ibid., pp. 828, 833.

[39] Laurie E. Felland, et al., "Suburban Poverty and the Health Care Safety Net." Center for Studying Health System Change, Research Brief, no. 13, July 2009.

"MOST FAVORED NATION" STATUS

The provider contractually agrees to not charge the insurance company any more than it charges any other customer.

"Improving Health Care: A Dose of Competition: Competition Law: Insurers," report by the Federal Trade Commission and Department of Justice, July 2004, p. 20.

GEOGRAPHIC EXPANSION RACE

U.S. hospitals have begun employing new strategies to expand their market presence and compete for valuable insured patients.

"Hospitals' Geographic Expansion in Quest of Well-Insured Patients: Will the Outcome be Better Care, More Cost, or Both?" by Emily R. Carrier, et al., Health Affairs *31, no. 4 (April 2012): 827.*

4.3.3 Demand-Side

With regard to demand, the presence of third-party payors in the healthcare industry may distort a traditional supply-and-demand model by shifting the direct financial risks associated with ill health from the patient (i.e., consumer) to a third party who pays for the services rendered and, consequently, the management of those risks (i.e., a *defined benefits* model).[40] Since, under a traditional *defined benefits* model, the *direct* financial risk is shifted to payors, consumers are insulated from the *direct* cost of the services needed to manage their health and therefore most often do not consciously balance costs with benefits when making choices regarding

[40] "Improving Health Care: A Dose of Competition," report by the Federal Trade Commission and Department of Justice, July 2004, p. 5.

their care, resulting in an imperfect demand curve.[41] Conversely, although insurance companies bear the costs associated with healthcare delivery, they generally do not bear the full *benefit* or *consequence* of the quality of care provided, which may also diminish the applicability of a traditional supply-and-demand model to the healthcare competitive market.[42]

The insurance industry, however, has not been immune from the drivers (or the impact) of consumer-driven healthcare. Consumers, or the employers who pay their healthcare coverage premiums, have endured the repercussions of high insurance premiums and the continued impact of the recent recession. In response, many have chosen to use *health savings accounts* (*HSAs*) to pay their medical expenses, then to supplement the HSAs with *high-deductible health plans* (*HDHPs*) to cover catastrophic conditions.[43] This shift to *defined contributions*, consumer-driven healthcare, has changed the demand environment of the healthcare industry such that providers are now dealing more directly with patients, who are starting to more closely scrutinize the type, cost, and quality of the medical procedures and services they purchase.[44] By making these purchasing decisions and bearing more of the cost directly, rather than relying on an insurance provider to directly pay most of the cost of treatment, consumers' ability to affect demand in the healthcare market has increased. This change has affected the demand side of the healthcare sector so that it has now begun to resemble more traditional business enterprises.[45]

The state health insurance exchange (HIE) provision of the ACA, set to begin in 2014, is designed to have a significant impact on competition between private payors by providing patients with a portal to compare various options for coverage. (See Section 6.4.3.3, "ACA's Establishment of Health Insurance Exchanges," in Chapter 6, "Healthcare Reform.") Although these exchanges were under contention by many states, the U.S. Supreme Court's decision upholding the constitutionality of the ACA, and specifically the individual mandate provision, has ensured that these managed competition marketplaces will

---

[41] Ibid.

[42] Ibid.

[43] U.S. Treasury Department, "All about HSAs," July 22, 2007, p. 2, http://www.treas.gov/offices/public-affairs/hsa/pdf/all-about-HSAs_072208.pdf (accessed July 1, 2009).

[44] E. Haavi Morreim, "Defined Contribution: From Managed Care to Patient-Managed Care," *Cato Journal* 22, no. 1 (Spring/Summer 2002): 112.

[45] Ibid.; U.S. Treasury Department, "All about HSAs," U.S. Treasury Department, July 22, 2007, p. 33, http://www.treas.gov/offices/public-affairs/hsa/pdf/all-about-HSAs_072208.pdf (accessed July 1, 2009).

Factoid

The ACA's state health insurance exchange (HIE) and individual mandate provisions are set to begin in 2014.

be fully implemented in 2014.[46] At this time, 15 states and the District of Columbia have established state exchanges, and 34 states and the District of Columbia have already received about $850 million to fund their state-designed exchanges from federal grants.[47] The remaining states, many of which opposed the law and had postponed exchange development, dependent on the June 28, 2012, U.S. Supreme Court ruling, will (now that the constitutionality of the provision has been upheld) be required to either submit a signed (by the governor) blueprint for a state-designed exchange to the U.S. Department of Health and Human Services (HHS) by November 16, 2012, and receive HHS approval, or a federal model for their state's exchange will be implemented.[48] (See Section 6.4.3.3, "ACA's Establishment of Health Insurance Exchanges," in Chapter 6, "Healthcare Reform.")

Health Savings Account (HSA)

HSAs are special accounts into which employers and employees both contribute, and from which the employee can draw funds to pay for health services. If the employer contributes, the value of those contributions is not taxable to the employee. Similarly, if the employee makes contributions, they are counted as "above-the-line" deductions.

U.S. Treasury Department, "All About HSAs," July 22, 2007, p. 14, http://www.treas.gov/offices/public-affairs/hsa/pdf/all-about-HSAs_072208.pdf (accessed July 1, 2009).

[46] Jennifer Lubell, "After ACA Ruling, HHS Moves Ahead with Insurance Exchanges," American Medical Association, July 6, 2012 (accessed July 9, 2012).

[47] Kaiser Family Foundation, "Establishing Health Insurance Exchanges: An Overview of State Efforts," Publication #8213, August 2012, p. 1.

[48] Ibid.; Jennifer Lubell, "After ACA Ruling, HHS Moves Ahead with Insurance Exchanges," American Medical Association, July 6, 2012 (accessed July 9, 2012).

High Deductible Health Plan (HDHP)

A type of "catastrophic coverage" health insurance coverage with lower premiums and higher deductibles than traditional plans, and is a requirement for having an HSA. Defined by the IRS as "health plan with an annual deductible that is not less than $1,200 for self-only coverage or $2,400 for family coverage, and the annual out-of pocket expenses (deductibles, co-payments, and other amounts, but not premiums) do not exceed $6,050 for self-only coverage or $12,100 for family coverage."

IRC § 223(c)(2)(A) (2012).

DEFINED BENEFITS MODEL

A supply and demand model in which direct financial risk is shifted to payors, consumers are insulated from the direct cost of the services needed to manage their health, and therefore most often do not consciously balance costs with benefits when making choices regarding their care, resulting in an imperfect demand curve.

"Improving Health Care: A Dose of Competition," report by the Federal Trade Commission and Department of Justice, July 2004, p. 5.

DEFINED CONTRIBUTIONS MODEL

Also known as "consumer-driven healthcare," a supply and demand model that allows the patient-consumer to make purchasing decisions and bear more of the cost directly, rather than relying on an insurance provider to directly pay most of the cost of treatment.

"Defined Contribution: From Managed Care to Patient-Managed Care," by E. Haavi Morreim, Cato Journal *22, no 1 (Spring/Summer 2002): 112; U.S. Treasury Department, "All About HSAs," July 22, 2007, p. 33, http://www.treas.gov/offices/public-affairs/hsa/pdf/all-about-HSAs_072208.pdf (accessed July 1, 2009).*

4.3.4 The Physician-Workforce Shortage: Demand Outpaces Supply

The supply of physicians in the United States has not kept pace with the demand for healthcare services. In fact, the gap between supply and demand is projected to increase significantly, as the *sources* of physician supply remain insufficient and the *drivers* of demand (i.e., the aging population and the increase in the number of insured under the ACA's individual mandate) intensify. The deficiency of the physician workforce was, in part, the result of the implementation of recommendations made in the 1980 report by the Graduate Medical Education National Advisory Committee (GMENAC) that U.S. medical school enrollment be reduced due to a perceived oversupply of physicians.[49] In contrast, by the 1990s, an undersupply of physicians in primary care, internal medicine, and pediatrics had developed.[50] Despite several failed government programs, initiatives, and aggressive actions to alleviate aspects of physician manpower shortages, to date, the shortage is projected to continue at an increasing rate, especially in primary care.[51]

In its recent assessment of the physician workforce, despite a projected 22 percent increase in the demand for physicians' services by 2020, HHS noted that the physician-to-population ratio is expected to decline going forward.[52] HHS attributed a large portion of the growth in demand to specialties that care for elderly patients, that is, cardiology and internal medicine. Despite the growing need for primary care physicians, medical students' interest in the field remains low.[53] Lower incomes, less prestige, and difficult workloads are all cited as major factors in medical students' decision to enter specialties instead of primary care, and rural areas in

[49] Lu Ann Aday et al., "National Study of Internal Medicine Manpower," *Archives of Internal Medicine* 148 (1988): 1509.

[50] Jonathan P. Weiner, "A Shortage of Physicians or a Surplus of Assumptions?" *Health Affairs* 21, no. 1 (2002): 160.

[51] Kevin Grumbach, "Fighting Hand to Hand over Physician Workforce Policy," *Health Affairs* 21, no. 5 (2002): 24.

[52] Bureau of Health Professions, *The Physician Workforce: Projections and Research into Current Issues Affecting Supply and Demand*, Health Resources and Services Administration, U.S. Department of Health and Human Services, December 2008, p. iv.

[53] Association of American Medical Colleges, "Why Is There a Shortage of Primary Care Doctors?" https://www.aamc.org/linkableblob/70310-6/data/primarycarefs-data.pdf (accessed June 30, 2012).

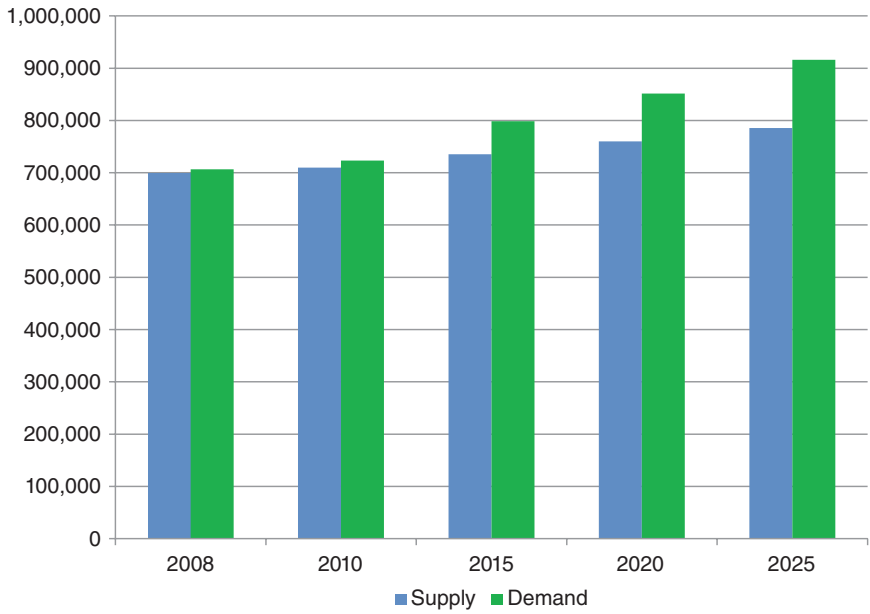


EXHIBIT 4.1 Physician Supply and Demand
"Physician Shortages to Worsen without Increases in Residency Training," Association of American Medical College, 2010, https://www.aamc.org/download/286592/data/physicianshortage.pdf (accessed August 2, 2012).

particular are seen as nonviable locations for physician practices.[54] In addition to a declining supply of new primary care physicians, the existing workforce is anticipated to undergo a significant shift during the next two decades, as one in three physicians is currently over the age of 55 and likely to retire in the near term, with many of the soon-to-be retirees being primary care physicians.[55] Combined with an aging population and healthcare reform's significant expansion in access to care, the strain on the physician workforce is rapidly becoming untenable.

The historic and projected increase in the perceived physician shortage is illustrated in Exhibit 4.1.

---

[54]Ibid.; George E. Wright et al., "Rural Research Focus: Rural Physician Shortages," Health Resources and Services Administration, ftp://ftp.hrsa.gov/ruralhealth/RRF-RHHA.pdf (accessed June 30, 2012).

[55]Association of American Medical Colleges, "Why Is There a Shortage of Primary Care Doctors?" https://www.aamc.org/linkableblob/70310-6/data/primarycarefs-data.pdf (accessed June 30, 2012).

Further, the shortage is not projected to be restricted to primary care providers. A comparison between the perceived physician shortage for both primary and specialist care is illustrated in Exhibit 4.2.

These projections and subsequent concerns regarding access have prompted several initiatives, including increased funding incentives for primary care students (part of the ACA), increased incentives for physician movement to rural and underserved areas (part of the ACA), and less restrictive scope of practice laws for midlevel providers (i.e., various state laws allowing the unsupervised practice of medicine by *physician assistants*, *nurse practitioners*, and *certified registered nurses*).

The current and impending physician shortage, paired with declining reimbursement rates, has fueled physician demand for manpower relief. To meet this demand, the healthcare workforce continues to diversify, with versatility no longer limited to the *horizontal* expansion of specialty and subspecialty areas of medical expertise. Rather, current trends have solicited a *vertical* expansion in the role of the nonphysician workforce to provide services that support, supplement, and parallel physician services. *Mid-level providers* are afforded a significant degree of autonomy within their scope of practice, which authorizes them to act, not only *incident-to*, but also *in lieu* of physicians, under certain conditions, and for the provision of previously

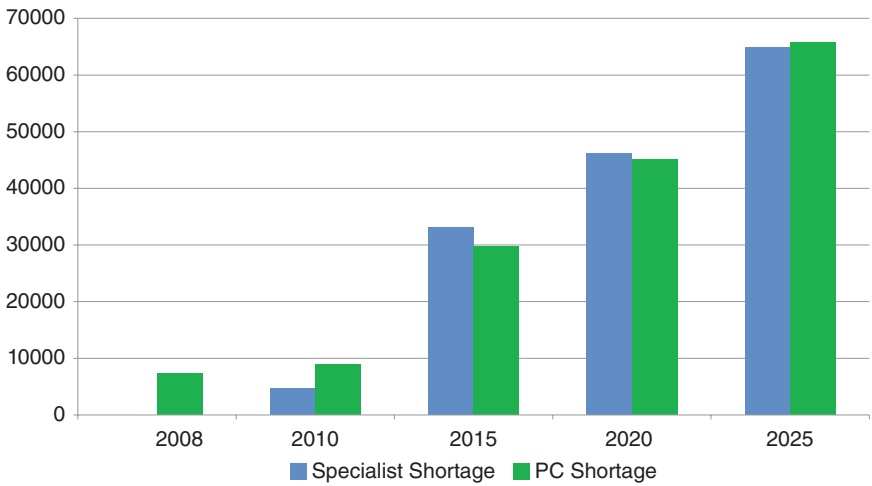


EXHIBIT 4.2 The Physician Shortage for Both Primary and Specialist Care
"Physician Shortages to Worsen without Increases in Residency Training," Association of American Medical College, 2010, https://www.aamc.org/download/286592/data/physicianshortage.pdf (accessed August 2, 2012).

determined services.[56] The degree of practice autonomy differs for each type of mid-level provider and is typically mandated on a state-by-state basis.[57]

In the coming years, the mid-level provider population is expected to see continued growth in scope and volume. From 1987 to 1997 alone, the number of patients treated by nonphysician clinicians grew to 1.4 times the original amount.[58] According to a 2009 Office of the Inspector General (OIG) report, approximately 50 percent of Medicare-billed physician services that exceed a 24-hour workday were actually performed by qualified nonphysician practitioners, that is, mid-level providers.[59] Further, the services provided by nonphysician clinicians (both qualified and nonqualified) during a three-month period accounted for approximately $85 million in Medicare claims.[60]

Several recent federal and state initiatives specifically address the downturn in primary care physicians (PCP) entering the physician workforce and counteract the effect of the GMENAC report and current trends that favor specialist care (i.e., higher reimbursement yields). (See Section 1.6.1, "The Graduate Medical Education National Advisory Committee," in Chapter 1, "The Chronology of U.S. Healthcare Delivery.") One of the main aims of the ACA is to increase access to preventative care, and one means of achieving this goal is to increase the number of PCPs in the market. To incentivize physicians to focus in primary care, the ACA (and subsequent provisions) increases reimbursement to PCPs and offers tuition forgiveness to those PCPs who practice in rural areas, where access is traditionally lower.[61] Similarly, increasing expected reimbursement for primary care services may

---

[56] Alice B. Aiken and Mary Ann McColl, "Interprofessional Healthcare: A Common Taxonomy to Assist with Understanding," *Journal of Allied Health* 38, no. 3 (Fall 2009): e-94.

[57] Institute for the Future and the Robert Wood Johnson Foundation, *Health and Health Care 2010: The Forecast, the Challenge*, (Princeton, NJ: Jossey-Bass, 2003), p. 108; *Report of the Council on Medical Service: Ratio of Physician to Physician Extenders*, presented by Kay K. Hanley, December 1998, p. 1.

[58] Benjamin G. Druss et al., "Trends in Care by Nonphysician Clinicians in the United States," *New England Journal of Medicine* 348, no. 2 (2003): 134.

[59] Office of the Inspector General, "Prevalence and Qualifications of Nonphysicians Who Performed Medicare Physician Services," August 2009, p. 8.

[60] Ibid.

[61] Drinker Binddle & Reath LLP, "Patient Protection and Affordable Care Act," *Pub. L.* 111-148 (March 23, 2010); "The Patient Protection and Affordable Care Act," Health Government Relations Group, April 2010, http://www.drinkerbiddle.com/files/Publication/9c21e026-45cf-48de-b7c9-9abcb3f48412/Presentation/Publication Attachment/f0364126-f959-430c-be4e9be51aec2f4f/ACA.pdf (accessed February 11, 2011), pp. 2, 5.

incentivize physicians who were concerned about compensation amounts relative to educational debt to focus in primary care.

The healthcare industry has also begun to address anticipated PCP shortages by establishing new medical schools and residency programs, some of which specifically promote a focus on primary care. In 2006, the Association of American Medical Colleges (AAMC) set a goal of increasing medical school enrollment by 30 percent by 2015 (based on 2002 enrollment statistics).[62] Current estimates suggest that this goal may be achieved by 2016, with a 2012 increase of 16.6 percent, as compared to the 2002 baseline.[63] The projected growth in enrollment is expected to be attributed to both *current* (56.1 percent) and *new* (24.4 percent) medical schools.[64] In response to the pending shortage and the AAMC goal, 18 institutions have begun the process of developing new medical schools.[65] This is in contrast to the period between 1980 and 1990, when *no* new medical schools were established (due to the GMENAC report).[66] While academic institutions may be motivated by the prestige a medical school affiliation generally lends to a university and the surrounding community, the establishment of new sources of physicians may have a positive impact on the physician shortage.[67] In addition to the development of new medical schools, some existing facilities have established broader primary care programs within rural

[62] Association of American Medical Colleges, "Results of the 2011 Medical School Enrollment Survey," Center for Workforce Studies, May 2012, p. 4.

[63] Ibid., p. 6.

[64] Ibid.

[65] The process of establishing an accredited medical school, includes five phases: (1) Applicant schools have submitted an application to LCME and received basic approval; (2) Candidate schools have submitted a modified medical education database and self-study document to LCME and received approval; (3) Preliminary Accreditation involves a survey report prepared by LCME, addressing the applicants' achievement of various LCME standards, and an accompanying vote to grant preliminary accreditation; (4) Provisional accreditation includes the submission of a modified medical educational database and a self-study summary to the LCME, along with another LCME survey and vote; and (5) Full accreditation includes the submission of another modified medical educational database and a self-study summary to the LCME, along with another LCME survey and vote, to accredit the school for an eight-year period. Liaison Committee on Medical Education, "Developing Medical Education Programs," 2012, http://www.lcme.org/newschoolprocess.htm (accessed August 15, 2012).

[66] Michael E. Whitcomb, "New Medical Schools in the United States," *New England Journal of Medicine* 362, no. 14 (April 8, 2010): 1255–1256.

[67] Ibid., p. 1258.

Factoid

Demand for physician services is projected to increase 22 percent by 2020.

"The Physician Workforce: Projections and Research into Current Issues Affecting Supply and Demand," Bureau of Health Professions, Health Resources and Services Administration, U.S. Department of Health and Human Services, December 2008, p. iv.

PRIMARY CARE PHYSICIAN (PCP)

A physician who provides general treatment for routine illness and injuries; practice focus includes: internal medicine, preventive medicine; family or general practice; OB/Gyn, and pediatrics.

Dictionary of Health Insurance and Managed Care, *by David Marcinko (New York: Springer, 2006), p. 231.*

communities to address the physician shortage and access to care issues, for example, the *University of Kansas School of Medicine* north-central campus rural program and *Columbia University College of Physicians and Surgeons* Columbia-Basset rural program, both established in the fall of 2011.[68]

4.4 PORTER'S FIVE FORCES OF COMPETITION

Harvard Business School professor *Michael Porter* is considered to be one of the world's leading authorities on competitive strategy and international competitiveness. Porter argues that all businesses must respond to *five competitive forces*: (1) the threat of new market entrants, (2) the bargaining power of suppliers, (3) threats from substitute products or services, (4) the bargaining

[68] Gina Shaw, AAMC Reporter, "More Medical Schools Boost Primary Care Doctors through Small-Town Campuses," Association of American Medical Colleges, July 2012, https://www.aamc.org/newsroom/reporter/july2012/297208/small-town.html (accessed August 14, 2012).

EXHIBIT 4.3 Porter's Five Forces

power of buyers, and (5) rivalry among existing firms.[69] A visual depiction of the five fundamental forces of competition is set forth in Exhibit 4.3.

A review of these five forces may be useful to help us understand the underlying drivers of competition.[70] Porter explores the value of this model as a process or a framework for use in examining competition in the healthcare industry.[71]

1. **The threat of new market entrants.** This force may be defined as the risk of a similar company entering your marketplace and taking current or potential business from you.
2. **The bargaining power of suppliers.** This force is the negotiating power of suppliers. Suppliers can be defined as any business you rely on to deliver your product, service, or outcome.

[69] Michael E. Porter, *Competitive Strategy: Techniques for Analyzing Industries and Competitors* (New York: Free Press, 1980), p. 4.

[70] Ibid.

[71] Michael E. Porter, et al., "Making Competition in Health Care Work," *Harvard Business Review* (July/August 1994): 131–141.

3. **Threats from substitute products or services.** This refers to substitute products or services that your customers will purchase instead of your product or service.
4. **The bargaining power of buyers.** This force is the degree of negotiating leverage of industry buyers or customers.
5. **Rivalry among existing firms.** This is ongoing rivalry between existing firms and is often assumed to be the sole expression of competition, without consideration of the other competitive forces that define industries.

Factoid

Porter's three generic strategies to out-perform competitors or maintain a market position against competition are: (1) overall cost leadership, (2) differentiation, and (3) market niche/segmentation.

"Making Competition in Health Care Work," by Michael E. Porter, et al., Harvard Business Review *(July/August 1994).*

Porter recommends *three generic strategies to outperform competitors or maintain a market position against competition*: (1) overall cost leadership, (2) differentiation, and (3) market niche/segmentation. Each strategy has a different set of ethical consideration related to its application to a care and treatment environment by healthcare providers.[72] There is a complex relationship between the various subsets of the healthcare industry and any competitive evaluation should take several different perspectives on these relationships.

NICHE PROVIDERS

Providers who focus on a section or group of buyers, a segment of a product line, or a specific area of a geographic market. What specific area niche providers focus on changes based on who is creating the definition.

"Limited Service—Niche Providers," American Hospital Association, 2005, www.hospitalconnect.com/aha/key_issues/niche/ (accessed February 27, 2005).

[72] Ibid.

PORTER'S FIVE FORCES OF COMPETITION

Competitive strategy devised by Harvard's Michael D. Porter. Includes: (1) the threat of new market entrants, (2) the bargaining power of suppliers, (3) threats from substitute products or services, (4) the bargaining power of buyers, and (5) rivalry among existing firms.

Competitive Strategy: Techniques for Analyzing Industries and Competitors, *by Michael E. Porter (New York: Free Press, 1980), pp. 7–10.*

4.4.1 The Threat of New Market Entrants

Historically, many healthcare providers have believed that there is a low risk (or even no risk) of new market competitors, due to the entry barriers in their segments of the industry, for example, CON laws and the notion that healthcare is a local business (discussed earlier). However, technology and communications, as well as the ability to recruit providers internationally, are changing some aspects of the physician-patient relationship so that this is no longer universally or absolutely true. New entrants may no longer necessarily have to be based in their local market. In addition, new market entrants may not be new enterprises at all, but the consolidation of existing healthcare enterprises into one entity (e.g., ACOs, patient-centered medical homes, co-management and joint venture arrangements) with renewed competitive prowess.

Overall, the threat from new entrants may be related to the size of the financial return in that particular segment of the industry. Healthcare differs from many industries, because financial return does not always drive the decision process. The goals of charity, education, and community service make some decisions in the business of healthcare seem financially or economically irrational. The interest(s) held by society in the consolidation and creation of new entrants represents a *positive social externality.* The value a new entrant conveys to society can be described as the perceived future benefits the entrant will contribute to the U.S. population, or a subpopulation. Especially important when identifying and establishing the scope of a positive externality within a large external group is the appropriate selection of defined measures of comparison (such as benchmarking health outcomes against industry norms and historical trends) that must be in place in order to quantify the value added by such entrants. Benchmarks for patient populations, before and after its creation, on both a regional and/or a national level, are useful in determining the existence of statistically significant

Factoid

Healthcare differs from many industries as financial return does not always drive the decision to enter a new market.

evidence of improved population health outcomes, which can be used as an indication of whether a new market entrant has truly added *societal value*.

4.4.2 The Bargaining Power of Suppliers

"Suppliers of products, technology, and services to the health care sector include a wide range of companies producing a vast array of products."[73] Clinical providers (i.e., healthcare enterprises and physicians) are, in this sense, a significant type, but only one type, of healthcare supplier. Other suppliers may include landlords, medical supply companies, pharmaceutical companies, billing outsourcers, maintenance firms, and insurance companies. Suppliers may gain competitive leverage if they can raise a provider's costs, that is, a higher percentage of risk is held by the provider, instead of by the supplier. However, the leverage or bargaining power of suppliers is often affected by new technologies, standards of care, and regulatory initiatives.

Providers gain a significant amount of their bargaining power from their size. Larger health systems with greater patient populations have more negotiating power with commercial payors than does a small physician practice. The benefits of market leverage are one driver of the recent increase in provider consolidation and physician employment. (See Section 4.6.4, "Provider Consolidation.")

New technologies that change the standard of care, as well as the efficiency with which care is provided, also affect the bargaining power of providers, as well as the medical device companies that supply them. Technologies, such as the *da Vinci* robot, a robotic system created by Intuitive Surgical in 1998, improve outcomes and productivity and may make many earlier means of treatment obsolete or increase physician productivity to greater levels than traditional procedure methods allow.[74] A study examining one institution's use of the *da Vinci* for cardiac surgery to perform 50 mitral

[73] Michael E. Porter and Elizabeth Olmsted Teisberg, *Redefining Health Care: Creating Value-Based Competition on Results* (Boston: Harvard Business School Press, 2006), p. 283.

[74] Intuitive Surgical Inc., "History—The da Vinci System," http://www.intuitivesurgical.com/company/history/system.html (accessed August 24, 2012).

repairs found that procedure time decreased from 1.9 hours to 1.5 hours during the course of the study.[75] Further, the *da Vinci* system has been found to reduce aortic clamping time, thereby cutting down total operative time and lessening blood loss.[76] Physicians who resist learning to operate technologies such as the *da Vinci* or facilities that resist purchase of such technologies may lose some competitive advantage in the marketplace. Further, due to brand recognition, as compared to similar substitutes, device companies have exploited the current popularity of the *da Vinci* to gain market power. (See Section 4.4.3, "Threats from Substitute Products or Services.")

Outside of the antitrust monitoring of the consolidation of providers, one prevalent type of healthcare industry supplier regulation is the Food and Drug Administration's (FDA) regulation of pharmaceuticals. Since the Thalidomide scandal of the 1960s, regulation of new drugs and devices through the FDA has been associated with high levels of scrutiny and long wait periods, due to complicated approval processes. Further, although the FDA has eased the approval process for some generic drugs to promote their use and lower the cost of drugs for consumers, the brand name power of many pharmaceutical companies has generally prevailed.

Another complication of the pharmaceutical industry that affects its bargaining power as a supplier is the institution of the publication of an *Average Whole Sale Price* (*AWP*). To determine the price that a pharmacy benefits manager or another commercial seller will apply to a given drug, the pharmaceutical industry uses a benchmark, the AWP, which is designed to be the average price for which a drug wholesaler sells a particular drug. Of note is that this benchmark was not originally monitored or regulated by any agency or law. Because it is based on data provided by drug companies and commercially published by firms, including *First DataBank* and *Thomson Medical Economics*, many believed that the AWP is often inflated. Under the *Medicare Prescription Drug, Improvement, and Modernization Act* (*MMA*) *of 2003*, CMS is required to calculate the *Average Sales Price* (*ASP*) of drugs to gain a more accurate benchmark. However, since this calculation is also based on the average manufacturer price supplied by pharmaceutical companies, it has faced similar concern.[77]

---

[75] W. Randolph Chitwood, Alan P. Kypson, and Wiley Nifong, "Robotic Mitral Valve Surgery: A Technological and Economic Revolution for Heart Centers," *Journal of the American Heart Hospital* 1 (2003): 37.

[76] Bernardo Martinez and Catherine Wiegand, "Robotics in Vascular Surgery," *American Journal of Surgery* 188 (Suppl. to October 2004): 57S–62S.

[77] Dawn M. Gencarelli, "One Pill, Many Prices: Variation in Prescription Drug Prices in Select Government Programs," National Health Policy Forum, Issue Brief no. 807, August 29, 2005, pp. 3, 4.

Factoid

The da Vinci surgical robotic system decreased mitral valve repair time from 1.9 to 1.5 hours.

"History—The da Vinci System," Intuitive Surgical, http://www.intuitivesurgical.com/company/history/system.html (accessed August 24, 2012).

The shift toward commercially driven healthcare has had an effect on the bargaining power of pharmaceutical industry suppliers. While physicians traditionally have been the "*gatekeepers*" of medical information, with the surge in direct-to-consumer advertising and the Internet, consumer-driven healthcare has provided patients with a say in what treatments and services they may want to purchase. In 2004, the pharmaceutical industry spent more money on promotion (24.4 percent) than it did on research and development (13.4 percent).[78]

Factoid

The pharmaceutical industry spent more money in 2004 on promotion (24.4 percent) than it did on research and development (13.4 percent).

"The Cost of Pushing Pills: A New Estimate of Pharmaceutical Promotion Expenditures in the United States," by Marc-Andre Gagnon and Joel Lexchin, Public Library of Science *5, no. 1 (January 2008): 0032.*

Average Sales Price (ASP)

A way of calculating a benchmark from which Medicare reimbursement for drugs may be determined, based on average manufacturer prices supplied by pharmaceutical companies.

"One Pill, Many Prices: Variation in Prescription Drug Prices in Select Government Programs," by Dawn M. Gencarelli, National Health Policy Forum, Issue Brief No. 807, August 29, 2005, pp. 3, 4.

[78] Marc-Andre Gagnon and Joel Lexchin, "The Cost of Pushing Pills: A New Estimate of Pharmaceutical Promotion Expenditures in the United States," *Public Library of Science* 5, no. 1 (January 2008): 0032.

Average Whole Sale Price (AWP)

A way of calculating a benchmark from which pharmacy contracting and Medicare reimbursement for drugs may be determined, based on the average price a drug wholesaler sells a particular drug.

"One Pill, Many Prices: Variation in Prescription Drug Prices in Select Government Programs," by Dawn M. Gencarelli, National Health Policy Forum, Issue Brief No. 807, August 29, 2005, pp. 3, 4.

4.4.3 Threats from Substitute Products or Services

Nontraditional healthcare providers are increasingly competing with traditional healthcare. Alternative providers such as chiropractors have taken a larger market share, and some healthcare systems and emerging healthcare organizations have embraced the changes in patient preferences and regulatory/reimbursement incentives.

Technology has fueled the entry of new competitors in many other industries, and healthcare is no exception. Patients are gaining access to medical advice and information through the Internet and becoming more informed about care and treatment options. Increasingly, pharmaceuticals offer alternatives to surgery and other medical procedures, and often at a lower cost, reducing hospital stays or the need for costly surgical procedures For example, the introduction of Nexium, "*The Purple Pill*," revolutionized the treatment of bleeding ulcer patients with a proton pump inhibitor prior to endoscopy, thereby reducing both the need for surgery and the length of hospital stays. With advances in medical imaging communication, radiologists in remote locations can outsource X-ray film readings for hospitals at lower prices. As discussed earlier regarding the *da Vinci* robot, brand recognition and the popularity of various technological innovations can skew the perceived threat of new market entrants.

Robotic technologies are a popular feature of many minimally invasive procedures. Robot-assisted procedures provide additional benefit over traditional laparoscopic methods, because the robot increases the physician's maneuverability, visibility, and precision.[79] The FDA's approval of the *da Vinci* in 2000 represents a substantial progression in the field of minimally

[79] Mayo Clinic, "Robot-Assisted Surgery," 2009, http://www.mayoclinic.org/robotic-surgery/ (accessed April 6, 2009).

invasive surgery.[80] (See Section 5.3.4.2.1, "Robotic-Assisted Surgery, in Chapter 5, "Technology.")

Although the *da Vinci* system has been used successfully in an array of surgical procedures, many surgeons remain skeptical of its continued use in the medical profession. In a 2006 questionnaire sent to all institutions in possession of a *da Vinci* robot, researchers found a gradual annual increase in the number of operational robots in the United States (approximately 400), with 25 percent of all cardiac surgical programs having procured a robot and performing approximately 1,700 robotic or robotically assisted surgeries annually.[81] During the last 5 years, there has been widespread adoption of robotic-assisted surgery for radical prostatectomies, with approximately 54 percent of all radical prostatectomies in the United States performed with the *da Vinici* system as of 2010.[82]

Despite industry concerns, the da Vinci has several competitive advantages, as compared to traditional procedures. FDA approval provides a buffer between current technology and market entrants, as use will be significantly hindered by the FDA approval process. Furthermore, surgeons' acceptance and support of robotic technology into their programs is a trend that may lead to a new standard in medical care. In addition, as more studies show that noninvasive cardiac technology is improving patient outcome metrics (which will, by default, become more apparent with increased surgeon use of the technology), and policymakers move toward programs that give incentives to providers who improve the quality of robotically assisted cardiac procedures similar to those performed using the *da Vinci*, this may procure higher reimbursement than at present.[83] New market entrants may pose less of a threat if payors are timid about reimbursing providers for new technologies before their improved effect on outcomes has been established.

---

[80] Intuitive Surgical Inc., "History—The da Vinci System," http://www.intuitivesurgical.com/company/history/system.html (accessed August 24, 2012).

[81] Francis Robicsek, "Robotic Cardiac Surgery: Time Told!" *Journal of Thoracic Cardiovascular Surgery* 135 (2008): 243–246.

[82] Steven Lee Change, "Trends in the Adoption of Robotic Technology in the Surgical Management of Prostate Cancer: A Population Based Analysis," poster presentation, 2012 Genitourinary Cancers Symposium (February 2–4, 2012).

[83] Robert S. Poston, "Superior Financial and Quality Metrics with Robotically-Assisted (DaVinci) Coronary Artery Revascularization," presented at American Surgeon Association 128th Annual Meeting: New York, April 26, 2008), http://www.americansurgical.info/abstracts/2008/26.cgi (accessed August 16, 2012); Crystal Phend, "ASA: Robotic CABG Paint Cost-Effective Benefits for Patients," *MedPage Today*, April 28, 2008, http://www.medpagetoday.com/Cardiology/CoronaryArteryDisease/9254 (accessed August 16, 2012).

As mid-level providers secure expanded scope of practices allowances to address the provider shortage (see Section 4.3.4, "The Physician-Workforce Shortage: Demand Outpaces Supply"), these professionals will become a greater competitive threat to physicians who provide similar services. A significant factor in the level of competition between physicians and mid-level providers is the regulation of scope of practice and reimbursement procedures. Although supervision and scope requirements differ for each type of mid-level provider, *incident-to* services billed under Medicare allow nonphysician providers to work without the direct supervision of a licensed physician, regardless of their specialty or whether they are acting as primary care providers.[84] In contrast, state laws differ widely with regard to supervision requirements, as well as to the responsibilities and tasks delegated to mid-level providers.[85] The final rules of the 2010 *Outpatient Prospective Payment System* (*OPPS*) and *Medical Physician Fee Schedule* (*MPFS*) served a multifaceted role in the regulation of mid-level providers, by imposing more stringent supervision requirements on some and relegating accountability for the supervision of select diagnostic and therapeutic services to others.[86] As mid-level providers' scope of practice broadens, the competition between them and physicians is likely to increase, especially

Fee Schedule

A fee schedule is a payment system under which the fees for procedures are explicitly laid out and the physician agrees to accept those fees as full payment unless the discounted charges are less than the fee schedule; in which case, the plan pays the lesser of the two.

The Managed Health Care Handbook, *3rd ed., by Peter R. Kongstvedt (Gaithersburg, MD: Aspen Publishers, 1996), pp. 140–141.*

[84] Alice G. Gosfield, "The Ins and Outs of 'Incident-To' Reimbursement," *Family Practice Management* (November/December 2001).

[85] *Report of the Council on Medical Service: Ratio of Physician to Physician Extenders*, presented by Kay K. Hanley, December 1998, p. 1.

[86] Centers for Medicare and Medicaid Services, "Medicare Program: Changes to the Hospital Outpatient Prospective Payment System and CY 2010 Payment Rates; Changes to the Ambulatory Surgery Center Payment System and CY 2010 Payment Rates," 42 CFR., parts 410, 416, and 419, p. 994.

THE PURPLE PILL

Nexium, which changes the manner in which bleeding ulcer patients are treated, has evolved into the quintessential example of pharmaceuticals offering alternatives to surgery and other medical procedures and often at a lower cost.

"Emerging Issues in Healthcare Valuation in Divorce Cases," by Robert James Cimasi, AICPA/AAML National Divorce Conference, Las Vegas, May 6, 2010.

given that the growth in PA and NP supply has outpaced physician supply during the last 20 years.[87]

4.4.4 The Bargaining Power of Buyers

Healthcare services are primarily paid for by insurance organizations, whether private or governmental. Most private health insurance is purchased through employers who, to a great degree, make most of the buying decisions. Prior to the passage of the ACA, small businesses did not receive discounts on health insurance plans, mainly due to a lack of buying power, as compared to larger employers.[88] As a result, on average, small firms paid up to 18 percent more in premiums than did large firms for the same health insurance coverage.[89] Employer coalitions have emerged, but most command leverage on price, rather than on quality or value. This often leaves healthcare providers as the only advocates for consumers. These traditional means of procuring insurance may change dramatically in 2014, with the advent of state health insurance exchanges and the small business health options program, mandated under the ACA. The ACA provision requiring minimal essential health benefits and restricting the payor's ability to reject coverage has further decreased the bargaining power of buyers in healthcare

[87] Michael J. Dill and Edward S. Salsberg, "The Complexities of Physician Supply and Demand: Projections through 2025," Center for Workforce Studies, Association of American Medical Colleges, November 2008, p. 65.

[88] Amanda Cassidy, "Small Business Tax Credits. The Affordable Care Act Offers Incentives So That More of These Companies Will Help Provide Their Employees with Health Insurance," *Health Affairs*, Health Policy Brief, January 14, 2011.

[89] Ibid.

and placed more decision power into the hands of patients. To ease the burden on small businesses with 25 or fewer full-time employees, the ACA implements a federal tax credit, which, depending on need, will offset up to half of insurance premiums.[90] To qualify for the credits, an employer must pay at least half of the premium for each employee. Currently, more than 4 million companies have been deemed eligible for the credit.[91] (See Section 6.4.2, "Impact on Employers," in Chapter 6, "Healthcare Reform.")

The bargaining power of buyers, particularly insurance companies, is also subject to increasing scrutiny under the ACA, specifically regarding new limitations on the medical loss ratio. On December 2, 2011, HHS issued a final rule regarding the Medical Loss Ratio (MLR), implementing changes required under the ACA. The final rule creates a significant change in industry oversight by considering insurance broker and agent fees as administrative costs for purposes of an MLR calculation, in other words, that portion of insurance premium revenues spent on items other than clinical services, quality improvement, and other nonadministrative activities.[92]

The final rule requires insurance companies to spend 80 percent of insurance premiums on medical care and healthcare quality improvement in the individual and small group markets, and 85 percent of premiums on these components in the large group markets, exclusive of administrative costs.[93] Beginning in 2011, insurance companies have been required to report their MLR data to HHS annually, in an effort to allow consumers to evaluate available health plans based on the value they provide. Starting in 2012, private payors who fail to meet MLR requirements are required to provide a rebate to their customers.[94] The final rule allows the secretary of HHS, through *the Center for Consumer Information and Insurance Oversight* (*CCIIO*), to adjust the MLR standard in states where it is determined that meeting the 80 percent MLR standard might destabilize the individual

[90] "Patient Protection and Affordable Care Act," *Pub. L.* 111-148 (March 23, 2010), p. 102.

[91] Amanda Cassidy, "Small Business Tax Credits. The Affordable Care Act Offers Incentives So That More of These Companies Will Help Provide Their Employees with Health Insurance," *Health Affairs*, Health Policy Brief, January 14, 2011.

[92] "Medical Loss Ratio Requirements under the Patient Protection and Affordable Care Act," *Federal Register* 76, no. 235 (December 2, 2011): 76574–76594; Center for Consumer Information and Insurance Oversight, "Medical Loss Ratio," http://cciio.cms.gov/programs/marketreforms/mlr/index.html (accessed January 4, 2012).

[93] Center for Consumer Information and Insurance Oversight, "Medical Loss Ratio: Getting Your Money's Worth on Health Insurance," http://cciio.cms.gov/resources/factsheets/mlrfinalrule.html (accessed December 13, 2011).

[94] Ibid.

market. In order to qualify, a state must demonstrate that requiring its payors to meet this standard would decrease the availability of insurance plan choices for consumers.[95] To date, more than a dozen states have applied for an adjustment to the MLR standard; however, only Maine received an overall downward adjustment (lowered to 65 percent). Yet CCIIMO has allowed various models of leniency regarding the MLR standard for those approved, including gradual adjustments and temporary adjustments.[96]

The main critics of the MLR rebate are insurance companies, because only 36 percent of all private payors were expected to be under the MLR

Factoid

The ACA mandates that insurance companies must spend at least 80 percent of insurance premiums on medical care and healthcare quality improvements in the individual and small group markets, and 85 percent of premiums on these components in the large group markets, exclusive of administrative costs.

"Medical Loss Ratio: Getting Your Money's Worth on Health Insurance," Center for Consumer Information and Insurance Oversight, http://cciio.cms.gov/resources/factsheets/mlrfinalrule.html (accessed December 13, 2011).

[95] "Medical Loss Ratio," Center for Consumer Information and Insurance Oversight, http://cciio.cms.gov/programs/marketreforms/mlr/index.html (accessed January 4, 2012).

[96] "Letter From CCIIO to Various States Regarding Requests for Adjustment to Medical Loss Ratio Standards," by Steven B. Larsen, Center for Consumer Information and Insurance Oversight, to: Kevin M. McCarty, Florida Office of Insurance Regulation, December 15, 2011; Adam W. Hamm, North Dakota Insurance Department, July 22, 2011; James J. Donelon, Louisiana Department of Insurance, December 28, 2011, p. 1; Sandy Praeger, Kansas Insurance Department, January 4, 2011; Karen Weldin, Delaware Department of Insurance, September 9, 2011; Steven W. Robertson, Indiana Department of Insurance, December 28, 2011; Kevin Clinton, Michigan Office of Financial and Insurance Regulation, December 16, 2011; John D. Doak, Oklahoma Insurance Department, January 2, 2012, p. 2; Mila Kofman, State of Maine Bureau of Insurance, March 8, 2011, p. 2; Susan E. Voss, Iowa Insurance Division, July 22, 2011; Ralph T. Hudgens, Georgia Commissioner of Insurance, November 8, 2011; Sharon P. Clark, Commonwealth of Kentucky Department of Insurance, July 22, 2011; Roger A. Sevingy, State of New Hampshire Insurance Department, May 13, 2011, p. 2; and, Brett J. Barratt, State of Nevada Department of Business and Industry, May 13, 2011, p. 2.

Medical Loss Ratio (MLR)

The relationship of medical insurance premiums paid out for claims, comparing the cost of providing a service to the amount paid for that service.

Dictionary of Health Insurance and Managed Care, *by David Marcinko (New York: Springer, 2006), pp. 180–181.*

standard in 2011, with the remaining 64 percent of companies required to provide consumer rebates.[97] Specifically, the inclusion of insurance broker and agent fees as administrative costs has created concerns, with the insurance industry claiming such activities are necessary services for consumers that will likely be hindered by the new regulations. While the insurance industry claims the MLR rule will create a "*desperate economic situation*," consumer groups support the inclusion of insurance broker and agent fees as administrative costs, calling the rule, "a great victory for consumers … maintain[ing] the integrity of incredibly important consumer protections that hold the insurance industry accountable."[98]

4.5 BARRIERS TO FREE MARKET COMPETITION IN HEALTHCARE

Perfectly competitive markets exist only in economic theory. In reality, industries and markets have varying constraints on competition. The healthcare industry has often been characterized as unique, with its many significant barriers to free market competition, such as market controls on price and quality. There are three main reasons for these barriers in healthcare:

1. The nature of healthcare creates an unpredictable, urgent, and "*infinite*" level of demand.

[97] "Letter from GAO to HHS Regarding Private Health Insurance: Early Indicators Show That Most Insurers Would Have Met or Exceeded New Medical Loss Ratio Standards," by John E. Dicken, Director, Health Care, to Robert E. Andrews, Subcommittee on Health, Employment, Labor, and Pensions, October 31, 2011, p. 6.

[98] Margaret Dick Tockness, "MLR Final Rule Keeps Broker Fees as Administrative Costs," *HealthLeaders Media*, December 5, 2011, http://www.healthleadersmedia.com/print/HEP-273901/MLR-Final-Rule-Keeps-Broker-Fees-as-Administrative-Costs (accessed January 4, 2012)

TABLE 4.1 Barriers to Competition in Healthcare

Patients	Patients Do Not Purchase Services Directly from Providers.
	Patients Do Not Compare Prices between Providers.
Payors	The Government Is the Largest Purchaser of Healthcare.
	Private Purchasers Often Lack Market Power.
Providers	Many Providers Have Monopoly or Near Monopoly Power (yet Antitrust Laws Prevent Some Potentially Beneficial Integration).
	Providers Are Rewarded for Increasing Costs.
	Capital Investments Are Overly Subsidized.
	Certificate of Need, Regulation, and Licensing Laws Are an Entry Barrier to Competing and Substitute Providers and Services.
	Exit Barriers Protect Low-Quality Providers.
Patients, Payors, and Providers Lack Information.	

2. The ubiquitous involvement of insurance companies, private and governmental, as intermediary organizations in the purchase of healthcare interferes with consumer motivations and consequently their choice of providers and services.
3. The difficulties in measuring healthcare quality and beneficial outcomes (both of quantifying and qualifying them) and the lack of information on the relative costs of healthcare providers and services also inhibit consumer selection, further removing incentives to providers to increase quality and lower costs.

More specific examples of barriers to competition in healthcare delivery are provided in Table 4.1.

4.5.1 Intermediary Role of Insurance

One of the main differences between healthcare and other industries is the intermediary role of insurance. While payors are traditionally consumers of healthcare services, some would also see them as suppliers of "coverage," that is, repackaging the care given by providers. This dual role, as discussed earlier, affords significant market leverage to payors in the healthcare industry. Many of the provisions of the ACA address concerns related to the rising cost of insurance premiums, forcing greater price transparency within the insurance market, for example, medical loss ratio regulations and minimum essential health benefit requirements.

The government's role as the single largest payor for healthcare services also exerts enormous pressure on providers to reduce costs, due to various

regulatory initiatives. (See Section 2.7.1.1, "Episode-of-Care-Payments," and Section 2.7.1.1.2, "Value-Based Purchasing," in Chapter 2, "Reimbursement Environment.") Uncertainty still rages regarding the fate of Medicare reimbursement under the sustainable growth rate (SGR) formula, bringing instability to revenue forecasting within the insurance market. Government payors, for example, Medicare, rely on *Medicare Payment Advisory Commission* (*MedPAC*), an independent congressional agency that advises Congress on issues of Medicare reimbursement, access and quality of care, and other related issues to wield substantial competitive leverage in the market.[99]

The *Bundled Payments for Care Improvement Initiative* (*Bundled Payments Initiative*) is one of several provisions of the ACA that encourages alignment, collaboration, and communication among providers and is expected to provide better outcomes in environments where physicians and hospitals have already established strong communication and collaboration.[100] (See Section 2.7.1.1.1, "Bundled Payments," in Chapter 2, "Reimbursement Environment.") Similar episodes of care reimbursement initiatives such as *value based purchasing* (see Section 2.7.1.1.2, "Value-Based Purchasing," in Chapter 2, "Reimbursement Environment") and those reimbursement models used in ACOs (i.e., the Medicare Shared Savings Program) all emphasize cost and quality as a means of maximizing reimbursement and demonstrate the market power of the federal government as a payor.

This preeminent influence on, and pervasive dominance of, government over the healthcare industry presents a significant and unique differential

SUSTAINABLE GROWTH RATE (SGR)

The target rate of expenditure growth set by the SGR system for adjusting fee updates for the Medicare Fee Schedule; based on GDP growth and uses a conversion factor.

Dictionary of Health Insurance and Managed Care, *by David Marcinko (New York: Springer, 2006), p. 279.*

[99] Medicare Payment Advisory Commission, "About MedPAC," http://www.medpac.gov/about.cfm (accessed August 16, 2012).

[100] Charles Fiegl, "Medicare Unveils Bundled Payment Models to Start in 2012," *American Medical News*, September 5, 2011, http://www.ama-assn.org/amednews/2011/09/05/gvl10905.htm (accessed August 26, 2012).

between the healthcare industry and other industries. However, the impact of these changes has not been limited to Medicare and Medicaid reimbursement cuts but is also reflected in the reimbursement policies of other third-party payors.

4.5.2 Difficulties in Measuring Quality and Outcomes

Difficulties in measuring healthcare quality and beneficial outcomes (both of *quantifying* and *qualifying* outcomes data) and the lack of information related to the relative costs of healthcare providers and services also inhibit consumer selection. However, as transparency initiatives and electronic health record (EHR) technologies become more commonplace, difficulties associated with measuring quality and outcomes may be reduced. More significantly, the current spread of various value-based purchasing initiatives tying reimbursement to quality and cost metrics will likely incentivize providers to use those health information technologies (HIT), more so than the mere existence of HIT. CMS is funding many of these incentives through the *Hospital Value-Based Purchasing* (*VBP*) program. The VBP program will make distributions to hospitals, home health agencies, and ambulatory service centers based on quality performance measurements. The hospital VBP program is set to make its first payments to providers in FY 2013, although the performance year that will be used to establish benchmarks began in 2011.[101] A further discussion of value-based reimbursement can be found in Section 2.7.1.1.2, "Value-Based Purchasing," in Chapter 2, "Reimbursement Environment."

Electronic Health Record (EHR)

A longitudinal collection of electron health information about individual patients and populations.

"The Emergence of National Electronic Health Record Architectures in the United States and Australia: Models, Costs and Questions," by T. D. Gunter and N. P. Terry, Journal of Medical Internet Research, *http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1550638/ (accessed May 24, 2012).*

[101] "Medicare Program; Hospital Inpatient Value-Based Purchasing Program," *Federal Register* 76, no. 88 (May 6, 2011): 26495.

Health Information Technology (HIT)

Associated with improving "the health of individuals and the performance of providers, yielding improved quality, cost savings, and greater engagement by patients in their own health care."

"The Benefits of Health Information Technology: A Review of the Recent Literature Shows Predominantly Positive Results," by Melinda Beeuwkes Buntin, Health Affairs *30, no. 3 (March 2011): 464.*

4.5.3 Certificates of Need as Barriers to Entry

A *Certificate of Need* (*CON*) program is one in which a state government determines where, when, how, and at what scope capital projects for healthcare facilities, service line expansion, and major equipment acquisition may be undertaken (see Section 3.4.3, "Certificate of Need," in Chapter 3, "Regulatory Environment").[102] By their very nature, CON programs are anticompetitive, a principle that serves as, de minimis, part of the rationale for the inception of CON programs, in response to the concern that market forces were not adequate to prevent providers from overinvesting in equipment and facilities, resulting in the inflation of healthcare costs.[103] CON is based on the theory that in an unregulated market, healthcare providers will provide the latest costly technology and equipment, regardless of duplication or need.[104] However, various shifts in the healthcare industry in the years since CON legislation (see Section 3.4.3, "Certificate of Need") was first introduced have fueled disputes against the implementation of CON programs.[105]

A central argument against CON regulatory policy asserts that intervention disrupts natural market forces and is significantly anticompetitive. As a

[102] National Conference of State Legislatures, "Certificate of Need: State Health Laws and Programs," April 30, 2009, http://www.ncsl.org/IssuesResearch/Health/CONCertificateofNeedStateLaws/tabid/14373/Default.aspx (accessed June 24, 2009).

[103] Clark C. Havighurst, "Monopoly Is Not the Answer," *Health Affairs*, Web Exclusive (Aug. 9, 2005), p. W5-373.

[104] "Miscellaneous Subjects," in *Improving Health Care: A Dose of Competition*, a report by the Federal Trade Commission and Department of Justice, July 2004, p. 2.

[105] Ibid., pp. 2, 5, 6.

result, CON may serve as a barrier to new market entrants and has been viewed by many healthcare economists as a strong disincentive to the introduction of potentially advantageous innovations and technologies.

A consensus exists among health economic analysts that competition between providers drives patient quality of care and beneficial outcomes and is a force for cost efficiency. Hospitals in more competitive markets have exhibited lower levels of spending on average than hospitals in less competitive markets.[106] Healthy competition appears to offer patients and payers a means of economic leverage by creating choices for consumers and raising quality standards as providers compete for patient loyalty. When patient choice is diminished, decisions about access, quality, and beneficial outcomes become the sole purview of oligopoly market players who, as decision makers acting in the absence of healthy competition, are free to ignore patient demands and needs.

Current implementations of CON legislation in markets that are competitive have been perceived as a notable shift from CON's original purpose, to support competition by preventing overinvestment in healthcare facilities.[107] With continued evidence refuting the efficacy of CON legislation in reducing healthcare costs, supporters of CON legislative action have now shifted the argument to suggest that implementation and enforcement of CON laws may prevent overutilization due to physician self-referrals to

Factoid

In the United States, 37 states retain some sort of CON program restricting capital projects for healthcare facilities, service line expansion, and major equipment acquisitions.

"Certificate of Need: State Health Laws and Programs," National Conference of State Legislatures, March 2012, http://www.ncsl.org/issues-research/health/con-certificate-of-need-state-laws.aspx (accessed September 20, 2012).

[106] J. Zwanziger, G. Melnick, and A. Bamezai, "California Providers Adjust to Increasing Price Controls," in *Health Policy Reform: Competition and Controls*, R. Helms, ed. (Washington, DC: AEI Press, 1993), pp. 254–255, 241–258.

[107] Clark C. Havighurst, "Monopoly Is Not the Answer," *Health Affairs*, Web Exclusive (August 9, 2005), p. W5-373.

Certificate of Need (CON)

The formal justification of capital expenditures from a governmental health care agency, especially for a new specialty hospital, outpatient center, medical clinic, and so forth.

Dictionary of Health Economics and Finance, *by David Edward Marcinko (New York: Springer, 2007), p. 66.*

physician-owned facilities and may act to support the continued viability of community hospitals' charity care policies.[108]

4.5.4 Physician-Owned Healthcare Facilities

Historically, physicians and hospitals each provided distinct services to patients, with physicians providing physician services, and hospitals providing surgical and other related services to referred patients.[109] Under this symbiotic dynamic, little to no competition existed between physicians and hospitals.[110] However, this trend shifted as physicians became owners and investors in surgical facilities, such as ambulatory surgery centers and specialty hospitals, which compete with the same general hospitals where physicians had traditionally referred their patients.

Physician-owned hospitals have long created debate, due to the potential for ethical violations related to physician referrals and the perception that these physician-owned hospitals often *cherry-pick* patients.[111] Despite contentions that general hospital profitability has been negatively affected as specialty hospitals have selectively siphoned off more profitable services, such as surgical and specialty procedures (e.g., orthopedic surgery, cardiac

[108] Robert James Cimasi, "The Attack on Niche Providers," American Association of Ambulatory Surgery Centers, 27th Annual Meeting, Reno, NV, March 11, 2005, p. 32.

[109] William J. Link and Carina S. Longley, "The Effect of Physician-Owned Surgicenters on Hospital Outpatient Surgery," *Health Affairs*, 21, no. 4 (July/Aug 2002): 215; Robert A. Berenson, Paul B. Ginsburg, and Jessica H. May, "Hospital-Physician Relations: Cooperation, Competition, or Separation?" *Health Affairs*, Web Exclusive (December 5, 2006): w31.

[110] Ibid.

[111] Chris Silva, "Physician-Owned Hospitals: Endangered Species?" American Medical News, June 28, 2010, http://www.ama-assn.org/amednews/2010/06/28/gvsa06028.htm (accessed July 10, 2012).

services), there is no conclusive evidence to support this claim.[112] Further, proponents of physician-owned enterprises cite statistics demonstrating that patients are more satisfied with their care at physician-owned hospitals and often receive higher-quality care.[113] Recently, supporters have suggested that action against physician-ownership is counterproductive to the aims of healthcare reform, that is, to limit care facilities just as health insurance coverage is expanded to improve access to care for a greater percentage of the U.S. population.[114]

As physician ownership of hospitals and other facilities has expanded, so has the legislation that restricts it. There have been incessant legislative and regulatory efforts undertaken at the federal and state levels, in large part due to massive lobbying initiatives by oligopoly hospitals and their trade associations, to reverse the trend of, and restrict physician ownership in, investment in ASTC revenue stream enterprises, for example, ASCs, independent diagnostic testing facilities (IDTFs), surgical/specialty hospitals, physical therapy, and so on. These measures have served to relegate independent physicians in private practice to receiving only professional fee component revenues or to acquiesce by accepting employee status under the substantial control of hospital systems or large corporate players.

The Stark Law prohibits physicians from referring their patients to facilities in which they have a financial interest.[115] However, physicians were often able to refer patients through the "*whole hospital*" exception. This exception allowed a physician to perform certain services despite his or her financial interests, so long as the physician's financial interest was invested in the hospital generally and not in a particular subdivision.[116] Elimination of the Stark *whole hospital exception* was first suggested in

---

[112] Robert James Cimasi, Anne P. Sharamitaro, Lance A. Hayes, and Rachel L. Seiler, "Market Impact of Specialty Hospitals: A Study of the Profitability of General Short-Term Acute Care Hospitals Post Market Entry of Specialty Hospitals," *Journal of Health Care Finance* 35, no. 2 (Winter 2008): 1.

[113] James Ellis and Aaron Razavi, "The Future of Physician-Owned Hospitals," *Healthcare Finance News*, March 14, 2012. http://www.healthcarefinancenews.com/blog/future-physician-owned -hospitals (accessed July 10, 2012).

[114] Christopher Weaver, "Physician-Owned Hospitals Racing to Meet Health Law Deadline," *Kaiser Health News*, October 28, 2010, http://www.kaiserhealthnews.org/stories/2012/october/28/physician-owned-hopitals.aspx (accessed July 10, 2012).

[115] James Ellis and Aaron Razavi, "The Future of Physician-Owned Hospitals," *Healthcare Finance News*, March 14, 2012, http://www.healthcarefinancenews.com/blog/future-physician-owned -hospitals (accessed July 10, 2012).

[116] Ibid.

§651 of the July 24, 2007, U.S. House of Representatives Bill 3162, *The Children's Health and Medicare Protection Act of 2007* (CHAMP). While CHAMP §651 was never signed into law, §6001 of the ACA bans future physician-owned hospitals from forming and also limits the expansion of existing facilities, effectively eliminating use of the whole hospital exception for any healthcare facility established after 2010.[117]

Other legislative actions against physician ownership include:

- The November 20, 2007, New Jersey court holding in *Health Net of New Jersey, Inc. v. Wayne Surgical Center, LLC*, that physicians who refer their patients to an ASC in which they have an ownership interest violate the 1989 Codey Act prohibitions against self-referral.[118]
- Stark III updates prohibiting "*under arrangements*" and "*per click*" leasing ventures. [119]

Accountable Care Organization (ACO)

Healthcare organizations in which a set of providers, usually physicians and hospitals, are held accountable under a contract with a payor(s) (i.e., Medicare for Federal ACOs and any number of commercial payors for commercial ACOs) for the cost and quality of care delivered to a specific local population.

"Can Accountable Care Organizations Improve the Value of Health Care by Solving the Cost and Quality Quandaries?" by Kelly Devers and Robert Berenson, Robert Wood Johnson Foundation, Urban Institute, October 2009, http://www.rwjf.org/files/research/acosummaryfinal.pdf (accessed January 19, 2012), p. 1.

[117]Kenneth Artz, "Physician-Owned Hospitals Fire Back at Obamacare Restrictions," *Heartlander*, http://news.heartland.org/print/29036 (accessed July 10, 2012).

[118] Amy Lynn Sorrel, "New Jersey Court Sends Blow to Doctor-Owned Facilities," *AMANews*, American Medical Association January 14, 2008; *Garcia v. Health Net of New Jersey, Inc.*, 2009 WL 3849685 (November 17, 2009).

[119]Thomas W. Greeson and Health M. Zimmerman, Reed Smith LLP, "Potential Impact of 2008 Medicare Physician Fee Schedule Proposed Rules on Imaging Arrangements," *Health Lawyers Weekly*, http://www.reedsmith.com/_db/_documents/Potential_Impact_of_2008_Medicare_Physician_Fee_Schedule.pdf (accessed September 25, 2007).

Ancillary Services and Technical Component (ASTC)

Professional charges for patient services that are delivered in conjunction with the principle practitioner that diagnoses and treats the patient. The technical component of billing, with its own CPT codes, includes equipment, supplies, and facilities.

Dictionary of Health Insurance and Managed Care, *by David Marcinko (New York: Springer, 2006), pp. 24, 282.*

Stark Law

The physician self-referral law that prohibits referrals to an organization of which that physician or his or her family has a financial relationship.

"Stark Law: Civil Monetary Penalties," 42 U.S.C. 1320a-7a (1989).

- Various state tax acts (applicable only to ASCs, IDTFs, and cancer treatment centers) whereby physicians subsidize care provided in hospitals.
- CMS's 2008 restrictions, whereby IDTFs are no longer allowed to share practice locations, operations, and diagnostic testing equipment with other Medicare-enrolled providers, including leasing and subleasing agreements.[120]

4.5.5 Exclusionary Boycotts

In response to the perceived competitive threat of specialty hospitals, many community hospitals have started to respond in ways that may be perceived as being in violation of antitrust laws. In situations where specialty hospitals are owned in whole or in part by physicians with privileges on the medical staff of a general acute care hospital, and where the specialty hospital competes with the general hospital on either an inpatient or an outpatient basis, many general hospitals have engaged in activities that attempt to shut the

[120] McDermott Will & Emery, "2008 Physician Fee Schedule Regulations Include Anti-Markup and IDTF Rule Change," *McDermott Newsletters*, November 16, 2007.

physician-owned facility out of the market. Some of these practices include refusing to assist or cooperate with specialty hospitals, pressuring other members of the medical staff and/or community physicians not to engage in business with the specialty hospital, pressuring payors to exclude specialty hospitals from the payors' networks, and limiting or terminating physician-investors' privileges and medical staff membership (*conflict of interest credentialing*).[121] In response to these practices, some physician-owned facilities (POF) have initiated antitrust suits, claiming that general hospitals are engaging in illegal exclusionary boycotts.[122]

While courts have typically favored general hospitals' attempts to combat *cream skimming* by specialty hospitals, one notable case brought forth in 2005 by a Kansas City area hospital, Heartland Surgical Specialty Hospital, demonstrated that courts do not overlook anticompetitive behavior by hospitals. The specialty hospital filed an antitrust lawsuit alleging horizontal conspiracies between multiple health plans and multiple hospitals, as well as vertical conspiracies between the hospitals and the payors directly, resulting in pressure on payors, as well as direct agreements with them, to exclude the Specialty Service Hospital (SSH) from their networks.[123] The eventual settlement in this case demonstrated that antitrust laws protect against entities with market power using their power to pressure others (e.g., other hospitals and payors) into agreeing to exclude a competitor from the market.[124]

Specialty Service Hospital (SSH)

A hospital that limits its focus and scope of services to provide treatment for a single medical specialty or cluster of specialties (e.g., surgical, pediatric, or women's care).

Dictionary of Health Economics and Finance, *by David Marcinko (New York: Springer, 2007), pp. 338–339.*

[121] William E. Berlin, "Antitrust Implications of Competition between Physician-Owned Facilities and General Hospitals: Competition or Exclusion?" American Bar Association, *The Health Lawyer* 20, no. 5 (June 2008): 4.

[122] Ibid., pp. 3–5.

[123] Ibid., p. 5.

[124] Ibid.

4.5.6 Antitrust Regulations

The purposes of antitrust laws are to prevent monopolies and predatory pricing and to encourage competition in the marketplace (see Section 3.4.1, "Antitrust Regulations," in Chapter 3, "Regulatory Environment"). The Sherman Antitrust Act prohibits monopolies (i.e., monopolization, attempted monopolization, and conspiracies to monopolize), contracts, combinations, and conspiracies that unreasonably restrain trade.[125] However, substantial regulation also has the capacity to limit free market competition in the healthcare industry.[126]

Antitrust law has traditionally been used to combat anticompetitive behavior arising from provider- and payer-imposed barriers to competition, as well as against consolidations (either by collaboration or merger) by provider groups and health systems.[127] However, at the beginning of this decade, strict antitrust enforcement in the healthcare sector focused on pharmaceuticals.[128] During that time frame, a significantly increased level of judicial deference tended to be given to providers, causing federal enforcement, which had won cases against hospital mergers in the 1980s and the 1990s, to lose all hospital merger cases brought in federal court between 1995 and 2001.[129] During this period, courts tended to take a purely economic look at elements of antitrust decisions, such as a provider's market share and price, while ignoring other germane elements to healthcare, such as patients' personal and logistical considerations for choosing a provider.[130]

Promulgated by recent healthcare reform efforts, the Federal Trade Commission and the Department of Justice have expressed renewed concern regarding the adequacy of existing standards for horizontal mergers, maintaining that fortified measures of antitrust enforcement are crucial to

---

[125] "Physician-Hospital Clinical Integration: Navigating the Complexities," Webinar presented by Strattford, October 10, 2010.

[126] *Improving Health Care: A Dose of Competition: Executive Summary*, a report by the Federal Trade Commission and Department of Justice, July 2004, pp. 4–5.

[127] Federal Trade Commission and Department of Justice, "Competition Law: Hospitals," in *Improving Health Care: A Dose of Competition*, July 2004, pp. 1–3.

[128] Federal Trade Commission and Department of Justice, "Executive Summary," in *Improving Health Care: A Dose of Competition*, July 2004, pp. 21–29; Federal Trade Commission and Department of Justice, "Industry Snapshot and Competition Law: Pharmaceuticals," in *Improving Health Care: A Dose of Competition*, July 2004, p. 9.

[129] Thomas L. Greaney, "Whither Antitrust? The Uncertain Future of Competition Law in Health Care," *Health Affairs* 21, no. 2 (March/April 2002): 185–186.

[130] Ibid., p.187.

cutting costs and improving the quality of healthcare.[131] Most recently, the DOJ and the FTC have focused their efforts on evaluating the impact of horizontal consolidation of certain healthcare organizations (e.g., large pharmaceutical companies, payors, outpatient clinics, hospitals) to determine whether their respective market sectors experience a decrease in competition as a result.[132] While most research suggests a potential correlation between hospital consolidation and higher prices for hospital services, the magnitude of price increase estimated by these studies ranges from 5 percent to greater than 50 percent, leading to uncertainty regarding these findings.[133] The impact of consolidation has become more pertinent in recent years, due to the many provisions of the ACA that promote the coordination of care (e.g., ACOs).

4.6 HISTORICAL REFORM EFFORTS AND THEIR EFFECT ON COMPETITION

4.6.1 Managed Competition

Managed competition was a dominant theory of the 1990s healthcare reform.[134] As envisioned by Alain Enthoven of Stanford University, competing

[131] "The Importance of Competition and Antitrust Enforcement to Lower-Cost, Higher-Quality Health Care," prepared statement of the Federal Trade Commission before the U.S. Senate Subcommittee on Consumer Protection, Product Safety, and Insurance, Committee on Commerce, Science, and Transportation, July 16, 2009, pp. 1–2, 9.

[132] Federal Trade Commission, "FTC Order Restores Competition Lost through Schering-Plough's Acquisition of Merck," press release, October 29, 2009, http://www.ftc.gov/opa/2009/10/merck.shtm (accessed November 11, 2009); Federal Trade Commission, "FTC Order Prevents Anticompetitive Effects from Pfizer's Acquisition of Wyeth," press release, Oct. 14, 2009, http://www.ftc.gov/opa/2009/10/pfizer.shtm (accessed November 11, 2009); Federal Trade Commission, "Commission Order Restores Competition Eliminated by Carilion Clinic's Acquisition of Two Outpatient Clinics," press release, October 7, 2009, http://www.ftc.gov/opa/2009/10/carilion.shtm (accessed November 11, 2009).

[133] Claudia H. Williams, William B. Vogt, and Robert Town, "How Has Hospital Consolidation Affected the Price and Quality of Hospital Care?" Robert Wood Johnson Foundation, the Synthesis Project, Policy Brief no. 9, February 2006; William B. Vogt, "Hospital Market Consolidation: Trends and Consequences," National Institute for Health Care Management, November 2009.

[134] Ian Morrison, "The New American Compromise," *Trustee* 61, no. 8 (September 2008): 32.

1st Generation	2nd Generation	3rd Generation	4th Generation
Managed Access	**Managed Benefits**	**Managed Care**	**Managed Outcomes**
• Emphasis on managing/restricting patient access • Administrative burdens (e.g., precertification, significant copays) • Reliance primarily on non-clinical reviewers • Physician totally outside system	• Emphasis on managing benefits • Precertification primary and treatment planning secondary • Cost containment emphasized over clinical management • Traditional treatment models employed • Physicians "*included*," but their care delivery "*inspected*"	• Greater emphasis on treatment planning and quality management • Focus on most appropriate care in most appropriate setting • Patients managed through continuum of care • Clinical management of network; provider-care manager collegiality • Shift toward improving access and benefits to reduce costs	• Operational, clinical, and financial integration • Locally responsive delivery systems and services based on national standards and capabilities • Mutually benefical partnerships with physician community • Effective use of technology to measure, report, and enhance quality and outcomes • Proof of value for patients • Full accountability for costs and quality

EXHIBIT 4.4 The Four Phases of Managed Competition

healthcare entities, particularly payors, were to be monitored by a supervisory structure that established equitable rules, created price-elastic demand, and avoided uncompensated risk selection—not a far cry from the emerging structure of the ACO/payor relationships.[135] Enthoven's model represented a combination of competitive and regulatory strategies that he suggested must seek to coexist in the healthcare industry as an aim to achieve maximum value for both consumers and providers.[136] Several commentators viewed this compromise as springing from a "belief that health care is both a right and an obligation"—heralding the individual mandate of the current healthcare reform, in other words, that people have a right to access and an obligation to pay for their portion.[137] An illustration of the comparative features of the evolution of models of managed competition, from managed access to managed outcomes (i.e., the current notion of value-based purchasing), is set forth in Exhibit 4.4.

---

[135] Alain C. Enthoven, "The History and Principles of Managed Competition," *Health Affairs* 12, no. 1 (Suppl. 1993): 24, 30–35; Ian Morrison, "Chasing Unicorns," *H&HN Weekly*, January 3, 2011, http://www.hhnmag.com/hhnmag_app/jsp/articledisplay.jsp?dcrpath=HHNMAG/Article/data/01JAN2011/010411HHN_Weekly_Morrison&domain=HHNMAG (accessed March 29, 2012).

[136] Alain C. Enthoven, "The History and Principles of Managed Competition," *Health Affairs* 12, no. 1 (Suppl. 1993):. 25.

[137] Ian Morrison, "The New American Compromise," *Trustee* 61, no. 8 (September 2008): 32.

Factoid

The four stages of managed competition are "managed access," "managed benefits," "managed care," and "managed outcomes."

The regulatory safeguards regarding competition in healthcare go beyond specific laws monitoring the market size of various enterprises. As shown by the theory of managed competition, regulations monitoring what must be publicly reported will also affect the competitive nature of the industry.

4.6.2 Reform of the Insurance Industry

From 2000 to 2009, more than 400 health insurance company mergers occurred, resulting in a highly consolidated market and negative consequences for consumers today. Part of the explanation for this consolidation trend was the lack of legislation concerning merger agreements. Of note is that in the last decade, there were only two cases where the DOJ required the restructuring of a merger agreement between two insurance companies.[138] The prevalence of these mergers without a strong enforcement of antitrust laws has permitted a variety of anticompetitive behavior by major insurance companies, resulting in higher costs (whether from higher premiums, deductibles, or copays), compromised patient care, and a record high level of uninsured people in the United States.[139]

In order to reverse the trend of payor consolidation, healthcare reform proposals have included provisions for identifying exclusionary conduct by private payors. Some politicians suggest that the federal antitrust exemption

---

[138] Albert A. Foer, ed., *The Next Antitrust Agenda: The American Antitrust Institute's Transition Report on Competition Policy to the 44th President of the United States*, (American Antitrust Institute, Lake Mary, FL, Vandeplas Publishing, 2008), p. 323; citing *United States v. UnitedHealth Group Inc.*, Case No. 05CV02436 (D.D.C. 2006) (merger of UnitedHealth Group Inc. and PacifiCare Health Systems, Inc.) and *United States v. UnitedHealth Group Inc.*, Case No. 08-cv-00322 (D.D.C. 2008) (merger of UnitedHealth Group Inc. and Sierra Health Services, Inc.).

[139] Ibid., citing "Consolidation in the Pennsylvania Health Insurance Industry: The Right Prescription? Hearing before the Subcomm. on Antitrust, Competition Policy and Consumer Rights of the S. Comm. on the Judiciary," 110th Cong. (2008) (Testimony of David Balto) http://judiciary.senate.gov/testimony.cfm?id=3522&wit_id=7367 (accessed August 27, 2012).

for insurance companies contained in the *McCarran-Ferguson Act* has allowed for insurance companies to consolidate, and they have advanced reform initiatives to modify or repeal the exemption.[140] While the act exempts all types of insurance providers, the application of the act to the healthcare industry has drawn particular criticism from the DOJ and lawmakers, who claim that the exemption has led to anticompetitive behavior, which has resulted in higher healthcare costs to both providers and patients.[141] Proponents of the exemption argue that states have proved themselves capable of preventing anticompetitive behavior by private payors, and that there is no conclusive evidence that such a repeal will have any positive impact on the insurance industry.[142] Although all attempts to repeal the insurance company exemption to date have failed, such legislation demonstrates the beginning of the potential widespread impact of health reform on antitrust enforcement.

Related to the insurance industry is the constantly maturing *pharmaceutical benefit management* (*PBM*) industry. This area of the healthcare industry has grown as consumers' use of pharmaceutical drugs has increased and payors have added more pharmacy benefits into their plans.[143] While there are 40 to 50 PBMs throughout the United States, and some payors manage pharmacy benefits internally, only three major national pharmacy benefit managers are present in the U.S. marketplace, which necessitates careful attention to ensure fair competition in this industry, as more and more healthcare spending is devoted to pharmaceuticals.[144]

---

[140] "The McCarran-Ferguson Act," 15 U.S.C. § 1011 et seq. (2006). "Health Insurance Industry Antitrust Enforcement Act of 2012; Bill Summary & Status; H.R. 5838," sponsored by John Conyers Jr., Library of Congress, May 18, 2012.

[141] Cecelia M. Assam, Bureau of National Affairs, "Senate Panel Hearing Airs Criticisms of Health, Malpractice Insurer Exemption," *Health Law Reporter* 18, no. 41 (October 22, 2009): 1397.

[142] Bureau of National Affairs "House Panel Launches Hearings on Bill Limiting Insurers' Use of Antitrust Exemption," *Health Law Reporter* 18, no. 40 (October 15, 2009): 1362; Cecelia M. Assam, Bureau of National Affairs, "Senate Panel Hearing Airs Criticisms of Health, Malpractice Insurer Exemption," *Health Law Reporter* 18, no. 41 (October 22, 2009): 1397.

[143] Federal Trade Commission and Department of Justice, "Industry Snapshot and Competition Law: Pharmaceuticals," in *Improving Health Care: A Dose of Competition*," July 2004, pp. 11, 15.

[144] "The Importance of Competition and Antitrust Enforcement to Lower-Cost, Higher-Quality Health Care," prepared statement of the Federal Trade Commission before the U.S. Senate Subcommittee on Consumer Protection, Product Safety, and Insurance, Committee on Commerce, Science, and Transportation, July 16, 2009, pp. 12–13.

Factoid

Over 400 mergers occurred in the health insurance industry from 1995 to 2007.

Competition in Health Insurance: A Comprehensive Study of U.S. Markets—2007 Update *(Chicago: American Medical Association, 2007), p. 1.*

Specific competition concerns include the impact of factors such as PBM pricing, generic substitution, therapeutic interchange, and repackaging practices, in addition to industry practices such as PBM ownership of mail-order pharmacies.[145]

Expansion of the PBM industry has experienced both positive and negative responses from the healthcare industry, especially with the April 2012 acquisition of Medco Health Solutions, Inc., by Express Scripts Inc., which created one of the largest PBM companies in the United States. After eight months of investigation, the FTC approved the merger, noting that it was not an "easy decision." FTC commissioner Julie Brill disagreed with the commission's final vote and issued a separate opinion, labeling the transaction a "merger to duopoly" and cited to congressional intent under Section 7 of the Clayton Act. After the merger of the two largest PBMs, CVS Caremark is the sole remaining entity of what was previously referred to as the "Big Three" by Commissioner Brill. Despite Brill's

Pharmaceutical Benefit Management (PBM)

Generally, a private firm who contracts with pharmacies to provide drug administration services, particularly claims processing and administrative functions.

"Cost Control for Prescription Drug Programs: Pharmacy Benefit Manager (PBM) Efforts, Effects, and Implications," by David H. Kreling, Sonderegger Research Center, University of Wisconsin School of Pharmacy, Conference on Pharmaceutical Pricing Practices, Utilization and Costs, Washington, DC, August 8–9, 2000.

[145] Federal Trade Commission and Department of Justice, "Industry Snapshot and Competition Law: Pharmaceuticals," in *Improving Health Care: A Dose of Competition*," July 2004, pp. 11–16.

dissent, the FTC's opinion notes that with at least 10 significant competitors, the PBM industry is only moderately concentrated and will remain competitive after the proposed merger. Ultimately, Chairman Jon Leibowitz and Commissioners J. Thomas Rosch and Edith Ramirez reasoned that although the merger would result in higher market concentration, the market would still be highly competitive, due to the remaining nine firms' presence, and noted that the merged company poses little risk of using monopsony power because the PBM market does not foster coordinated interaction.

4.6.3 Commoditization of Healthcare

Payment for healthcare services has evolved over time, starting with the implementation of Medicare in 1965 under a fee-for-service paradigm, followed by the creation of the *prospective payment system* (*PPS*) for hospital and physician services through the 1980s and the 1990s (see Section 2.4.1, "Medicare," in Chapter 2, "Reimbursement Environment") to the current reform efforts based on bundled payments that combine institutional and professional charges, or inpatient and postdischarge fees, into a single payment.[146] Beginning with the implementation of the PPS, whereby patients were classified into *diagnosis related groups* (*DRGs*) based on the average cost of services for a particular diagnosis, healthcare services have evolved into homogenous, fungible units that are bought and sold.[147] The term "*commoditization*" can be defined as the process of making an item that is not distinguished by a brand name or label into something that can be purchased in bulk quantities and sold by retailers at a standardized per unit basis. Of note is that even MedPAC discusses Medicare reimbursement as consideration paid in return for a commodity by describing healthcare services as "the products that Medicare buys."[148]

In addition to DRGs, other standardized per unit cost Medicare reimbursement systems, such as the *Resource Based Relative Value Scale* (*RBRVS*) and the *Current Procedural Terminology* (*CPT*) have also advanced

[146] Office of the Inspector General, "Medicare Hospital Prospective Payment System: How DRG Rates Are Calculated and Updated," Office of Evaluation and Inspections, Region IX (OEI-09-00-00200), August 2001, pp. 1, 5.

[147] Ibid.

[148] "Ambulatory Surgical Centers Payment System," *MedPAC Payment Basics*, October 2008, p. 1, http://www.medpac.gov/documents/MedPAC_Payment_Basics_08_ASC.pdf (accessed September 24, 2009).

healthcare services as commodities. Even during the current transition to value-based reimbursement models, instead of volume-based payment models (i.e., bundled payments and value-based purchasing), these standardized units remain.

Further evidence of the commoditization of the U.S. healthcare system is reflected in the presence of a marketplace for *Durable Medical Equipment, Prosthetics, Orthotics, and Supplies* (DMEPOS), whereby DMEPOS manufacturers submit competing bids to Medicare based on the charge per unit, the lowest of which is then chosen to be the only Medicare provider of DMEPOS in 10 different metropolitan areas.[149] The competitive bidding program was implemented in 2008, but an 18-month moratorium was put in place and all contracts were canceled under the *Medicare Improvements for Patients and Providers Act of 2008*, in response to pressure from DMEPOS suppliers, who claimed that the program would damage quality of care and reduce access.[150] The program was tested again in 2009, in what CMS referred to as the "*Round One Rebid*," and officially began on January 1, 2011. CMS is required to recomplete contracts once every three years, and the ACA mandates that the program be available in all areas of the United States by 2016.[151] The program has generated controversy, receiving more than 250 complaints from Medicare patients, and comments by the *American Association of Homecare* (AAH) reporting that the program is creating additional expenses for Medicare patients and hurting local businesses.[152]

Commoditization is an often criticized aspect of the healthcare market, yet its development may be essential to the continued growth of the healthcare industry. Mass retailers have been providing access to in-store health clinics and low-cost generic drugs in order to simplify the supply chain and increase volume, in an attempt to save money and improve care. The retail industry has become involved with healthcare as a result of a number of

[149] Chris Silva, "Medicare DME Bidding Program Set to Relaunch in 2010," *American Medical News*, May 4, 2009, http://www.ama-assn.org/amednews/2009/05/04/gvsd0504 (accessed November 10, 2009).

[150] Ibid.

[151] Centers for Medicare and Medicaid Services, "DMEPOS Competitive Bidding," April 18, 2012, https://www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/DMEPOSCompetitiveBid/index.html (accessed August 2, 2012).

[152] Stephanie Bouchard, "Medicare's Competitive Bidding Program Disappoints," *Healthcare Finance News*, February 26, 2011, http://www.healthcarefinancenews.com/news/medicares-competitive-bidding-program-disappoints (accessed July 12, 2012).

factors, including (1) rising healthcare costs, (2) customers' increased access to health information, (3) evidenced-based medicine approaches, and (4) increased scope of practice considerations for midlevel providers (i.e., including physician assistants and nurse practitioners).

Timothy P. Doty wrote regarding the commoditization of healthcare:

> *[I]f health care is "fungible," then by implication the parts of health care are also interchangeable. Practically speaking, this also includes providers and patients as they are simply reduced to their identity and purpose within the confines of a business relationship. Just as the seller is interested only in providing that which the buyer needs (or desires) in so far as there is sufficient financial reward, the buyer is only concerned with obtaining the desired object (or service). Who they are makes no real difference. Commodification dictates that a physician is like any other, as long as they are matched with respect to specialty. He or she ceases to be the indispensable community caregiver, and instead becomes the link between company and profit, or shareholder and dividend. Patients, by the same token, are no longer seen as individuals with unique personalities and health care needs but as a source of revenue; they become "covered lives" and a "business asset whose value is inversely proportional to the cost of health care resources their care is predicted (statistically or otherwise) to consume."*[153]

Current Procedural Terminology (CPT)

Current procedural terminology is a system developed by the AMA that is used by providers to report information to patients and insurers about services and procedures provided to patients.

Michelle A. Green and JoAnn C. Rowell, CPT Coding" In "Understanding Health Insurance: A Guide to Billing and Reimbursement, *9th ed., by Michelle A. Green and JoAnn C. Rowell (Clifton, NY: Delmar Cengage Learning, 2008), p. 191.*

[153]Timothy P. Doty, "Health Care as a Commodity: The Consequences of Letting Business Run Healthcare," University of Calgary, Calgary, Canada, March 2008, http://www.ucalgary.ca/familymedicine/system/files/Resident+Research+Review+Report.pdf (accessed September 19, 2013).

Diagnosis Related Group (DRG)

An insurer reimburses hospitals and physicians for all services that a patient receives in the hospital based on a patient's specific grouping.

"Bundled Payment: AHA Research Synthesis Report," American Hospital Association Committee on Research (May 2010), p. 3.

Prospective Payment System (PPS)

A system used by Medicare to pay medical providers, hospitals, and clinics a set amount of money per diagnostic related group (DRG).

Dictionary of Health Economics and Finance, *by David Marcinko (New York: Springer, 2007), p. 293.*

Resource Based Relative Value Scale (RBRVS)

The RBRVS is the scale on which Medicare bases its standardized physician payment schedule. The RBRVS determines payments based on the value of the resources necessary to provide a particular service.

"Overview of the RBRVS," American Medical Association, http://www.ama-assn.org/ama/pub/physician-resources/solutions-managing-your-practice/coding-billing-insurance/medicare/the-resource-based-relative-value-scale/overview-of-rbrvs.shtml (accessed October 5, 2009).

REIMBURSEMENT CODES

Numerical codes that specify type of procedure or diagnosis (different codes for each). Common code systems include CPT, ICD, HCPCS.

Centers for Medicare and Medicaid, "Overview: Transaction Code Sets Standards," http://www.cms.hhs.gov/TransactionCodeSetsStands/ (accessed September 15, 2009).

4.6.4 Provider Consolidation

There has also been a noticeable shift in competition among physicians in recent years. Originally, many physicians operated as independent competitors, perhaps allied only with the hospital(s) to which they referred patients.[154] The mid-1990s experienced a *frenzy* of physician practice acquisitions by hospitals, health systems, and large integrated groups as managed care organizations (and HMOs) boomed. With the collapse of the managed care–driven integration efforts of that era, buyers experienced significant financial losses on their practice acquisitions, and many integrated systems divested physician practices.[155] Of note is that several physicians bought back elements of their practices.[156]

Although the managed care boom was short-lived, consolidation efforts have rekindled in recent years, due to various legislative initiatives (i.e., ACOs, PCMH), increases in the cost to maintain independent practices, reimbursement cuts, restrictions on physician ownership, increased regulatory scrutiny, increased technological demands for reporting (i.e., ICD-10 conversion), and changing physician demographics and demands (e.g., a greater number of older physicians and the increased importance of work/life balance). The number of hospital mergers and acquisitions increased 33 percent in 2010, as compared to 2009.[157]

Consolidation among providers (either through physician employment or mergers and joint ventures between healthcare enterprises) has already

---

[154] Hoangmai H. Pham and Paul B. Ginsburg, "Unhealthy Trends: The Future of Physician Services," *Health Affairs* 26, no. 6 (November/December 2007): 1587, 1589.

[155] Ronald L. Vance and Ronald B. Goodspeed, "Back to the Future for Many Hospital-Physician Relationships: Where Do We Go from Here?" *Journal of Ambulatory Care Management* 25, no. 4 (2002): 59; George Anders, "Hospitals That Gobbled Up Physician Practices Feel Ill—High Costs and a Decline in Productivity among Doctors Bring Losses," *Wall Street Journal*, June 17, 1997, p. B4.

[156] Julie A. Jacob, "Physicians Buying Back Their Practices from PPMs, Hospitals," American Medical Association, August 1, 2000, http://www.ama-assn.org/amednews/2000/08/21/bil20821.htm (accessed May 4, 2012); Martha C. Collins, "Disintegration: How Employed Doctors Are Landing on Their Feet," *Family Practice Management* 6, no. 10 (November–December, 1999): 38; Rod Aymond and Theodore Hariton, "Regrouping after Disintegration," *Family Practice Management* 7, no. 3 (March 2000), http://www.aafp.org/fpm/2000/0300/p37.html?printable=fpm (accessed August 27, 2012).

[157] Irving Levin Associates, Inc., "Decade in Review: Hospital M&A Continues Recent Rebound," press release, February 3, 2011, http://www.levinassociates.com/pr2011/pr1102hospital (accessed August 10, 2012).

begun to affect the competitive nature of the healthcare industry. Regulations designed to limit and monitor competition have been modified to facilitate ACA initiatives, that is, Stark, Anti-Kickback, and antitrust waivers for ACOs. Hospital leverage has increased, especially in urban areas, as more physicians enter into employment arrangements. Coordination of care efforts will force cooperation between primary care providers and specialist physicians from all disciplines, which will require a new alignment of objectives among hospitals, physicians, and outpatient facilities. With the rapid sea change resulting from reform and environmental drivers, the once well-defined, relatively stable business landscape of U.S. healthcare delivery now presents an unpredictable milieu of new provider configurations, strategies, and tactics that the healthcare industry, and the competitive forces that govern it, must adapt to.

4.6.4.1 Comanagement Arrangements Increasingly, physicians and hospitals are trying to become more integrated in order to effectively respond to healthcare reforms (e.g., ACOs and PCMH) and provide more coordinated care. One method of achieving this common goal is through comanagement arrangements, which have reemerged in recent years as an alternative care model.[158]

Under new comanagement models, a hospital may enter into a management agreement with an organization that is either jointly owned or completely owned by a physician, in order to provide daily management services for the inpatient and/or outpatient components of a medical specialty service line.[159] A comanagement arrangement incentivizes physicians for the development, management, and improvement of quality and efficiency, as well as for making the service line more competitive in the target market.[160]

4.6.4.2 Accountable Care Organizations (ACOs) ACOs are the latest iteration in a dialogue that has been evolving for generations as to how to manage the rising cost of healthcare in a manner that addresses both *cost* and *quality.*

[158] Melanie Evans, "Co-Management Emerges As Alternative to Joint Ventures, Employment by Hospitals" *Modern Physician*, May 10, 2010, http://www.modernphysician.com/apps/pbcs.dll/article?AID=/20100510/MODERNPHYSI# (accessed July 18, 2012).

[159] Paul F. Danello, "Clinical Co-Management: Hospitals and Oncologists Working Together," *Journal of Oncology Practice* 2, no. 1 (2006).

[160] Ibid.

The concept of *accountable care* has existed in the American healthcare industry for decades—long before the emergence of ACOs. Most notably, the managed care boom of the 1990s promised some of the same major fundamental objectives of accountable care, that is, lower costs and higher-quality outcomes for patients. Managed care took off in response to the advent of HMOs, a prepaid health plan model that used provider networks with a system of *primary care gatekeepers* and capitated provider reimbursement incentivizing decreases in utilization and increases in the efficiency of care for HMO members.

ACOs hold out the promise of being more successful than their managed care predecessors. Current trends in hospital-physician alignment have led to a consolidation of physicians and have made incentives for physician compensation more amenable to realignment with reform goals and reimbursement models. Integrated health systems, especially those with an internal payor, have already noted the benefits of physician employment on quality and cost efficiencies. The clinical and management collaborations between healthcare providers within ACOs will likely result in the desired coordination of patient care and reduction in the duplication of patient care, necessary to lower healthcare costs for both providers and payors.

Overall, the success or failure of ACOs will be in their ability to achieve the required cost reductions and quality goals. ACOs' success may not be contingent on addressing other healthcare reform issues, such as the referral of primary care patients to specialists, healthcare access, and the increasing health disparities across socioeconomic classes. Their potential success, their continued evolution, and their positive public perception within the healthcare industry may be the definitive distinction between ACOs and managed care and are likely to be the primary measure of their value.

4.7 CONCLUSION

Michael Porter and colleagues wrote in the *Harvard Business Review* that

> *In industry after industry, the underlying dynamic is the same: competition compels companies to deliver increasing value to customers. The fundamental driver of this continuous quality improvement and cost reduction is innovation. Without incentives to sustain innovation in health care, short-term cost savings will soon be overwhelmed by the desire to widen access, the growing health needs of an aging population, and the unwillingness of Americans to settle for anything less than the best treatments*

> *available. Inevitably, the failure to promote innovation will lead to lower quality or more rationing of care—two equally undesirable results.*[161]

If the barriers to competition continue to be barriers to healthcare market innovation (as many are now), healthcare purchasers, managers, and legislators must act through incentives such as ACOs and VBP program initiatives to ensure that innovation takes the forefront of any reform efforts, if it is to be effective in responding successfully to public and governmental pressures to reduce and improve costs.

As Michael Porter and Elizabeth Omstead Teisberg stated in their 2006 book, *Redefining Health Care*, limiting competition is not the solution but, rather, "The only way to truly reform health care is to reform the nature of competition itself."[162] Porter explained that

> *Because of the lack of effective competition at the condition level, the actual organization and structure of care delivery by most providers is not aligned with patient value. Lack of value-based competition on results has allowed care of a patient to be fractured across numerous specialties, hospital departments, and physician practices, each of which focuses on its discrete intervention. Nobody integrates care for the medical conditions as a whole and across the full care cycle, including early detection, treatment, rehabilitation, and long-term management.*[163]

This concept foreshadowed many of the current healthcare reform initiatives and associated market trends. Competition in healthcare, over the coming years, will likely be fueled in greater degrees by patient outcomes and coordinated care efforts across specialties and facility types, under the drive of provisions of the ACA, including value-based purchasing, accountable care organizations, medical model homes, and other changing reimbursement quality paradigms.

---

[161] M. E. Porter, et al., "Making Competition in Health Care Work," *Harvard Business Review* (July/August 1994): 131.

[162] Michael Porter and Elizabeth Omstead Teisberg, *Redefining Health Care: Creating Value-Based Competition on Results* (Cambridge, MA: Harvard Business School Press, 2006), p. 4.

[163] Ibid., p. 45.

4.8 KEY SOURCES

Patient Protection and Affordable Care Act (ACA)

Landmark federal healthcare reform legislation that was signed into law on March 23, 2010; combined with HCERA, is collectively known as the ACA or healthcare reform.

"Patient Protection and Affordable Care Act," *Pub. L.* 111-148, 124 Stat 119 (March 23, 2010)

Health Care Education and Reconciliation Act (HCERA)

Companion legislation to PPACA signed into law on March 30, 2012; combined with PPACA, is collectively known as the ACA or healthcare reform.

"Health Care and Education Reconciliation Act," *Pub. L.* 111-152, 124 Stat 1029 (March 30, 2010)

Competitive Strategy: Techniques for Analyzing Industries and Competitors

A seminal text that details Porter's five forces affecting competition.

Michael E. Porter, *Competitive Strategy: Techniques for Analyzing Industries and Competitor* (New York: Free Press, 1980)

Redefining Health Care: Creating Value-Based Competition on Results

Discusses a novel framework for healthcare competition that prioritizes patient value over the full continuum of care, arguing that value-based competition will drastically improve efficiency and quality.

Michael E. Porter and Elizabeth Olmsted Teisberg, *Redefining Health Care: Creating Value-Based Competition on Results* (Boston: Harvard Business School Press, 2006)

Improving Health Care: A Dose of Competition

A joint report by the FTC and the DOJ that examines the role of healthcare market competition in addressing the many issues facing the U.S. healthcare system, as well as the role of antitrust enforcement in protecting healthcare competition.

"Improving Health Care: A Dose of Competition," Federal Trade Commission and the Department of Justice (July 2004)

United States Department of Health and Human Services (HHS)

"The Department of Health and Human Services (HHS) is the United States government's principal agency for protecting the health of all Americans and providing essential human services." HHS has 11 agencies, among which are the Centers for Medicare and Medicaid Services

(CMS), Indian Health Services (IHS), the Office of the Inspector General (OIG), and the National Institutes of Health (NIH).

"About HHS," Department of Health and Human Services, http://www.hhs.gov/about/ (accessed October 6, 2009)

http://www.hhs.gov/

Centers for Medicare and Medicaid Services (CMS)

The Centers for Medicare and Medicaid Services administer the Medicare, Medicaid, and CHIP programs. CMS is responsible for setting reimbursement rates under Medicare and Medicaid. The CMS website contains important information for beneficiaries of these programs, as well as for guidelines for providers.

"Mission, Vision & Goals: Overview," Centers for Medicare and Medicaid Services, U.S. Department of Health and Human Services, http://www.cms.hhs.gov/MissionVisionGoals/ (accessed September 22, 2009)

http://www.cms.hhs.gov

United States Department of Health and Human Services (HHS) Office of Inspector General (OIG)

The Office of the Inspector General of the United States Department of Health and Human Services oversees all HHS programs in order to protect the integrity of the programs and the health and welfare of beneficiaries.

"Office of the Inspector General," U.S. Department of Health and Human Services, http://oig.hhs.gov/ (accessed September 22, 2009)

http://oig.hhs.gov/

4.9 ACRONYMS

Acronym	Full Title
AAH	American Association of Homecare
AAMC	Association of American Medical Colleges
ACA	Patient Protection and Affordable Care Act
ACO	Accountable Care Organization
AMA	American Medical Association
ASC	Ambulatory Surgery Center
ASP	Average Sales Price
ASTC	Ancillary Services and Technical Component
AWP	Average Whole Sale Price

CCIIO	The Center for Consumer Information and Insurance Oversight
CHAMP	Children's Health and Medicare Protection Act
CON	Certificate of Need
CPT	Current Procedural Terminology
DMEPOS	Durable Medical Equipment, Prosthetics, Orthotics, and Supplies
DOJ	Department of Justice
DRG	Diagnosis Related Group
EHO	Emerging Healthcare Organization
EHR	Electronic Health Record
EMTALA	Emergency Medical Treatment and Labor Act
FTC	Federal Trade Commission
GDP	Gross Domestic Product
GMENAC	Graduate Medical Education National Advisory Committee
HDHP	High Deductible Health Plan
HHS	U.S. Department of Health and Human Services
HIE	Health Insurance Exchange
HIT	Health Information Technology
HMO	Health Maintenance Organization
HSA	Health Savings Account
IDTF	Independent Diagnostic Testing Facility
MedPAC	Medicare Payment Advisory Commission
MLR	Medical Loss Ratio
MMA	Medicare Prescription Drug, Improvement, and Modernization Act
MPFS	Medical Physician Fee Schedule
OIG	Office of the Inspector General
OPPS	Outpatient Prospective Payment System
PBM	Pharmaceutical Benefit Management
PCMH	Patient Centered Medical Home
PCP	Primary Care Physician
POF	Physician-Owned Facility
PPO	Preferred Provider Organization
PPS	Prospective Payment System
RBRVS	Resource Based Relative Value Scale
SGR	Sustainable Growth Rate
SSH	Specialty Service Hospital
VBP	Value-Based Purchasing

CHAPTER 5

Technology

Furthermore, science and Western medicine are associated with technology and innovation. The idea that "new" means "improved" and that "cutting-edge" implies "better" greatly affects the way in which Americans view medical interventions.

—William Wiist, *The Bottom Line on Public Health*[1]

5.1 OVERVIEW

Technology has a broad meaning when applied to healthcare. It can range from the tangible tools, pharmaceuticals, and software that providers use during the provision of clinical services and the management of patient records to the procedures that constitute the standardized course of care. The word itself comes from the Greek *tekhnologia*, meaning "systematic

[1]William H. Wiist, ed., *The Bottom Line on Public Health* (New York: Oxford University Press, 2010), p. 204.

treatment." While the scope of technology has changed dramatically since the seventeenth century, the concept of *technology* still resembles its origins.[2]

Healthcare technology has been evolving since the beginning of medical science. For more information on the evolution of medical science, see Chapter 1, "Chronology of U.S. Healthcare." A time line of technological innovations is illustrated in Exhibits 5.1 through 5.3.[3]

---

[2] *Merriam-Webster's Collegiate Dictionary*, 10th ed. (Springfield, MA: Merriam-Webster, 1999), p. 1210.

[3] Irvine Loudon, *Western Medicine: An Illustrated History* (New York: Oxford University Press, 1997), pp. 118–133; Judy Lindsay, *The Story of Medicine: From Acupuncture to X-Rays* (New York: Oxford University Press, Inc., 2003); Alexandra Nikolchev, "A Brief History of the Birth Control Pill," Public Broadcasting System, May 7, 2010, http://www.pbs.org/wnet/need-to-know/health/a-brief-history-of-the-birth-control-pill/480/ (accessed September 27, 2012); D. N. Matthews, "A Tribute to the Services of Sir Archibald McIndoe to Plastic Surgery," Royal College of Surgeons of England, November 24, 1966, pp. 403–404; Robert D. Simoni, et al., "The Discovery of Insulin: The Work of Frederick Banting and Charles Best," *Journal of Biological Chemistry* 277, no. 15 (June 28, 2002); Sandra Blakeslee, "Willem Kolff, Doctor Who Invented Kidney and Heart Machines, Dies at 97," *New York Times*, February 12, 2009; Bart Grob, "Willem Einthoven and the Development of the String Galvanometer. How an Instrument Escaped the Laboratory," *History and Technology* 22, no. 4 (December 2006): 369–390; "Iron Lung: 1929 Drinker Respirator," University of Virginia, Historical Collections at the Claude Moore Health Sciences Library, http://historical.hsl.virginia.edu/ironlung/pg4.cfm (accessed September 27, 2012); Daniel S. Berman, "Nuclear Cardiology Adopts Hybrid and Dynamic Imaging," *Diagnostic Imaging*, October 2006, http://www.diagnosticimaging.com/display/article/113619/1193342 (accessed February 10, 209); Young Tae Kim, et al., "Robotic Surgery in Gynecologic Field," *Yonsei Medical Journal*, December 31, 2008, http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2628037/ (accessed September 27, 2012); Seema Jayachandran, et al., "Modern Medicine and the 20th Century Decline in Mortality: New Evidence on the Impart of Sulfa Drugs," *American Economic Journal: Applied Economics* 2, no. 2 (April 2010); Sue Pearson, Hepeng Jia, and Keiko Kandachi, "China Approves First Gene Therapy," *Nature Biotechnology* 22, no. 1 (January 2004): 3, http://www.nature.com/nbt/journal/v22/n1/full/nbt0104-3.html (accessed September 26, 2012); Iwao M. Moriyama, et al., "History of the Statistical Classification of Diseases and Causes of Death," Centers for Disease Control and Prevention, 2011, pp. 13, 21; Tufts Medical Center, "How the Gamma Knife Works—Gamma Knife History," http://www.tuftsmedicalcenter.org/OurServices/SpecialServicesandCenters/BostonGammaKnifeCenter/HowGammaKnifeWorks-GammaKnifeHistory (accessed September 26, 2012); Radiological Society of North America, "Introduction to Cancer Therapy (Radiation Oncology)," R*adiologyInfo*,

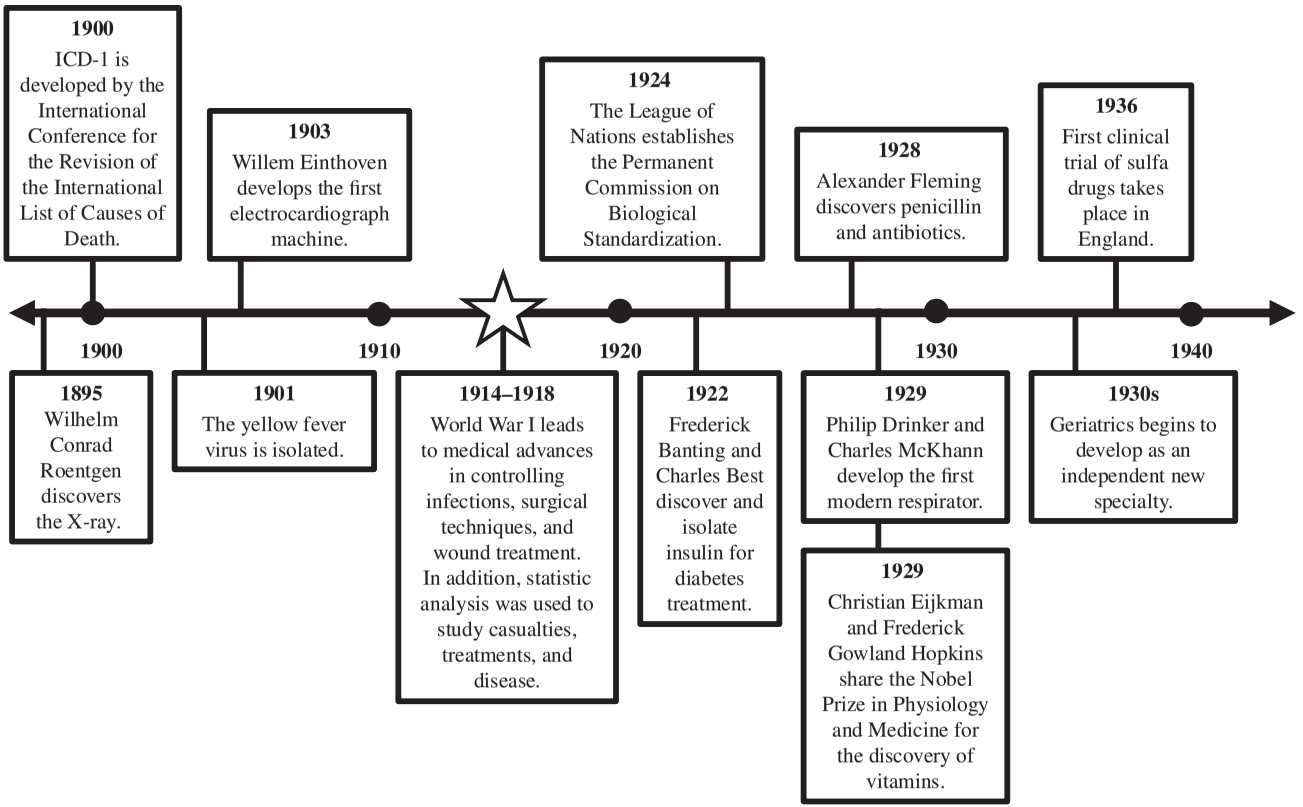


EXHIBIT 5.1 Milestones of Technological Innovations: 1895–1940

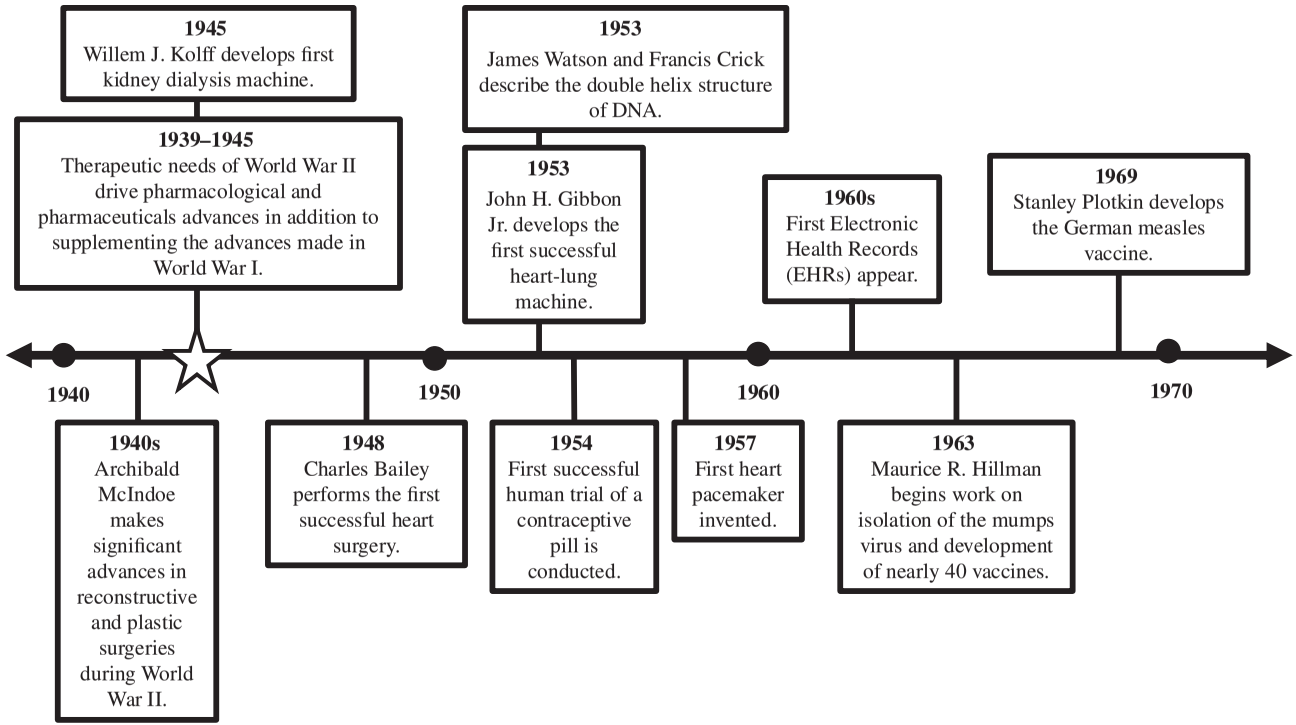


EXHIBIT 5.2 Milestones of Technological Innovations: 1940–1970

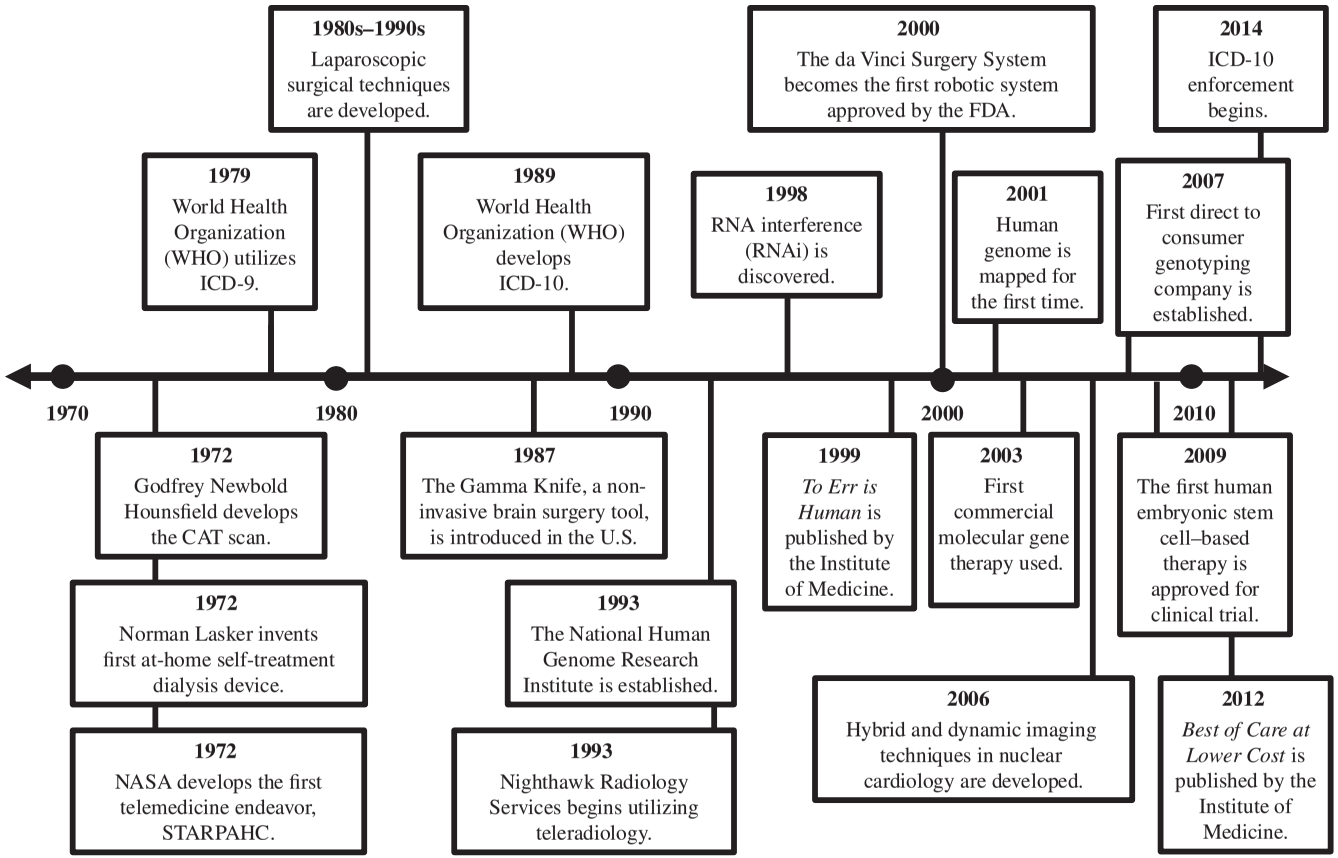


EXHIBIT 5.3 Milestones of Technological Innovations: 1970–2014

Medical technologies experienced a drastic increase in the rate of development resulting from the innovations discovered during World War II (WWII). WWII was an "*industrial*," or factory war, resulting in industrialized countries, especially the United States, producing infinitely expendable machines to feed their war efforts.[4] The lasting global impact of the atrocities of WWII led to a variety of responses among developed countries as to the ethical and philosophical implications of technology.[5] While European nations developed healthcare delivery systems that focused on access, the United States took on a more conservative approach that saw the boom in technology as a neutral tool that could be used for the betterment, or the destruction, of humanity.[6] To correct for the more politically "*unethical utilization choices*" made during WWII, the United States instituted reactive bodies and agencies to assess technologies, for example, ethics committees. With the ethical dilemmas addressed, the United States aggressively used technological innovations as a significant element in the advancement of healthcare delivery.

The industrialization of manpower following WWII included the industrialization of medicine. The decades following WWII saw medical advances, such as *penicillin*, resulting in decreases in infectious disease rates, increases in life expectancy, decreases in infant mortality rates, and decreases in deaths from cardiovascular diseases. Pharmaceutical advances resulted in continual new discoveries, and by the 1990s, 35 percent of the 200 largest-selling prescriptions

---

June 10, 2009, http://www.radiologyinfo.org/en/info.cfm?pg=intro_onco (accessed June 26, 2009); National Foundation for Cancer Research, "Timeline: A History of Area Medical Innovations," June 8, 2011, http://www.nfcr.org/?option=com_content&view=article&id=1186&Itemid=283 (accessed September 26, 2012); "Electronic Health Records Overview," MITRE Center for Enterprise Modernization, to National Institutes of Health, National Center for Research Resources, McLean, VA: MITRE, April 2006, p. 2; Nancy Brown, "Telemedicine 101: A Brief History of Telemedicine," Telemedicine Information Exchange, May 30, 1995; Mark Smith, et al., *Best Care at Lower Cost: The Path to Continuously Learning Health Care in America* Institute of Medicine (Washington, DC: National Academics Press, 2012), (prepublication copy–uncorrected page proofs); "Administrative Simplification: Adoption of a Standard for a Unique Health Plan Identifier; Addition to the National Provider Identifier Requirements; and a Change to the Compliance Date for the International Classification of Diseases, 10th Edition (ICD-10-CM and ICD-10-PCS) Medical Data Code Sets: Final Rule," 45 CFR Part 162 (Pre-*Federal Register* Publication), August 24, 2012.

[4] Don Ihde, "Philosophy of Technology," in *Philosophical Problems Today: Volume 3: World and Worldhood*, ed. Peter Kemp (Norwell, MA: Springer, 2004), p. 97.

[5] Ibid.

[6] Ibid., p. 99.

in the United States were new drugs.[7] The post-WWII era also saw impressive growth in federal funding for biomedical research and medical education.[8]

All of these advances were not without related costs. Decreased mortality rates led to a longer life expectancy, resulting in increased medical costs for care of an aging geriatric population. Technological advances themselves put a drastic increased burden on medical costs, with technological changes being a significant factor in the continued growth of health expenditures.[9] The United States exhibits an intensive technologically focused style in the practice of medicine that is unseen elsewhere.[10] In the United States, technology-driven medicine is perceived as a source of professional prestige, with society generally favoring the application by providers of even more advanced medical technologies.[11] The focus on using new, costly technologies has led to intense debate as to whether the effects of such new technologies are worth the high cost, especially in light of the recent global recession and increasing U.S. deficits.

The struggle of the healthcare system to fund emerging technologies in the capital environment is the result of multiple factors, including the recent economic downturn of indefinite duration, the failure of the market to rebound to prerecession levels, the uncertainty surrounding the state of healthcare reform, limited access to capital, and ongoing issues related to reimbursement.[12] Despite the recession, recent data suggests that healthcare leaders are still committed to capital spending and may remain confident that they will be able to secure funding for future projects.[13] *Premier, Inc.* reported in a 2011 survey that 69 percent of healthcare organizations had a capital budget that had remained stable or increased from the previous

---

[7] Annetine Gelijns and Nathan Rosenberg, "The Dynamics of Technological Change in Medicine," *Health Affairs* 13, no. 3 (1994): 36; Burton A. Weisbrod, "The Health Care Quadrilemma: An Essay on Technological Change, Insurance, Quality of Care, and Cost Containment," *Journal of Economic Literature* 29, no. 2 (June 1991): 523.

[8] Annetine Gelijns and Nathan Rosenberg, "The Dynamics of Technological Change in Medicine," *Health Affairs* 13, no. 3 (1994): 33.

[9] Ibid., 29; Joseph P. Newhouse, "Medical Care Costs: How Much Welfare Loss?" *Journal of Economic Perspectives* 6, no. 3 (Summer 1992): 3–21.

[10] Annetine Gelijns and Nathan Rosenberg, "The Dynamics of Technological Change in Medicine," *Health Affairs* 13, no. 3 (1994): 34.

[11] Ibid.

[12] Karen Minich-Pourshadi, "2011 Capital Spend: EMR Dominates Budgets," *HealthLeaders Media Intelligence Report*, March 2011, p. 3.

[13] Ibid., pp. 8, 11.

year.[14] Of those surveyed, most organizations indicated that their future spending would be directed toward information technology and telecommunications.[15] A similar survey conducted by *HealthLeaders Media* indicated that 39 percent of healthcare organizations anticipate that they will allocate most of their 2012 capital funds to new medical technologies, including *electronic medical record* (EMR) systems[16] (see Chapter 9, "Costs and Sources of Capital," for a further discussion of healthcare capital financing).

5.2 MANAGEMENT TECHNOLOGY

Demand for healthcare services is expected to increase dramatically in the coming years, as (1) *access improves*, (2) the *general population grows*, (3) the number of individuals *over the age of 65 increases*, and (4) the *physician shortage worsens*.[17] Particularly in 2014, when an anticipated 22 million individuals enter the insurance market under the *individual mandate*, providers will have to implement *methods of managing* added patient throughput.[18] This anticipated growth in demand is a significant driver of more sophisticated *patient management technologies*, as well as the *infrastructure* for *gathering* and *interpreting quality and outcomes data* to support *evidence-based performance metrics* as the foundation for *value-based reimbursement*. The demand for *management technology* vis-à-vis the current U.S. healthcare delivery system was characterized in the *2012 Futurescan Report* as

> *The healthcare industry cannot bend the cost and quality curve without relentless technology-enhanced innovation—a constant stream of new ideas, new methods, and new ways of providing and*

[14] Premier, Inc., "Behind the Numbers: Financial and Economic Trends Impacting Our Members," *Economic Outlook: A Twelve Month Outlook* (Charlotte, NC: Premier, September 2011), p. 48.

[15] Ibid., p. 51.

[16] Karen Minich-Pourshadi, "2011 Capital Spend: EMR Dominates Budgets," *HealthLeaders Media Intelligence Report*, March 2011, p. 8.

[17] U.S. Census Bureau, "Population," in *Statistical Abstract of the United States: 2012*, 131st ed., Washington, D.C., 2011, p. 9; National Institute on Aging, "Why Population Aging Matters: A Global Perspective," National Institute of Health, the United States Department of Health and Human Services, http://www.nia.nih.gov/sites/default/files/WPAM.pdf (accessed May 14, 12); "Physician Shortages to Worsen without Increases in Residency Training," Association of American Medical Colleges,2010,https://www.aamc.org/download/286592/data/physicianshortage.pdf (accessed August 2, 2012).

[18] Centers for Medicare and Medicaid Services, *National Health Expenditure Projections: 2011–2021*, 2011, p. 1.

> *payment for care. Such innovation will be most effective if it comes from healthcare executives and clinicians "in the trenches" who are no longer willing to do things in ways that clearly have been shown not to work.*[19]

Management technologies include (1) the *processes* and *procedures* through which providers organize *patient encounters*, *charge entry*, and the *billing process*; as well as (2) the *software* and *devices* that support these endeavors. Although there are numerous methods through which a healthcare entity may choose to approach *management*, the most publicized involve the *interoperable exchange* and *consolidation* of *patient data* and *treatment standards*. While most of the current *management systems* are implemented as a single package, many contain (1) *electronic health records* (EHRs), (2) *computerized physician order entry* (CPOE), and (3) *billing* components.

5.2.1 Technology as "Process"

Typically, the term "*medical technology*" brings to mind images of large industrial machines or complex computer programs used to organize and track patient data. While this chapter focuses on *management* and *clinical technologies*, the term *healthcare technology* goes beyond the simple hardware and software used by providers and includes such intangible concepts as *healthcare processes*.

Process technologies can affect the manner and structure by which healthcare is *delivered* and *measured* on both a *clinical* and a *management* level, including *treatment protocols*, *care mapping*, and *case management*. For example, a three-year study of a pediatric intensive care unit found that more stringent hand hygiene, oral care, and central-line catheter care protocols reduced hospital-acquired infections, and associated healthcare costs, as patients spent an average of 2.3 fewer days in the hospital.[20]

Management protocols aim to reduce healthcare spending without lowering the level of quality care delivered by establishing protocols that allow providers to appropriately identify those procedures in which the expected treatment benefits to the patient are outweighed by the costs of delivering

---

[19] Kenneth Kaufman and Mark E. Grubs, *Futurescan 2012: Healthcare Trends and Implications 2012–2017*, Chapter 1: "Healthcare Reform: The Transformation of America's Hospitals: Economics Drives a New Business Model," VHA Inc., Irving, Texas (2012), pp. 8–9.

[20] Bradford D. Harris, et al., "Strict Hand Hygiene and Other Practices Shortened Stats and Cut Costs and Mortality in a Pediatric Intensive Care Unit," *Health Affairs* 30, no. 9 (September 2011): 1756.

such care, including early prostate cancer detection testing, routine EKGs, or yearly Pap smears.[21] In addition to the voluntary utilization of such *management technologies* by providers, payors may also influence providers in this regard. For example, in 2008, Medicare began withholding payments for the treatment of conditions arising from 28 "*never events,*" defined by the *National Quality Forum* (NQF) as serious medical errors, such as performing the wrong surgical procedure; product or device events, such as contaminated drugs or devices; and criminal events, such as abduction of a patient.[22]

While not specifically defining the concept of technology as process, the *2012 Institute of Medicine Report* titled *Best Care at Lower Cost: The Path to Continuously Learning Health Care in America* nevertheless recommended several steps to facilitate the development of relationships between technology and providers if the U.S. healthcare delivery system is to learn from its past errors, stating that "[t]o achieve a learning healthcare system, digital technology developers need to play the following roles:

- Ensure that electronic health record systems and other digital technologies capture and deliver the core data elements needed to support knowledge generation;
- Partner with patients, the delivery system, insurers, researchers, innovators, regulators, and other stakeholders;
- Collaborate in the development of core data sets for different diseases and conditions to support clinical care, improvement, and research;
- Develop tools that assist individuals in managing their health and health care and that provide opportunities for building communities to support patient efforts;
- Consider interoperability and integration in clinical workflows in designing digital health systems.[23]

---

[21] Henry J. Aaron and Paul B. Ginsberg, "Is Health Spending Excessive? If So, What Can We Do about It?" *Health Affairs* 28, no. 5 (September/October 2009); Elisabeth Rosenthal, "Let's (Not) Get Physicals," *New York Times*, June 2, 2012.

[22] Henry J. Aaron and Paul B. Ginsberg, "Is Health Spending Excessive? If So, What Can We Do about It?" *Health Affairs* 28, no. 5 (September/October 2009); Herb B. Kuhn, "State Medical Director Letter," Centers for Medicare and Medicaid Services, to State Medical Director, July 31, 2008, http://downloads.cms.gov/cmsgov/archived-downloads/SMDL/downloads/SMD073108.pdf (accessed October 7, 2012); The Leapfrog Group, "Never Event Fact Sheet," March 2008, http://www.leapfroggroup.org/media/file/Leapfrog-Never_Events_Fact_Sheet.pdf (accessed February 8, 2011).

[23] Mark Smith, et al., *Best Care at Lower Cost: The Path to Continuously Learning Health Care in America,* Institute of Medicine (Washington, DC: The National Academics Press, 2012), (prepublication copy–uncorrected page proofs).

Furthermore, the *2012 IOM Report* emphasized the importance of maintaining a "*digital infrastructure*" as the backbone for healthcare delivery in the United States, recommending that the U.S. healthcare system should "Improve the capacity to capture clinical, care delivery process and financial data for better care, system improvement, and the generation of new knowledge. Data generated in the course of care delivery should be digitally collected, compiled and protected as a reliable and accessible resource for care management, *process improvement*, public health, and the generation of new knowledge."[24] [Emphasis added.]

5.2.2 Electronic Health Records

Individual healthcare providers are responsible for *collecting*, *maintaining*, and *analyzing* patient data during the course of each *patient encounter*.[25] Electronic patient records may avoid some of the pitfalls of *paper records*, for example, (1) *wasted resources*, (2) *storage concerns*, (3) *misplacement*, and (4) *retrieval issues*. Furthermore, *paper records* do not allow for the efficient search for the requisite data extraction and analysis of voluminous *patient clinical*, *demographic*, and *financial information*.[26] Unlike *paper records*, most *electronic record systems* can be electronically and instantly *searched*, *categorized*, and *analyzed*, thereby improving providers' ability to offer more *informed treatment plans* to patients.[27] Although *electronic record systems* have been in the market for more than a decade, the *prevalence* of these systems has been low, until recent promotion under various *health reform efforts* and *legislations*. Electronic health record systems come in a variety of forms with small, but important, differences.

Of note, there is a distinction between an *electronic medical record* (EMR) and an *electronic health record* (EHR), although the two terms are often incorrectly treated as synonyms. Both terms refer to the *electronic collection* and *management* of *health related information*; however, EHRs are subject to additional *regulatory scrutiny* and *interoperability*

[24] Ibid.

[25] "Defining Key Health Information Technology Terms," National Alliance for Health Information Technology, to the National Coordinator for Health Information Technology, Department of Health and Human Services, April 28, 2008, p. 16.

[26] Medical Systems Development Corporation, "Benefits of EMR," 2003, http://msdc.com/EMR_Benefits.htm (accessed August 13, 2009).

[27] "Defining Key Health Information Technology Terms," National Alliance for Health Information Technology, to the National Coordinator for Health Information Technology, Department of Health and Human Services, April 28, 2008, p. 16.

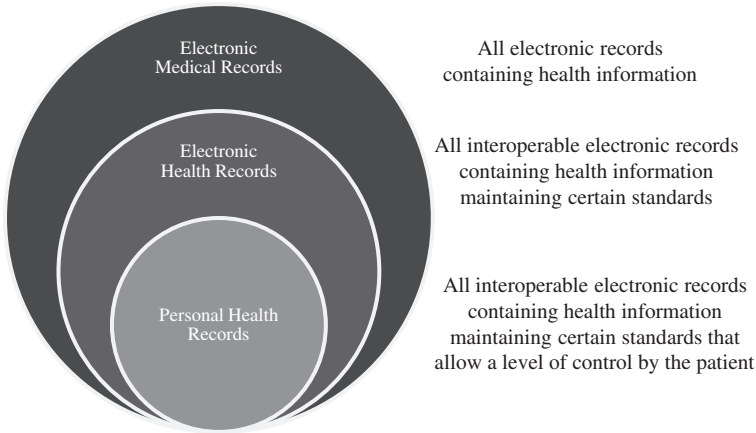


EXHIBIT 5.4 Scope of Electronic Record Systems
Defining Key Health Information Technology Terms by the National Alliance for Health Information Technology, to the National Coordinator for Health Information Technology—Department of Health and Human Services, April 28, 2008, p. 15.

standards, that is, *meaningful use* (discussed later). Both terms can be juxtaposed with *personal health records* (PHRs), another related but distinct term that describes an *electronic record system* that is controlled by the *patient*, in contrast to the *provider*.[28] For the purposes of this book, to note the importance of *interoperability* in regards to *regulation*, *funding*, and *emerging healthcare initiatives*, our discussion will be focused on EHRs and PHRs. The varying scopes of these terms are illustrated in Exhibit 5.4.

Electronic Medical Record (EMR)

An electronic record of health-related information on an individual that can be created, gathered, managed, and consulted by authorized clinicians and staff *within one health care organization*.

"Table 5: Electronic Health Records Definitions," in Defining Key Health Information Technology Terms, *by the National Alliance for Health Information Technology, to the National Coordinator for Health Information Technology—Department of Health and Human Services, April 28, 2008, p. 15.*

[28] Ibid., p. 15.

Electronic Health Record (EHR)

An electronic record of health-related information on an individual that comes to nationally recognized interoperability stands and that can be created, managed, and consulted by authorized clinicians and staff *across more than one healthcare organization.*

"Table 5: Electronic Health Records Definitions," in "Defining Key Health Information Technology Terms," *by the National Alliance for Health Information Technology, to the National Coordinator for Health Information Technology—Department of Health and Human Services, April 28, 2008, p. 15.*

Personal Health Record (PHR)

An electronic record of health-related information on an individual that conforms to nationally recognized standards and that can be drawn from multiple source while being managed, shared, and controlled by the individual.

"Table 5: Electronic Health Records Definitions," in "Defining Key Health Information Technology Terms," by the National Alliance for Health Information Technology, to the National Coordinator for Health Information Technology—Department of Health and Human Services, April 28, 2008, p. 19.

Through the use of EHRs, *providers* can create and maintain a complete record of a clinical patient encounter, as well as supporting other care-related activities, including evidence-based decision support, quality management, and outcomes reporting.[29] Enabled by advances in computers and electronic communication, EHRs compile observations, test results, and narratives by multiple providers in one location, which allows for communication among different providers in the treatment of a patient.[30] Facilities that use EHR systems increase the efficiency at which practitioners can file, manage, organize, and find their patients' demographic data, progress notes, problems, medications, vital signs, past medical histories, immunizations, laboratory

[29] Health Information Management System Society, "Electronic Health Record," http://www.himss.org/ASP/topics_ehr.asp (accessed June 22, 2009).

[30] "Defining Key Health Information Technology Terms," National Alliance for Health Information Technology, to the National Coordinator for Health Information Technology, Department of Health and Human Services, April 28, 2008, p. 17.

data, and radiology reports.[31] If presented in a simple, user-friendly interface, EHRs have the potential to improve the ability of providers to make diagnosis, treatment, and health management decisions.[32]

5.2.2.1 Trends in EHR Utilization The first EHRs were adopted in the 1960s, but many healthcare providers at the time did not view updates to their "*anachronistic*" medical record systems as a priority.[33] Modern EHR systems are based on the research and pilot testing conducted in academic medical centers, developed for use by governmental clinical care organizations. Some noteworthy attempts in EHR development are set forth in Table 5.1.

Early attempts to design and implement EHR technology faced several challenges, and while improvements have been made, significant difficulties remain, impeding the pace of more widespread acceptance and efficiencies. The status of EHR implementation, as of 2011, is set forth in Table 5.2.

Of note, the *Healthcare Information and Management Systems Society* (HIMSS) survey, cited for Table 5.2, discontinued reporting EHR status in 2012.[34]

Since 2001, the number of office-based physicians who used EHR systems has increased from 18 percent to 51 percent in 2010, 57 percent in 2011. Despite only 33.9 percent of those EHR systems used by office-based physicians being considered "*basic*" under *meaningful use standards*, 52 percent of physicians planned to apply for *meaningful use* incentives in 2011, up from 41 percent in 2010.[35] The states with the greatest percentage of office-based physicians using EHR systems include (1) North Dakota, 84 percent; (2) Utah, 80.8 percent; (3) Minnesota, 77.6 percent;

[31] "Electronic Health Record," Health Information Management System Society, http://www.himss.org/ASP/topics_ehr.asp (accessed June 22, 2009).

[32] "Defining Key Health Information Technology Terms," National Alliance for Health Information Technology, to the National Coordinator for Health Information Technology, Department of Health and Human Services, April 28, 2008, p. 17.

[33] "Electronic Health Records Overview," MITRE Center for Enterprise Modernization, to National Institutes of Health, National Center for Research Resources, McLean, VA: MITRE, April 2006, p. 2.

[34] Healthcare Information and Management Systems Society, *2012 HIMSS Leadership Survey: Senior IT Executive Results*, February 21, 2012.

[35] Chun-Ju Hsiao, et al., "Electronic Health Record Systems and Intent to Apply for Meaningful Use Incentives among Office Based Physician Practices: United States, 2001–2011," Department of Health and Human Services, NCHS Data Brief no. 79, November 2011, p. 1.

TABLE 5.1 Notable Precursors of EHR Technology[36]

Year	Program	Developer	Impact
1960s–1970s	Technicon Data System (TDS)	Lockheed and El Camino Hospital	Processing speed and flexibility let multiple users into the system at one time.
1960s	Health Evaluation through Logical Processing (HELP)	University of Utah and Latter-Day Saints Hospital (brought to market by the 3M Corporation)	One of the first clinical decision-support programs.
1968–1975	Computer-Stored Ambulatory Record (COSTAR)	Harvard University and Massachusetts General Hospital	Compartmentalized design increased efficiency, flexible vocabulary accounted for terminology variations, and was first to be made available in public domain.
1970s	Decentralized Hospital Computer Program (DHCP)	U.S. Department of Veterans' Affairs	First time the federal government began using EHR.
1983	THERESA	Emory University and Grady Memorial Hospital	First system to encourage direct physician data entry.
1986	The Medical Record (TMR)	Duke University Medical Center	Made data easy to manipulate and sort for ease of reference, giving way to Duke's Health Information System.
1988	Composite Health Care System (CHCS)	U.S. Departments of Defense	Renowned for lowering medical errors integrating various health record components.

[36] "Electronic Health Records Overview," MITRE Center for Enterprise Modernization, to National Institutes of Health, National Center for Research Resources, McLean, VA: MITRE, April 2006, p. 2; Jim Atherton, "History of Medicine: Development of the Electronic Health Record," *American Medical Association Journal of Ethics* 13, no. 3 (March 2011): 187; National Research Council, "Computer-Based Patient Record Technologies," *The Computer-Based Patient Record: An Essential Technology for Health Care*, rev. ed. (Washington, DC: National Academies Press, 1997), pp. 114–115, 117–118; Duke Center for Health Informatics, "History of Health Informatics at Duke,"

TABLE 5.2 Status of EHR Implementation (2009–2011)

Stage of Implementation	2009 Percentage	2010 Percentage	2011 Percentage
Not Yet Begun	5%	5%	2%
Developed a Plan	15%	12%	7%
Signed a Contract	2%	3%	2%
Begun to Install in One Facility	37%	32%	34%
Fully Operational in One Facility	24%	26%	26%
Fully Operational across Whole Organization	17%	22%	27%
Unknown	1%	1%	1%

20th Annual 2009 HIMSS Leadership Survey: Healthcare CIO Final Report, Healthcare Information and Management Systems Society, April 6, 2009, p. 24; "2011 HIMSS Leadership Survey: Senior IT Executive Results," Health Information and Management Systems Society, 2011, p. 27.

(4) Wisconsin, 75.8 percent; and (5) Washington, 75.3 percent. States with the lowest percentage of office-based physicians using EHR systems include (1) Louisiana, 39.5 percent; (2) New Jersey, 41.8 percent; (3) Rhode Island, 43.8 percent; (4) Alabama, 47.3 percent; and (5) Tennessee 48.2 percent.[37]

"MEANINGFUL USE"

Services of meaningful use will benefit from the recovery provisions (i.e., test exchange methods), reporting of the percentages of patients older than 50 screened for colorectal cancer and receiving annual mammograms.

"Fed Advisors Review 'Meaningful Use' Recommendations for Health IT," by Greg Freiherr, DiagnosticImaging, *June 16, 2009, http://www.diagnosticimaging.com/display/article/113619/1423016?CID=rss (accessed June 29, 2009).*

Durham, NC, 2010, p. 2, http://www.google.com/url?sa=t&rct=j&q=%22the%20medical%20record%22%20duke&source=web&cd=2&ved=0CFEQFjAB&url=https%3A%2F%2Fwww.dchi.duke.edu%2Fabout-us%2Fdchi-book%2FThe%2520evolution%2520of%2520Duke%2520systems.pdf&ei=5DT7T8akDYHs8wS0i4zXBg&usg=AFQjCNFpqc5cfDVHWXsDMsvNtN3i-tTGgA (accessed July 9, 2012).

[37] Ibid.

The adoption of the EHR system also appears to be creating a widening divide between specialists (32 percent) and primary care providers (41 percent), whereby significantly more primary care practices have implemented EHR systems that meet *meaningful use* criteria. Other discrepancies in EHR adoption include (1) *age*, that is, physicians age 45 and younger are 17 percent more likely to use an EHR system than are physicians age 55 and older; (2) *practice size*, that is, practices with 10 or more physicians are 42 percent more likely to use EHR systems than practices with 1 to 2 physicians; and (3) *ownership*, that is, practices owned by hospitals/health systems are more likely to adopt an EHR system than are those owned by a physician or a physician groups.[38] Outside of physician practices, EHR adoption seems to be further along, with 99 percent of physicians in *health maintenance organization* (HMOs) using EHRs in 2011, and 73 percent of physicians in *academic health centers* using EHRs in 2011.[39]

It is estimated that the cost of implementing a small-scale EHR system (for a small physician group practice) can equal approximately $162,000, with $85,000 in maintenance expenses in the first year.[40] Furthermore, accounting for the potential loss of productivity associated with the initial implementation may increase the cost of transitioning to an EHR system.[41] However, research suggests that physicians who use EHRs, with sophisticated Medicare coding support, could see a revenue increase of up to 30 percent over physicians who continue using paper records.[42] Some cardiology practices have already reported substantial EHR benefits, including improvements in lowering Medicare rejection rates; improvements in their days in accounts receivable; increased patient volume, without increasing staff; increased revenue; and reduction in transcription and postage costs.[43]

---

[38] Sandra L. Decker, et al., "Physicians in Nonprimary Care and Small Practices and Those Age 55 and Older Lag in Adopting Electronic Health Record Systems," *Health Affairs* 31, no. 5 (May 2012): 1109–1110.

[39] Ibid., p. 1111.

[40] Neil S. Fleming, et al., "The Financial and Nonfinancial Costs of Implementing Electronic Health Records in Primary Care Practices," *Health Affair* 30, no. 3 (2011): 481.

[41] Mukul Patil, Lalit Puril, and Chris M. Gonzalez, "Productivity and Cost Implications of Implementing Electronic Medical Records into a Ambulatory Surgical Subspecialty Clinical," *Urology* 71, no. 2 (2008), p. 177.

[42] Tom Doerr, "The Benefits of Evidence Based Medicine in EHR Systems," *EHR Scope*, Spring 2008, http://www.ehrscope.com/the-benefits-of-evidence-based-medicine-in-ehr-systems (accessed October 9, 2012).

[43] "GEMMS Mid-Carolina Cardiology: Q3 2006," *Future Healthcare*, 2006, http://www.futurehealthcareus.com/?mc=gemms-mid-carolina&page=card-viewarticle

Factoid

Physicians who use EHRs with sophisticated Medicare coding support could see a revenue increase of up to 30 percent more than doctors who continue using paper records.

"The Benefits of Evidence Based Medicine in EHR Systems," by Tom Doerr, EHR Scope *(Spring 2008).*

In addition to governmental incentives and requirements (discussed further), EHRs are imperative for current emerging value-based purchasing and evidence-based trends, for example, *accountable care organizations* (ACOs) and the *hospital value-based purchasing program*. Variations on, or extensions of, EHR systems facilitate the growth and success of such programs, in addition to furthering consumer-driven healthcare and accountability, as well as access to care.

5.2.2.1.1 Patient Health Records In 2010, the market for *personal health record* (PHR) software generated revenues of approximately $312.2 million. Market researcher *Frost & Sullivan* estimates that PHR software market revenue will reach approximately $414.8 million by 2015.[44] The anticipation of 5.8 percent compounded annual growth, during the next 4 years,

(accessed September 22, 2009) (Cardiology practice, MMC, stated that since the implementation of an EMR system, their rejection rate for Medicare claims has been reduced to 0.05 percent and their days in accounts receivable has dropped from 110 days to 34 days); Cardiology Practice Advisor, "How One Practice Made EMR Improve Workflow, Patient Care, & Revenue," Advisor Publications, May 2001, http://www.medinformatix.com/pdf/pr_Case_Studies_cardiology_Practice_advisor.pdf (accessed August 13, 2009) (stating that EMR has facilitated 25 percent patient increase without increase in staff, 35 percent more revenue, substantially improved Medicare denial rate, reduction in transcription and postage costs, and improved accounts receivable); Clear Technologies, "Cardiology Practice Raises the Level of Patient Care: Electronic Medical Records Prove to Pay at a Higher Rate than Paper Claims," 2004, http://www.comparecrm.com/crm-vendors/c2crm/case-studies/csant.pdf (accessed August 13, 2009) (stating that a cardiology practice in Texas has seen substantial improvements in Medicare and Medicaid reimbursements since implementation of EMR).

[44] Frost & Sullivan, "Personal Health Record Use Is Poised for a Significant Upswing, Finds Frost & Sullivan" July 11, 2011, http://www.frost.com/prod/servlet/press-release.pag?docid=237681098&gon1106A3=HCITMI1 (accessed October 11, 2012).

comes as a surprise in light of the rate at which caregivers have adopted the use of PHRs into their practice.

PHRs provide individuals with the means to *document*, *track,* and *evaluate* their health conditions to (1) *facilitate more informed healthcare decisions*, (2) *improve personal health status*, (3) *reduce costs*, and (4) *improve the quality of healthcare*.[45] A PHR is a digital record of one individual's personal health information. Although still in its early stages, the use of PHR gives a more complete and organized portrayal of an individual's health condition over time and allows patients to maintain their personal health information in one place and, should they wish, share recent health services or conditions with providers. Some PHRs also allow patients to refill prescriptions, schedule appointments, and email their provider(s).[46]

There are three forms of PHRs: (1) *Untethered*, (2) *Tethered*, and (3) *Payor-Tethered*.[47] *Untethered* PHRs are *electronic* or *paper systems* created and managed solely by the *patient*, in contrast to *tethered* PHRs, which are systems controlled by the healthcare provider and updated automatically by the physician-controlled EHR. *Tethered* PHRs restrict the patients from making changes to their records. *Payor-Tethered* PHR systems refer to those managed by a third party and primarily generated through the use of claims information, which allow the patient to manage limited demographic information.

Physicians have expressed some concern surrounding patient autonomy and healthcare records.[48] According to Matthew Wynia, MD, MPH, director at the *Institute for Ethics and Center for Patient Safety* at the *American Medical Association* in Chicago, as of February 2011, only 14 percent of the 856 responding physicians reported using PHRs on a daily basis, perhaps attributable to patient ignorance about the existence of such a program or

---

[45] "Defining Key Health Information Technology Terms," National Alliance for Health Information Technology, to the National Coordinator for Health Information Technology, Department of Health and Human Services, April 28, 2008, p. 17.

[46] U.S. Department of Health & Human Services, "Managing Your Health Information Online," http://www.medicare.gov/navigation/manage-your-health/personal-health-records/personal-health-records-overview.aspx?AspxAutoDetectCookieSupport=1 (accessed September 21, 2011).

[47] Jeff Byers, "Personal Health Records at the Crossroads," CMIO, August 25, 2011, http://www.cmio.net/index.php?option=com_articles&view=article&id=29256:personal-health-records-at-the-crossroads (accessed September 21, 2011).

[48] Agency for Healthcare Research and Quality, "Physicians' Unfamiliarity with Electronic Personal Health Records May Slow Their Adoption," June 2011, http://www.ahrq.gov/research/jun11/0611RA26.htm (accessed October 5, 2011).

the fact that 79 percent of physicians reported concerns with the validity of data retrieved from a PHR.[49] Allowing patients to manage and update their PHR may create opportunities for inaccuracies and errors that could potentially lead to errors in treatment. In addition to concerns regarding validity, physicians expressed other concerns, for example, tethered PHRs that are updated by the clinicians' EHR systems may send patients their lab results prior to physician review, presenting concerns surrounding the improper release of highly sensitive medical information and related potential risks such as breach of Internet security and identity theft.[50]

5.2.2.1.2 Patient Registries Patient registries are defined by the Agency for Healthcare Research and Quality as "an organized system that uses observational study methods to collect uniform data (clinical and other) to evaluate specified outcomes for a population defined by a particular disease, condition, or exposure, and that serves one or more predetermined scientific, clinical, or policy purposes."[51] Registries collect and "clean" patient data to allow the provision of population-based reports to participants by collecting and storing patient diagnosis data, generating output that facilitates individual patient care delivery and coordination, assisting in population management, and supporting essential research applications.[52]

5.2.2.2 American Recovery and Reinvestment Act of 2009 and Health Information Technology for Economic Clinical Health Act President Obama signed the *American Recovery and Reinvestment Act of 2009* (ARRA) into law on February 17, 2009, which allotted $19.2 billion to ensure that *every patient has a complete,*

---

[49] Matthew L Wynia, Gretchen Williams Torres, and Josh Lemieux, "Many Physicians Are Willing to Use Patients' Electronic Personal Health Records, but Doctors Differ by Location, Gender, and Practice," *Health Affairs* 30, no. 2 (2011): 269, 271.

[50] Jeff Byers, "Personal Health Records at the Crossroads," CMIO, August 25, 2011, http://www.cmio.net/index.php?option=com_articles&view=article&id=29256:personal-health-records-at-the-crossroads (accessed September 21, 2011); "2011 HIMSS Security Survey," HIMSS, November 2011, http://www.himss.org/content/files/2011_himss_securitysurvey.pdf (accessed October 11, 2012).

[51] Agency for Healthcare Research and Quality, *Registries for Evaluating Patient Outcomes: A User's Guide*, April 2007, http://www.effectivehealthcare.ahrq.gov/repFiles/PatOutcomes.pdf (accessed August 1, 2012), p. 7.

[52] High-Value Health Care Project, "How Registries Can Help Performance Measurement Improve Care," June 2010, http://www.himss.org/content/files/Line%20147%20%20How%20Registries%20Can%20Help%20Performance%20Measurement%20Improve%20Care.pdf (accessed August 1, 2012), p. 6.

interoperable EHR by 2014.[53] The net return of this investment was anticipated to include long-term cost savings, improved outcomes, and increased ease of communication between physicians. In an effort to incentivize the implementation of EHR use, beginning in 2011, reimbursement funding increased for Medicare and Medicaid providers (up to $65,000 per physician and $11 million per hospital) who use EHRs.[54] Conversely, in 2015, physicians who are not using EHRs will be penalized through reduced reimbursement.[55]

The ARRA established both the *Health Information Technology for Economic and Clinical Health Act* (HITECH) and an *Office of National Coordinator for Health Information Technology* (ONC) within the *Department of Health and Human Services* (HHS).[56] HITECH requires Medicare providers to obtain "*meaningful use*" of EHR by the end of 2014 to avoid reimbursement penalties and provides both financial incentives and programmatic support to overcome obstacles that have previously kept providers from adopting some form of an electronic record system.[57]

Factoid

The ARRA allotted $19.2 billion to ensure that each American has a complete, interoperable EHR by 2014.

"Healthcare and the American Recovery and Reinvestment Act," by Robert Steinbrook, MD, New England Journal of Medicine *(March12, 2009), http://content.nejm.org/cgi/content/full/NEJMp0900665 (accessed February 20, 2009).*

[53] Macon Phillips, "Signed, Sealed, Delivered: ARRA," The White House, February 17, 2009, http://www.whitehouse.gov/blog/09/02/17/signed-sealed-delivered-arra (accessed May 15, 2012).

[54] Robert Steinbrook, "Health Care and the American Recovery and Reinvestment Act," *New England Journal of Medicine* 360, no. 11 (March 12, 2009): 3.

[55] "Department of Health and Human Services," President Obama's 2010 Budget, The White House, p. 68, http://www.whitehouse.gov/omb/assets/fy2010_new_era/Department_of_Health_and_Human_Services1.pdf (accessed October 10, 2012).

[56] Specific provisions of the ARRA, namely, Title IV of Division B and Title XIII of Division A, are collectively known as the Health Information Technology for Economic and Clinical Health Act (HITECH Act). "Office of the National Coordinator for Health Information Technology," 42 U.S.C. § 300JJ-11 (July 9, 2010); "American Recovery and Reinvestment Act of 2009, Sec. 13101," *Pub. L.* 111-5, 123 Stat 115 (February 17, 2009), pp. 226, 230–234.

[57] "American Reinvestment and Recovery Act, Sec. 13101," *Pub. L.* 111-5, 123 Stat 115 (February 7, 2009), p. 231; Paul Tang, "Meaningful Use of Health Information Technology: From Public Policy to Changing Care," *Future Scan 2011: Healthcare Trends and Implications 2011–2016*, 2011, p. 33.

Under HITECH, the *HIT Policy Committee* was established for the purpose of developing a framework to be used by CMS to decide whether a provider has met the "*meaningful use*" requirements.[58] The framework established by the *HIT Policy Committee* consists of five categories (four clinical and one foundational), including (1) improving the *quality*, *safety*, and *efficiency* of healthcare to *reduce healthcare disparities*; (2) *engaging patients* and families; (3) improving *care coordination*; (4) improving population and *public health*; and (5) ensuring *privacy and security of health information*.[59]

For both Medicare and Medicaid healthcare providers to qualify for HITECH incentives, they must demonstrate fulfillment of three requirements for "*meaningful use*" of EHRs:

1. *Use of certified EHR technology in a meaningful manner (for example, electronic prescribing);*
2. *That the certified EHR technology is connected in a manner that provides for the electronic exchange of health information to improve the quality of care; and*
3. *That, in using certified EHR technology, the provider submits . . . information on clinical quality measures and such other measures selected by the Secretary.*[60]

Medicaid also requires that healthcare providers receiving incentives under HITECH must indicate efforts to "*adopt, implement, or upgrade certified EHR*

Factoid

Between 2004 and 2005, the agency for healthcare research and quality awarded more than $166 million in funding for health IT, much of which focused on the implementation and evaluation of CPOE. Today, funding is tied to meaningful use through the HITECH Act.

"Inpatient Computerized Provider Order Entry (CPOE): Findings from the AHRQ Health IT Portfolio," by Brian E. Dixon and Atif Zafar, U.S. Department of Health and Human Services, Agency for Healthcare Research and Quality, January 2009, http://healthit.ahrq.gov/images/jan09cpoerport/cpoe_issue_paper.htm (accessed June 22, 2009), p.2.

[58] Ibid.

[59] Ibid.

[60] "Medicare and Medicaid Programs; Electronic Health Record Incentive Program; Final Rule," *Federal Register* 75, no. 144 (July 28, 2010): 44326–66327.

technology" wherever possible.[61] States also reserve the right to implement additional requirements for "*meaningful use*" beyond the minimum standard upheld by Medicare, which will undergo additional changes as definitions for "*certified EHR technology*" and a "*qualified EHR*" are finalized.[62]

5.2.2.2.1 Meaningful Use "*Meaningful use*" is the vague standard named by CMS to determine whether providers are eligible for EHR implementation incentive payments under the *Medicare and Medicaid Electronic Health Record Incentive Program*. *Meaningful use* is an evolving term with three stages. Since the program's inception in 2011, more than 3,300 hospitals and 120,000 eligible healthcare professionals have qualified for participation, exceeding the government's target by approximately 23,000 individuals.[63] To date, only Stage 1 has been implemented; however, the Final Rule for Stage 2 was published on September 2, 2012.

According to the latest HIMSS survey of healthcare IT executives, achieving *meaningful use* requirements has fallen as a top priority status from nearly 50 percent in 2011 to 38 percent in 2012, implying that many organizations believe they have achieved *meaningful use*.[64] A description of healthcare organizations level of preparedness for Stage 1 meaningful use is set forth in Table 5.3.

TABLE 5.3 Percent of Organizations Expecting to Qualify for Stage 1 Meaningful Use

Qualification Stage	Percentage of Surveyed Programs
Have Already Attested	26%
Will Attest by End of 2011	4%
First Six Months of 2012	27%
Second Six Months of 2012	22%
Wait until 2013	17%
Not Planning to Attest	2%
Don't Know	3%

"2012 HIMSS Leadership Survey: Senior IT Executive Results," Healthcare Information and Management Systems Society, February 21, 2012, p. 29.

[61] Ibid., p. 44503.

[62] Ibid., p. 44324.

[63] Diana Manos and Mary Mosquera, "Final Rules for Stage 2 Meaningful Use Released," *Healthcare IT News*, August 23, 2012, http://www.healthcareitnews.com/news/final-rules-stage-2-meaningful-use-released (accessed September 22, 2012).

[64] Healthcare Information and Management Systems Society, "2012 HIMSS Leadership Survey: Senior IT Executive Results," February 21, 2012, p. 7.

While Stage 1 of "*meaningful use*" focused on *collecting data* and moving toward the use of *clinical decision support*, Stage 2 is designed to improve care and lay the foundation for Stage 3's goal to *promote quality outcomes*. Several features of the Final Rule are designed to streamline the process for participating providers, as well as provide advance assurance that their systems comply with program requirements and qualify them for incentive payments under the program.[65]

In the Final Rule, CMS made a number of changes from the proposed rule, which was published March 7, 2012, with respect to both (1) *eligible providers* (EPs), and (2) *eligible hospitals and critical access hospitals* (CAHs), as well as added new measures to the program's existing framework. While Stage 1 merely required providers to demonstrate widespread use of EHR, Stage 2 eliminates this requirement for both EPs and hospitals and instead imposes a *summary of care record* measure, whereby providers must electronically transmit the summary of care record in 10 percent of instances, in addition to providing that summary through an unspecified means for at least 50 percent of referrals and transitions of care.[66] This change represents a reduction in the proposed rule's requirement for the percentage of summary of care records electronically transmitted from

Clinical Decision Support (CDS)

Clinical decision support is a technology that provides clinicians with real-time feedback about a wide range of diagnostic and treatment-related information as they are entering electronic orders.

"Inpatient Computerized Provider Order Entry (CPOE): Findings from the AHRQ Health IT Portfolio," by Brian E. Dixon and Atif Zafar, U.S. Department of Health and Human Services, Agency for Healthcare Research and Quality, January 2009, http://healthit.ahrq.gov/images/jan09cpoerport/cpoe_issue_paper.htm (accessed June 22, 2009), p.1.

---

[65] Diana Manos and Mary Mosquera, "Final Rules for Stage 2 Meaningful Use Released," *Healthcare IT News*, August 23, 2012, http://www.healthcareitnews.com/news/final-rules-stage-2-meaningful-use-released (accessed September 22, 2012).

[66] Robin Raiford et al., "Detailed Analysis of the Final Rules on Stage 2 of Meaningful Use: The Journey Continues," The Advisory Board Company, September 2012, p. 4; Centers for Medicare and Medicaid Services, "Stage 1 vs. Stage 2 Comparison Table for Eligible Professionals," August 2012, http://www.cms.gov/Regulations-and-Guidance/Legislation/EHRIncentivePrograms/Downloads/Stage1vsStage2CompTablesforEP.pdf (accessed September 20, 2012), pp. 5–8.

65 percent to 50.[67] In addition, Stage 2 now requires only hospitals to grant patients "*electronic or online access*" to their data, as opposed to the "*electronic copy of their health information*" initially required of both EPs and hospitals under Stage 1.[68] One of the other changes to Stage 2 allows for "*batch attestation*" of providers, eliminating the requirement that group providers perform attestation on an individual basis.[69] In exchange for streamlining the existing requirements, Stage 2 now requires both EPs and hospitals to select and report on 3 of 6 new *menu objectives*, which include objectives such as recording whether a patient of age 65 years or older has an advance directive in place; generating and electronically transmitting discharge prescriptions; submitting surveillance data to public health agencies, where legally permissible; and recording electronic notes in patient records.[70]

Despite several significant changes, some aspects of the proposed Stage 2 rule remain intact or have otherwise been incorporated into other objectives. The 2014 start date did not change from the proposed rule, and the Final Rule allows providers to continue using the current standards and implementation specifications laid out in the "*2011 Edition Certified EHR Technology*" certification criteria publication until 2014.[71] The drug-drug and drug-allergy interaction checks no longer make up a separate Stage 2 objective and instead have been incorporated into the Stage 2 clinical

---

[67] Diana Manos and Mary Mosquera, "Final Rules for Stage 2 Meaningful Use Released," *Healthcare IT News*, August 23, 2012, http://www.healthcareitnews.com/news/final-rules-stage-2-meaningful-use-released (accessed September 22, 2012).

[68] "Medicare and Medicaid Programs; Electronic Health Record Incentive Program—Stage 2," *Federal Register* 77, no. 171 (September 4, 2012), p. 54150; Centers for Medicare and Medicaid Services, "Stage 1 vs. Stage 2 Comparison Table for Eligible Professionals," August 2012, http://www.cms.gov/Regulations-and-Guidance/Legislation/EHRIncentivePrograms/Downloads/Stage1vsStage2CompTablesforEP.pdf (accessed September 20, 2012), pp. 4–5.

[69] "Medicare and Medicaid Programs; Electronic Health Record Incentive Program—Stage 2," *Federal Register* 77, no. 171 (September 4, 2012), pp. 54089–54092.

[70] Centers for Medicare and Medicaid Services, "Stage 1 vs. Stage 2 Comparison Table for Eligible Professionals," August 2012, http://www.cms.gov/Regulations-and-Guidance/Legislation/EHRIncentivePrograms/Downloads/Stage1vsStage2CompTablesforEP.pdf (accessed September 20, 2012), pp. 9–12.

[71] "Medicare and Medicaid Programs; Electronic Health Record Incentive Program—Stage 2," *Federal Register* 77, no. 171 (September 4, 2012), p. 54023; Department of Health and Human Services, "Health Information Technology: Standards, Implementation Specifications, and Certification Criteria for Electronic Health Record Technology, 2014 Edition; Revisions to the Permanent Certification Program for Health Information Technology," *Federal Register* 77, no. 171 (September 4, 2012): 54163.

decision support measure for both EPs and hospitals.[72] Each of the requirements pertaining to the maintenance of an up-to-date problem list of current and active diagnoses, active medication lists, and active medication allergy lists have been incorporated into the Stage 2 summary of care document required of both EPs and hospitals when making referrals or transitions of care.[73] While the requirement that EPs and hospitals report their clinical quality measures (CQMs) to CMS or the states has been eliminated as a separate Stage 2 objective, providers must still meet this requirement, and beginning in 2014, all CQMs must be submitted electronically to CMS in order to demonstrate meaningful use.[74]

To date, incentive payments under the program have already reached $6.6 billion. Although providers are not required to comply with Stage 2 requirements before 2014, the Final Rule allows that any Medicare EP or hospital that can demonstrate *meaningful use* in the two-year reporting period, prior to the 2015 payment adjustment year, will be able to avert the Medicare payment adjustments.[75] Providers that first demonstrate *meaningful use* in 2014 may avoid this penalty if they register and attest to their achievement of *meaningful use* standards by July 1, 2014, for hospitals or October 1, 2014, for EPs.[76] EPs who are eligible for either Medicare or Medicaid may also make meaningful use attestations to state Medicaid agencies in order to avoid the Medicare penalty.[77]

5.2.2.2.2 ICD-10 Conversion Each service provided to a patient requires two codes: a procedure code (Current Procedural Technology) and a diagnosis code (*International Statistical Classification of Diseases*

[72] Centers for Medicare and Medicaid Services, "Stage 1 vs. Stage 2 Comparison Table for Eligible Professionals," August 2012, http://www.cms.gov/Regulations-and-Guidance/Legislation/EHRIncentivePrograms/Downloads/Stage1vsStage2CompTablesforEP.pdf (accessed September 20, 2012), p. 1.

[73] Ibid., pp. 1–2.

[74] Ibid., pp. 3–4.

[75] "Medicare and Medicaid Programs; Electronic Health Record Incentive Program—Stage 2," *Federal Register* 77, no. 171 (September 4, 2012), p. 54158; Healthcare IT News Staff, "At a Glance: Stage 2 Final Rule," *Healthcare IT News*, August 23, 2012, http://www.healthcareitnews.com/news/glance-stage-2-final-rule (accessed September 22, 2012).

[76] Healthcare IT News Staff, "At a Glance: Stage 2 Final Rule," *Healthcare IT News*, August 23, 2012, http://www.healthcareitnews.com/news/glance-stage-2-final-rule (accessed September 22, 2012).

[77] Ibid.

and Related Health Problems [*ICD*]). The ICD was developed in 1893 to track mortality statistics. The system is used worldwide for mortality and morbidity statistics, reimbursement systems, and automated decision support.[78] Used since 1979, the ICD-9 excludes many recently discovered diseases, conditions, and treatments currently used.[79] The ICD-10 conversion represents a practical overhaul of the ICD system, increasing its complexity in hopes to "*better tailor patient care*."[80] The ICD-10 will increase the number of procedure codes from 4,000 to 72,000 and diagnostic codes from 14,000 to 69,000, as well as change the coding structure from a five-digit numeric code to a seven-digit alphanumeric code, resulting in more specific coding and documentation of medical conditions and procedures than used by the ICD-9.[81]

The *Centers for Medicare and Medicaid Services* (CMS) estimates that the total costs associated with the ICD-10 conversion may reach $640 million in 2013 alone.[82] According to HIMSS, hospitals with fewer than 100 beds are expected to pay between $100,000 to $250,000 for the conversion, with projected expenditures totaling from $1.5 million to $5 million for enterprises with more than 400 beds.[83] Challenges associated with improper and returned claims will account for an estimated $329 million in productivity losses by 2015, as organizations may be hindered by the learning curve associated with a more comprehensive coding system.[84]

---

[78] World Health Organization, "History of the Development of the ICD," http://www.who.int/classifications/icd/en/HistoryOfICD.pdf (accessed December 2, 2011).

[79] Cheryl Clark, "ICD-10 Cost, Timing Concerns Explain AMA Vote," *HealthLeaders Media*, November 17, 2011, http://www.healthleadersmedia.com/print/TEC-273412/ICD10-Cost-Timi (accessed November 18, 2011).

[80] Marianne Aiello, "ICD-10: Mandate and Opportunity," *HealthLeaders Media*, November 2011, http://www.healthleadersmedia.com/content/MAG-272629/ICD10-Mandate-and-Opportunity (accessed December 2, 2011), p. 56.

[81] Ibid.

[82] Denise Hall and June St. John, "Engage Your Bottom Line: Understanding the Financial Implications of ICD-10," Healthcare Information and Management Systems Society, Virtual Briefing, October 12, 2011, p. 6; Pershing, Yoakley & Associates, P.C., "ICD-10 Preparedness," May 9, 2011, p. 1, both citing "HIPAA Administrative Simplification: Modifications to Medical Data Code Set Standards to Adopt ICD-10-CM and ICD-10-PCS: Final Rule," *Federal Register* 74, no. 11 (January 16, 2009).

[83] Healthcare Information and Management Systems Society, *ICD-10 Transformation: Five Critical Risk-Mitigation Strategies*, HIMSS G7 Advisory Report, 2011, p. 4.

[84] Ibid.

The significant costs associated with the transition and the upcoming 2014 deadline have raised concerns in the healthcare industry, because providers are already burdened with the obligations of the ACA and other healthcare reform mandates.[85] The *American Medical Association* (AMA) held a vote in the House of Delegates to "*vigorously work to stop the implementation*" of what they consider an "*onerous*" transition.[86] Approximately 60 percent of providers expect the ICD-10 transition to negatively affect short-term cash flow and 46 percent anticipate overall revenue loss.[87] Similarly, poor ICD-10 implementation could potentially increase claim denial rates by 1 to 3 percent.[88] Beyond direct challenges, the ICD-10 transition will likely require significant physician and staff buy-in and support. Critics also assert that the ICD-10 may gather an unprecedented amount of data too extensive to efficiently analyze.[89] Despite the AMA's push against ICD-10, supporters maintain the benefits outweigh potential costs.

The increased specificity of ICD-10 has the potential to provide more thorough information, allowing providers to improve patient outcomes, with 72 percent of providers agreeing that ICD-10 will ultimately help with achieving increased patient quality initiatives.[90] In addition, the added specificity may help deter fraudulent billing and reduce complications associated

[85] Cheryl Clark, "ICD-10 Cost, Timing Concerns Explain AMA Vote," *HealthLeaders Media*, November 17, 2011, http://www.healthleadersmedia.com/print/TEC-273412/ICD10-Cost-Timi (accessed November 18, 2011); "Administrative Simplification: Adoption of a Standard for a Unique Health Plan Identifier; Addition to the National Provider Identifier Requirements; and a Change to the Compliance Date for the International Classification of Diseases, 10th Edition (ICD-10-CM and ICD-10-PCS) Medical Data Code Sets: Final Rule," 45 CFR. Part 162 (Pre-*Federal Register* Publication), August 24, 2012.

[86] Cheryl Clark, "ICD-10 Cost, Timing Concerns Explain AMA Vote," *HealthLeaders Media*, November 17, 2011, http://www.healthleadersmedia.com/print/TEC-273412/ICD10-Cost-Timi (accessed November 18, 2011).

[87] Karen Minich-Pourshadi, "ICD-10 Puts Revenue at Risk," *HealthLeaders Media Intelligence Report*, July 2011, pp. 3, 20, 24.

[88] Gienna Shaw, "Haven't Started ICD-10? It May Already Be Too Late," *HealthLeaders Media*, November 4, 2011, http://www.healthleadersmedia.com/content/TEC-272931/Havent-Started-ICD10-It-May-Already-Be-Too-Late.html (accessed December 2, 2011).

[89] Marianne Aiello, "ICD-10: Mandate and Opportunity," *HealthLeaders Media*, November 2011, http://www.healthleadersmedia.com/content/MAG-272629/ICD10-Mandate-and-Opportunity (accessed December 2, 2011), p. 58.

[90] Karen Minich-Pourshadi, "ICD-10 Puts Revenue at Risk," *HealthLeaders Media Intelligence Report*, July 2011, p. 23.

with reporting, which closely aligns with current EMR adoption initiatives.[91] As with any significant change in practice operations, providers may experience a decrease in coding productivity, with estimates of approximately 30 percent, with the result of the benefits of the ICD-10 conversion taking up to five years to realize.[92]

As of October 2011, nearly 86 percent of inpatient facilities indicated they had begun ICD-10 implementation planning.[93] However, only 50 percent of other healthcare entities claimed to have done so, and only 29 percent of facilities that have begun planning are beyond the initial assessment phase.[94] As of July 2011, only 3 percent of providers claimed to be fully prepared for ICD-10 and 16 percent had not yet started the conversion process. Industry experts suggest that healthcare organizations should be ready for ICD-10 six months prior to the 2013 deadlines, and those who have yet to begin may face significant challenges to completing the conversion in time for the October 2013 deadline.[95] One commentator noted that some providers "may not totally appreciate the enormity of [the] task, and that might be something that comes back to bite them."[96] For more information on the ICD and the conversion to ICD-10 in relation to reimbursement

---

[91] Cheryl Clark, "10 Ways ICD-10 Will Improve Quality of Care," *HealthLeaders Media*, December 1, 2011, http://www.healthleadersmedia.com/content/QUA-273822/10-Ways-ICD10-Will-Improve-Quality-of-Care## (accessed December 2, 2011).

[92] Marianne Aiello, "ICD-10: Mandate and Opportunity," *HealthLeaders Media*, November 2011, http://www.healthleadersmedia.com/content/MAG-272629/ICD10-Mandate-and-Opportunity (accessed December 2, 2011), p. 59.

[93] American Health Information Management Association, "Tracking the Industry's Progress: AHIMA Survey on ICD-10 and 5010 Compliance," September 2011, http://www.ahima.org/downloads/pdfs/busdev/ICD10SurveySept2011.pdf (accessed October 11, 2012), pp. 3, 9.

[94] Gienna Shaw, "ICD-10 Is Gonna Cost Me How Much?" *HealthLeaders Media*, July 26, 2011, http://www.healthleadersmedia.com/page-1/TEC-269019/ICD10-Is-Gonna-Cost-Me-How-Much (accessed November 29, 2011); American Health Information Management Association, "Tracking the Industry's Progress: AHIMA Survey on ICD-10 and 5010 Compliance," September 2011, http://www.ahima.org/downloads/pdfs/busdev/ICD10SurveySept2011.pdf (accessed October 11, 2012), p. 9a.

[95] Gienna Shaw, "Haven't Started ICD-10? It May Already Be Too Late," *HealthLeaders Media*, November 4, 2011, http://www.healthleadersmedia.com/content/TEC-272931/Havent-Started-ICD10-It-May-Already-Be-Too-Late.html (accessed December 2, 2011).

[96] "ICD-10: It's Later Than You Think," *HealthLeaders Media*, December 1, 2011, http://www.healthleadersmedia.com/print/TEC-273802/ICD10-Its-Later-Than-You-Think (accessed December 2, 2011).

Factoid

In 2010, 21.7 percent of all providers had implemented a CPOE system.

"CPOE Rates Ratchet up with Passage of ARRA-HITECH," by Jennifer Prestigiacomo, Healthcare Informatics, *August 16, 2011, citing "CPOE 2011: The ARRA Effect," by Jason Hess, KLAS, July 2011.*

see Section 2.2.3.1.1, "Shift from ICD-9 to ICD-10 Coding," in Chapter 2, "Reimbursement Environment."

As EHRs *improve* and *comply* with *meaningful use standards*, most systems will likely include both an *electronic prescribing component* and a *clinical decision support component*. However, each of these additional operating components offers specific *benefits* and *challenges*; therefore, they can be addressed *individually*, despite being *packaged as one system*.

5.2.3 Electronic Prescribing: Computerized Physician Order Entry (CPOE)

Approximately 44,000 deaths occur every year in the United States as the result of *medication errors*.[97] In 2008, one *adverse drug effect* (*ADE*) added, on average, $2,000 to the cost of hospitalization, and in 2010, $21 billion in *healthcare spending* was *wasted* on *preventable medication errors*.[98] An ADE is any *injury caused* by a *medication error*, typically in the form of an *allergic reaction* or *adverse physiological response* to a certain combination of medications, that is, (1) a *drug to drug interaction*, or (2) a *drug to allergy interaction*, while *preventable ADEs* are injuries resulting from *human error*, such as *prescribing* or *administering* the *wrong dose* of a drug.[99] *Computerized Physician Order Entry* (*CPOE*) allows physicians

[97] Leapfrog Group, "Fact Sheet: Computerized Physician Order Entry," Washington, DC, March 3, 2009, http://www.leapfroggroup.org/media/file/FactSheet_CPOE.pdf (accessed October 9, 2012); Institute of Medicine, *To Err Is Human: Building a Safer Health System* (Washington, DC: National Academy Press, 2000), p. 1, citing Eric J. Thomas, et al., "Incidence of Types of Adverse Events and Negligent Care in Utah and Colorado," *Medical Care* 38, no. 3 (March 2000): 261–271.

[98] National Quality Forum, "Preventing Medication Errors: A $21 Billion Opportunity," *Compact Action Brief: A Roadmap for Increasing Value in Health Care*, December 2010, p. 1.

[99] Massachusetts Technology Collaborative, "Saving Lives, Saving Money: The Imperative for Computerized Physician Order Entry in Massachusetts Hospitals," New England Healthcare Institute, February 2008, p. 14.

Factoid

On average, one adverse drug effect adds $2,000 to the cost of hospitalization, which is more than $7.5 billion per year nationwide in hospital costs.

"Leapfrog Hospital Survey Results," Leapfrog Group, 2008, p. 3.

and providers to electronically order *laboratory*, *pharmacy*, and *radiology services*, with the objective of minimizing error by eliminating the difficulties and ambiguity associated with *hand-written orders*.[100] CPOE is designed to "streamline medication ordering by standardizing the process, introducing controls, eliminating bad handwriting, making an order easily traceable to a provider; additionally, with decision support installed, CPOE can also help assure adherence to evidence-based guidelines."[101]

CPOE systems were first introduced in the late 1960s, but their use was fairly sporadic until the uproar about the publication of a 1999 study by the *Institute of Medicine* (IOM), titled *To Err Is Human*, which found that 44,000 deaths annually were attributable to medical errors. The study touted CPOE adoption as one of the potential solutions to this newly

Adverse Drug Effect (ADE)

An injury caused by drugs, typically in the form of an allergic reaction or adverse physiological responses to a certain combination of medications. Preventable ADEs are injuries that are caused by human error.

"Saving Lives, Saving Money: The Imperative for Computerized Physician Order Entry in Massachusetts Hospitals," by Mitchell Adams et al., Massachusetts Technology Collaborative, New England Healthcare Institute, February 2008, p. 14.

[100] "Electronic Health Records Overview," MITRE Center for Enterprise Modernization, to National Institutes of Health, National Center for Research Resources, McLean, VA: MITRE, April 2006, p. 7; Oregon Health and Science University, "Welcome to CPOE.org," http://www.ohsu.edu/academic/dmice/research/cpoe/index.php (accessed June 22, 2009).

[101] Feliciano B. Yu et al., "Full Implementation of Computerized Physician Order Entry and Medication-Related Quality Outcomes: A Study of 3364 Hospitals," *American Journal of Medical Quality*, American College of Medical Quality (June 5, 2009): 6.

Factoid

More than one million serious medication errors occur every year in the United States, and 44,000 deaths annually are due to medication errors.

To Err Is Human: Building a Safer Health System, *by the Institute of Medicine (Washington, DC: National Academy Press, 2000), p. 1.*

publicized national crisis, and the IOM endorsed the implementation of CPOE.[102] However, as of 2008, only 20.4 percent of office-based physicians reported any level of CPOE use as part of their EMR system.[103] Even by 2012, the IOM's goal of full CPOE implementation had not been achieved, with physicians presenting resistance to utilization of CPOE systems, even when implemented.[104]

A 2008 study by *the Leapfrog Group* further publicized the benefits of CPOE systems for *hospitals*, finding that *fully implemented* CPOE systems could potentially *reduce the frequency* of ADEs by as much at 88 percent.[105] To qualify as having a "*fully implemented*" CPOE system, hospitals needed to achieve certain requirements, including 75 percent of all orders must go through its CPOE system, the system must alert physicians of possible errors, and the system must require a physician response if

Computerized Physician Order Entry (CPOE)

A computer system that permits clinical providers to electronically order laboratory, pharmacy, and radiology services.

"Electronic Health Records Overview," National Institute of Health, National Center for Research Resources, April 2006, p. 7.

[102] Institute of Medicine, *To Err Is Human: Building a Safer Health System* (Washington, DC: National Academy Press, 2000), pp. 191–192; William M. Stone et al., "Impact of a Computerized Physician Order-Entry System," *Journal of the American College of Surgeons* 208, no. 5 (May 2009): 7.

[103] Chun-Ju Hsiao, et al., "Preliminary Estimates of Electronic Medical Record Use by Office-Based Physicians: United States, 2008," *Health E-Stat.*, National Center for Health Statistics, December 2008, p. 1.

[104] Imprivata, "2012 CPOE and Meaningful Use Research Brief," p. 6.

[105] Leapfrog Group, "Leapfrog Hospital Survey Results," 2008, p. 3.

Nurse Licensure Compact

An interstate license for nurses created in 2000 by the National Council of State Boards of Nursing.

"Nurse Licensure Compact," Nurse Licensure Compact Administration, National Council of State Boards of Nursing, https://www.ncsbn.org/nlc.htm (accessed July 2, 2009).

an alert is overridden.[106] Based on the *Leapfrog Group*'s findings, HHS, specifically AHRQ, encouraged, through the distribution of grant funding, CPOE adoption by *hospitals* as a means to *improve care and reduce costs*.[107]

While only 472 U.S. hospitals had *some form of CPOE* system in place as of 2008, the ARRA and its incentive program have had a significant impact on the number of providers implementing CPOE systems, with the incidence of *fully implemented CPOE* increasing from 87 hospitals annually

LICENSED INDEPENDENT PRACTITIONERS (LIPs)

JCAHO accreditation, according to JCAHO standards, suffices to license practitioners who diagnose or treat patients via telemedicine link. CMS, however, requires LIBs to be credentialed at their originating site.

"Existing Requirements for Telemedicine Practitioners Explained," Joint Commission Perspectives, February 2003.

[106] Joseph Conn, "CPOE Adoption Slowly Gaining Ground: Survey," *Modern Healthcare*, March 19, 2007, http://www.modernhealthcare.com/article/20070319/FREE/70319001 (accessed June 22, 2009).

[107] Brian E. Dixon and Atif Zafar, "Inpatient Computerized Provider Order Entry (CPOE): Findings from the AHRQ Health IT Portfolio," U.S. Department of Health and Human Services, Agency for Healthcare Research and Quality, January 2009, http://healthit.ahrq.gov/images/jan09cpoerport/cpoe_issue_paper.htm (accessed June 22, 2009); Feliciano B. Yu et al., "Full Implementation of Computerized Physician Order Entry and Medication-Related Quality Outcomes: A Study of 3364 Hospitals," *American Journal of Medical Quality*, American College of Medical Quality (June 5, 2009): 1.

TABLE 5.4 Increased Rate of CPOE Implementation, 2004–2010

Year	Percent Implementation	Growth in Implementation
2004	4.00%	
2005	5.70%	142.50%
2006	6.80%	119.30%
2007	9.60%	141.18%
2008	12.50%	130.21%
2009	15.70%	125.60%
2010	21.70%	138.22%

Jennifer Prestigiacomo, "CPOE Rates Ratchet Up with Passage of ARRA-HITECH," *Healthcare Informatics*, August 16, 2011, citing Jason Hess, "CPOE 2011: The ARRA Effect," KLAS, July 2011.

pre-ARRA to 233 in 2010.[108] This increased rate of CPOE adoption may be driven, in part, by *Stage 1 meaningful use* requirements, which are applicable to all providers, that 30 percent of patients have a least one medication ordered through a CPOE system.[109] The status of CPOE implementation, *by all providers*, over time is illustrated in Table 5.4.

Reciprocal (Limited) Licensure

Provides an interstate license for use with telemedicine practitioners applied for through a simple application process and reduced licensing fees. This license is solely used for telemedicine and may not be used to physically practice in another state.

Telemedicine Licensure Report, *Center for Telemedicine Law, Office for the Advancement of Telehealth, June 2003; updated numbers from "Interstate Licensure of Telemedicine Practitioners," by Glenn W. Wachter, Telemedicine Information Exchange, March 10, 2000, updated by TIE on November 15, 2006, http://tie.telemed.org/articles/article.asp?path=article&article=interstate Licensure_gw_tie0 (accessed July 1, 2009).*

[108] Jennifer Prestigiacomo, "CPOE Rates Ratchet Up with Passage of ARRA-HITECH," *Healthcare Informatics*, August 16, 2011, citing Jason Hess, "CPOE 2011: The ARRA Effect," KLAS, July 2011.

[109] Ibid.

5.2.3.1 CPOE Quality of Care Improvements A study in the June 2009 issue of the *American Journal of Medical Quality* found significant positive associations between specific objective quality indicators and CPOE implementation.[110] Hospitals with CPOE systems noted that errors related to legibility of paper orders were eliminated, and alerts for potential allergies, drug interactions, and dosing standards improved patient safety. Further, the ability of a pharmacy to receive orders instantaneously resulted in "*stat*" orders being fulfilled more quickly.[111] In addition to preventing ADEs, CPOE systems alert physicians to available generic options for any prescription drug, alert clinicians of redundant orders or laboratory test entries, and list the drug delivery methods suitable for any prescribed drug to prevent delivery errors (e.g., intravenous administration of orally administered drugs). CPOE systems could be even more beneficial to residents in long-term care facilities who, on average, have more than six concurrent drug therapies, which, exacerbated by problems associated with advanced age, can increase the risk of an ADE.[112]

Alert Fatigue

CPOE error caused by a combination of critical medical alerts and a high volume of marginally medically consequential alerts.

"Inpatient Computerized Provider Order Entry (CPOE): Findings from the AHRQ Health IT Portfolio," by Brian E. Dixon and Atif Zafar, U.S. Department of Health and Human Services, Agency for Healthcare Research and Quality, January 2009.

5.2.3.2 CPOE Barriers to Implementation In addition to the costs associated with implementing a CPOE system, other challenges include (1) technical issues, (2) capital requirements, (3) resistance to workflow changes,

[110] Feliciano B. Yu, et al., "Full Implementation of Computerized Physician Order Entry and Medication-Related Quality Outcomes: A Study of 3364 Hospitals," *American Journal of Medical Quality*, American College of Medical Quality (June 5, 2009): 1.

[111] The term "stat" is short for the Latin word "immediately." Howard J. Anderson, "CPOE: It Don't Come Easy," *Health Data Management* 17, no. 1 (January 2009): 20.

[112] Paula A. Rochon, et al., "Clinical Application of a Computerized System for Physician Order Entry with Clinical Decision Support to Prevent Adverse Drug Events in Long-Term Care," *Canadian Medical Association Journal* 174, no. 1 (January 3, 2006): 52.

and (4) clinician compliance.[113] No "*one size fits all*" CPOE system exists, requiring customization for hospital systems, which may include integration of current systems that are already in place.[114] While many barriers exist, the two most significant current concerns are not related to implementation but to utilization by providers, that is, (1) resistance to workflow changes (63 percent), and (2) too many clicks to place an order (32 percent).[115]

User satisfaction has been identified as an important predictor of the success of CPOE adoption and compliance.[116] Generally, younger interns and residents are more willing to use CPOE, while older, more experienced physicians tend to be less satisfied with CPOE.[117] For example, physicians have reported a loss of professional autonomy, as CPOE systems can prevent them from ordering the type of tests or medication(s) they prefer, force them to comply with clinical guidelines they do not embrace, and limit their flexibility through structured, rather than free-text, clinical documentation.[118]

Despite documented benefits, emerging CPOE technology introduces the potential for unintended errors, which include incorrect patient orders, errors of clinician omission, lack of communication among clinical staff regarding the status of an order, loss of information during care transitions, and overlapping medication orders.[119] A 2005 study found that utilization of one CPOE system resulted in 22 types of medication error risks, generated by

---

[113] Joan S. Ash, et al., "Principles for a Successful Computerized Physician Order Entry Implementation," American Medical Informatics Symposium Proceedings, 2003, p. 23.

[114] Brian E. Dixon and Atif Zafar, "Inpatient Computerized Provider Order Entry (CPOE): Findings from the AHRQ Health IT Portfolio," U.S. Department of Health and Human Services, Agency for Healthcare Research and Quality, January 2009, http://healthit.ahrq.gov/images/jan09cpoerport/cpoe_issue_paper.htm (accessed June 22, 2009).

[115] Imprivata, "2012 CPOE and Meaningful Use Research Brief," p. 5.

[116] Charlene R. Weir, et al., "Does User Satisfaction Relate to Adoption Behavior? An Exploratory Analysis Using CPRS Implementation," American Medical Informatics Association Symposium, Tucson, AZ, 2000, p. 916.

[117] Nasrollah Ghahramani, et al., "User Satisfaction with Computerized Order Entry System and Its Effect on Workplace Level of Stress," *Journal of Medical Systems* 33 (July 2, 2008): 199.

[118] Emily M. Campbell et al., "Types of Unintended Consequences Related to Computerized Provider Order Entry," *Journal of the American Medical Informatics Association* 13, no. 5 (September /October 2006): 552.

[119] William M. Stone et al., "Impact of a Computerized Physician Order-Entry System," *Journal of the American College of Surgeons* 208, no. 5 (May 2009): 7.

(1) the fragmentation of data, (2) failure to integrate the hospital's multiple computer and information systems, and (3) human-machine interface flaws in light of generally accepted workplace practices and dynamics.[120] However, as systems become more advanced, some of these unforeseen problems are decreasing in frequency, for example, the average number of electronic patient entries being reentered was 48 percent in 2003, whereas this percentage had dropped to 21 percent by 2008.[121]

5.2.4 Telemedicine and Telehealth

Telemedicine is the transfer of *electronic medical data* (*high-resolution images*, *sounds, live video,* and *patient records*) from one location to another by using a variety of *telecommunication* technologies, including, but not limited to, *ordinary phone lines, integrated services digital network*, *fractional to full T-1s*, *the Internet*, and *satellites*.[122] *Telehealth* is closely related to *telemedicine* and is used to describe the broader definition of remote healthcare that does not always involve clinical services, although the two terms are often used interchangeably.[123] According to CMS administrator Kerry Weems, using communication equipment to link healthcare practitioners and patients in different locations "results in cost efficiency, reduced transportation expenses, improved patient access to specialists and mental health providers, improved quality of care, and better communication among providers."[124]

As of 2012, telemedicine services have been successfully integrated into approximately 50 different medical subspecialties, and approximately 200 telemedicine networks are established in the United States, involving more than 2,500 medical and healthcare institutions throughout the country.[125]

---

[120] Ross Koppel, et al., "Role of Computerized Physician Order Entry Systems in Facilitating Medication Errors," *Journal of the American Medical Association* 293, no. 10 (March 9, 2005): 1201.

[121] Stacilee Oakes Whiting and Adam Gale, "Computerized Physician Order Entry Usage in North America: The Doctor Is In," HIT Report from KLAS, *Healthcare Quarterly* 11, no. 3 (2008): 95.

[122] Nancy Brown, "Telemedicine 101: A Brief History of Telemedicine," Telemedicine Information Exchange, American Telemedicine Association, May 30, 1995. http://tie.telemed.org/articles/article.asp?path=telemed101&article=tmhistory_nb tie95.xm (website is no longer in existence but was a live page when it was accessed on June 30, 2009).

[123] American Telemedicine Association, "What Is Telemedicine?," http://www.americantelemed.org/i4a/pages/index.cfm?pageid=3333 (accessed July 16, 2012).

[124] Alan Naditz, "Medicare's and Medicaid's New Reimbursement Policies for Telemedicine," *Telemedicine and eHealth* 14, no. 1 (January/February 2008): 21.

[125] American Telemedicine Association, "What Is Telemedicine?," http://www.americantelemed.org/i4a/pages/index.cfm?pageid=3333 (accessed July 16, 2012).

Telemedicine

The transfer of electronic medical data (high-resolution images, sounds, live video, and patient records) from one location to another in order to enhance the quality and efficiency of patient comfort and care.

"Telemedicine 101: A Brief History of Telemedicine," by Nancy Brown, Telemedicine Information Exchange, American Telemedicine Association, May 30, 1995. http://tie.telemed.org/articles/article.asp?path=telemed101&article=tmhistory_nb tie95.xm (website is no longer in existence but was a live page when it was accessed on June 30, 2009).

Telehealth

Closely related to telemedicine, it is used to describe the broader definition of remote healthcare that does not always involve clinical services, although the two terms are often used interchangeably.

"What is Telemedicine?" American Telemedicine Association, http://www.americantelemed.org/i4a/pagees/index.cfm?pageid=3333 (accessed June 30, 2009).

Some of the services offered through telemedicine include specialized and primary care consultations; imaging services; remote patient monitoring; remote medical education and consumer information; networked programs linking hospitals to rural clinics; point-to-point connection, using private networks between hospitals and ambulatory care sites; primary or specialty care to the home connections; home to monitoring centers; and Web-based e-health patient service sites.[126]

The range of telemedicine technology is divided into two main application groups:

1. *Store and forward* is the transfer of digital images between locations, most commonly seen in *teleradiology* and *telepathology* (the use of pathology slides for diagnostic consultation).[127]

[126] American Telemedicine Association, "What Is Telemedicine?," http://www.americantelemed.org/i4a/pages/index.cfm?pageid=3333 (accessed July 16, 2012).

[127] Nancy Brown, "Telemedicine 101: Telemedicine Coming of Age," Telemedicine Information Exchange, American Telemedicine Association, January 13, 2005.

RURAL HEALTHCARE PILOT PROGRAM

Created by the Federal Communications Commission to increase patient access to telemedicine and support the transfer of HERs. Sixty-seven nationwide projects in 42 states and 6,000 health facilities are eligible for the $417 million in grants under the program.

"FCC Update on Rural Healthcare Pilot Program Initiative," by Federal Communications Commission, April 16, 2009, http://www.fcc.gov/Daily_Releases/Daily_Business/2009/db0416/DOC-290141A1.pdf.

Factoid

Telemedicine services have been successfully integrated into approximately 60 different medical subspecialties.

"What Is Telemedicine?," American Telemedicine Association, http://www.americantelemed.org/i4a/pagees/index.cfm?pageid=3333 (accessed June 30, 2009).

2. *Two-way interactive television* (IATV) is used in telemedicine for face-to-face consultation. These real-time consultations often occur between patients (or nurses) in rural environments and practitioners located in a more suburban or urban setting.[128]

Some states have begun to implement *virtual clinics* using telehealth technologies. The virtual clinic is a program, initially only fully adopted in Hawaii, where for a flat fee a patient can communicate with a physician via a webcam and through instant message over the Internet for approximately

Two-Way Interactive Television (IATV)

Uses telemedicine for face–to–face consultations.

"Telemedicine 101: Telemedicine Coming of Age," by Nancy Brown, Telemedicine Information Exchange, American Telemedicine Association, http://tie.telemed.org, January 13, 2005.

[128] Ibid.

Factoid

Telemedicine also allows hospitals to expand their market area by employing telemedicine technology at outlying medical clinics and offices.

"Night-Shift Solutions," by Lisa Ryan, The Hospitalist, *April 2009, http://www.the-hospitalist.org/detains/article/183090/NightShift_Solutions.html (accessed June 20, 2009).*

10 minutes.[129] Since its inception, this type of *virtual clinic* modality has spread across the country, reaching 22 states as of 2011.[130]

One form of *store and forward* technology is related to the use of *patient monitoring*. Some of the conditions that are most associated with telemedicine are those where patients' levels are monitored via a device that reports their health status to a remote provider through a cellular or satellite network. The top five conditions for *remote monitoring* are (1) *active heart monitoring*, (2) *blood pressure*, (3) *diabetes*, (4) *prescription compliance*, and (5) *sleep apnea*.[131] Remote monitoring allows patients to receive more treatments on an outpatient basis and to be discharged sooner, since observation can be done outside of the inpatient setting. Furthermore, as access to

Store and Forward

The transfer of digital images between locations, most commonly seen in teleradiology and telepathology.

"Telemedicine 101: Telemedicine Coming of Age," by Nancy Brown, Telemedicine Information Exchange, American Telemedicine Association, http://tie.telemed.org (accessed June 30, 2009).

[129] "State Telehealth News," Telemedicine Information Exchange, April 30, 2009, http://tie.telemed.org/funding/news.asp (accessed July 1, 2009).

[130] American Well, "American Well Drives Telehealth into Mainstream Healthcare," press release, January 31 2012, http://www.american well.com/pressrelease_american_well_drives_telehealth_into_mainstream_healthcare.htm (accessed July 18, 2012).

[131] Steff Descgebes, "Top 5 Conditions for Telemedicine Treatment," Healthcare IT News, July 27, 2012, http://www.healthcareitnews.com/news/top-5-health-conditions-telemedicine-treatment (accessed September 26, 2012).

faster and higher bandwidth Internet and cellular providers grows, so may access to remote technologies.[132]

One example of *remote monitoring*, the *Savacor Dynamic Rx* patient-operated handheld digital assistant, is part of an integrated system that, using implantable heart monitoring devices, constantly monitors the patient for specific indicators preprogrammed by the physician that are specific to the individual patient. Those *indicators* then instruct the patient how to adjust his or her medication and even provide instructions in the event the patient requires medical attention.[133] As of January 2012, clinical studies have been undertaken related to devices such as *Dynamic Rx* that may help predict the risk of a cardiac event up to 30 days in advance.[134] A potentially viable alternative to invasive techniques, set to begin clinical trials in 2012, is *noninvasive physiologic monitoring*, such as *body sensors* that are wearable on the body and *measure heart and respiratory rates*, *posture*, and *activity levels*. These indicators are then analyzed to *identify potential diseases* before the patient becomes symptomatic.[135]

Hospitals, in efforts to reduce readmission rates, are starting to use telehealth technology as well. One such patient monitoring system, *VitalPoint Pro,* by *CJPS Healthcare Supplies & Equipment, LLC*, communicates with clinicians *via email* or *text*, measuring and automatically sending patient data to clinicians for monitoring, as well as alerting clinicians whenever any of the 61 physiological indicators falls out of the preset parameters.[136] The ability to manage patients through *telemedicine* and the use of a *monitoring network* accessible through mobile technology has improved patient

Factoid

Through telemedicine, the VA has reduced the average number of days hospitalized by 25 percent (25%) and reduced hospitalization by 19 percent (19%) for patients using home health.

"New VA Study Shows Home Telehealth Makes Health Care More Effective," Government Health IT News, January 7, 2009.

[132] National Learning Consortium, "Telecommuting," October 21, 2011, p. 31.

[133] Mary Thompson, "Heart Failure Devices: Raising Roadblocks to Readmission," *Medtech Insight* 14, no. 1 (January 2012): 7.

[134] Ibid.

[135] Ibid.

[136] CJPS Medical Systems, *CJPS Medical Systems VitalPoint PRO User Manual*, 2011, pp. v, 36–42.

outcomes for conditions such as stroke, by allowing providers to view patient scans and send ER notifications to specialists immediately, facilitating more accurate care decisions.[137]

One of the fastest growing telemedicine specialties is *teleradiology*, that is, the *electronic transfer* and *storage* of *electronic imaging data*, which allows for an increased reliance on the *remote reading* of scans, thereby alleviating the off-hour burden that *night reads* pose to radiology groups.[138] Other advances in *teleradiology* technology have allowed for the connection of *digital X-rays* and other *imaging modalities* to *Picture Archives and Communications Systems* (PACS), which has greatly improved the efficiency of imaging care by providing improved access to even higher-quality images with reduced delays. Many of these systems are derived from infrastructures implemented in hospital radiology departments and have since expanded into a wider area of networks for *health systems*, *managed care organizations*, and *outpatient providers*.[139]

Teleradiology

The electronic transfer and storage of electronic imaging data.

"Teleradiology: New Players, High Stakes Create Capital Opportunity," by John C. Hayes, DiagnosticImaging, November 1, 2006, http://www.diagnosticimaging .com/display/article/113619/1193477 (accessed June 29, 2009).

Picture Archives and Communications Systems (PACS)

Used to connect digital X-rays and other imaging modalities. Has become a must for efficient imaging services, as it provides improved access to images with reduced delays.

Trends in Radiology, Special Report: Managing the Transition to Digital Mammography, *by Kate Madden Lee, Siemens, March 1, 2007, www.usa.siemens .com (accessed on June 29, 2009).*

---

[137] Bart M. Demaerschalk, et al., "Smartphone Teleradiology Application Is Successfully Incorporated into a Telestroke Network Environment," *Stroke, Journal of the American Heart Association* 43 (November 2012): 1–2.

[138] John C. Hayes, "Teleradiology: New Players, High Stakes Create Capital Opportunity," *Diagnostic Imaging*, November 1, 2006, http://www.diagnosticimaging .com/display/article/113619/1193477 (accessed June 29, 2009).

[139] Barbara Kram, "DOTmed Industry Sector Report: PACS/RIS/HIS," *DOTmed Business News*, March 2009, http://www.dotmed.com/news/story/8313/.

The main driver of *teleradiology* is the demand for *night coverage*, also known as *nighthawk coverage*, that is, where distant physicians provide preliminary readings when a patient need arises when the hospital is operating at night, with a limited staff. Nearly half of all radiology practices supplement their staff with external, distant providers, and many teleradiology firms are competing for contracts.[140] As competition in this field has increased, pricing has become a significant market factor, and, as such, the *average price per procedure* has begun to decline, which, in turn, has triggered aggressive *merger and acquisition* activities among *teleradiology firms*. The largest provider on the market is currently *Virtual Radiologic*, which acquired its main competitor, *Nighthawk*, in September 2010.[141]

NIGHTHAWK COVERAGE

Teleradiology services that supplement staff for nighttime operations at hospitals and clinics.

"What Primary Considerations Govern Vendor Selection and Contract Administration in the Burgeoning Teleradiology Market," by Dara O'Brien, Imaging Economics*, April 2012, http://www.imagingeconomics.com/issues/articles/2012-04_02.asp (accessed October 8, 2012).*

NightHawk Radiology Services

The nation's first nighthawk company. The company was acquired by Virtual Radiologic in September 2010.

"Teleradiology: New Players, High Stakes Create Capital Opportunity," by John C. Hayes, DiagnosticImaging*, November 1, 2006, http://www.diagnosticimaging.com/display/article/113619/1193477 (accessed June 29, 2009); "Teleradiology Firms Move in on PACS," by Nadim Daher, Diagnostic Imaging.com, http://www.diagnosticimaging.com/radblog/display/article/113619/1978195 (accessed October 8, 2012).*

[140] Dara O'Brien, "What Primary Considerations Govern Vendor Selection and Contract Administration in the Burgeoning Teleradiology Market," *Imaging Economics*, April 2012, http://www.imagingeconomics.com/issues/articles/2012-04_02.asp (accessed October 8, 2012).

[141] Nadim Daher, "Teleradiology Firms Move in on PACS," Diagnostic Imaging.com, http://www.diagnosticimaging.com/radblog/display/article/113619/1978195 (accessed October 8, 2012).

5.2.4.1 Cost-Benefit Analysis A 2011 study by the *Association of American Medical Colleges* (AAMC) predicted that by 2020, there might be a shortage of 91,500 physicians, that is, "an estimated 45,000 primary care physicians and 46,000 surgeons and medical specialists."[142] For hospitals incurring physician shortages, telemedicine facilitates *hospitalist recruitment*, providing more attractive work hours and the ability for a single practitioner to provide services to multiple hospitals at one time. In addition, *telemedicine* has enhanced access between *hospitalists* and a patient's treating medical specialist provider. Furthermore, it allows hospitals to expand their market service area by employing *telemedicine technology* at *outlying medical clinics* and *offices*.[143]

On May 5, 2011, CMS issued a *Final Rule* on telemedicine *credentialing* and *privileging* that may help facilitate implementation of *innovative medicine* at nonurban hospitals. This rule allows *privileges* and *credentialing reciprocity* between an institution where a physician seeks to provide *telemedicine services* to Medicare and Medicaid patients and the hospital where a physician is *already privileged*.[144] (See Chapter 3, "Regulatory Environment," for a further discussion of the regulatory requirements applicable to telemedicine providers).

Many professional associations have expressed approval of the new regulations. *The Joint Commission*, which controls much of telemedicine accreditation and has been heavily involved with CMS policy surrounding this topic, applauded the *Final Rule* as a positive step for improving access to care for rural patients.[145] The *American Hospital Association* specifically commended the rule's flexibility and the inclusion of nonhospital entities, such as independent physicians and radiology groups, within the scope of the law.[146]

---

[142] Karen Cheung, "Physician Shortage to Quadruple within Decade, AAMC Says," *HealthLeaders Media*, January 4 2011, http://www.healthleadersmedia.com/page-1/PHY-258409/Physician-Shortage-to-Quadruple-Within-Decade-AAMC-Says (accessed July16, 2012).

[143] Lisa Ryan, "Night-Shift Solutions," *The Hospitalist*, April 2009, http://www.the-hospitalist.org/detains/article/183090/NightShift_Solutions.html (accessed June 20, 2009).

[144] "Medicare and Medicaid Programs: Changes Affecting Hospital and Critical Access Hospital Conditions of Participation: Telemedicine Credentialing and Privileging," *Federal Register* 76, no. 87 (May 5, 2011): 25550.

[145] Elizabeth E. Zhani, "The Joint Commission Applauds CMS' Revised Telemedicine Requirements," Joint Commission, *News Details*, May 6, 2011, http://www.jointcommission.org/the_joint_commission_applauds_cms_revised_telemedicine_requirements/ (accessed May 19, 2011).

[146] American Hospital Association, "CMS Issues Final Rule on Telemedicine Credentialing Privileging," *AHA News Now*, May 2, 2011, http://www.ahanews.com/ahanews_app/jsp/display.jsp?dcrpath=AHANEWS/AHANewsNowArticle/data/ann_050211_telemedicine&domain=AHANEWS (accessed May 19, 2011).

THE JOINT COMMISSION'S REVISED STANDARDS (SECTION MS.13.01.01)

The revised standards released in November 2008 compromise the difference between JCAHO and CMS standards, but the commission reverted back to its original opinion in March of 2009.

"The Joint Commission and Telemedicine: The Final Word?" Accreditation Monthly, *May 13, 2009*.

Factoid

Telehealth and telemedicine are also subject to the Joint Commission of Accreditation of Healthcare Organizations (JCAHO) standards.

"Hospital-Wide PACS Need Tighter Data Security," Diagnostic Imaging, *PACS Supplement, February 2000, http://www.dimag.com/db_area/archives/2000/0002pnews.3-7.html (accessed March 31, 2000)*.

While the burden on remote hospitals has been lessened and providers have supported the movement toward expanded access to *telemedicine*, regulatory hurdles remain despite the new *rule*. Physicians still face restrictions by state licensure laws in areas that do not extend *reciprocity* to physicians looking to provide *telemedicine services* to hospitals in another state. Although every state, the District of Columbia, Guam, and Puerto Rico have some form of legislation addressing licensure for *telemedicine services*, laws vary widely in flexibility and the scope of services covered, with many only permitting consultations.[147] Additionally, the extent of regulatory variations becomes even more fragmented within some states, with different laws for allopathic physicians (MD) in contrast to osteopathic physicians (DO).[148]

5.2.4.2 Reimbursement for Telehealth Services The *Balanced Budget Act of 1997* limited the scope of Medicare telehealth coverage to services related to consultation only. However, Section 223 of the *Medicare, Medicaid and SCHIP*

[147] Federation of State Medical Boards, "Telemedicine Overview: Board-by-Board Approach," August 2012.

[148] Ibid.

Benefits Improvement and Protection Act of 2000 (BIPA) revised Medicare reimbursement to cover *telehealth* services provided on or after October 1, 2001, to include *consultations*, *office visits*, *individual psychotherapy*, and *pharmacologic management*. Services are covered only for cases that use *interactive audio* and *video telecommunication systems*, and where the patient was present and participating in the telemedicine visit. Eligible geographic areas included *rural health areas with practitioner shortages*, as well as counties not classified as part of an established *Metropolitan Statistical Area*.[149]

Section 149 of *MIPPA* amended *BIPA* to reimburse services provided on or after January 1, 2009, for *telehealth services* performed in the office of a *physician or practitioner*, a hospital, a *critical access hospital* (CAH), a *rural health clinic*, a *federally qualified health center*, a *hospital-based* or a *CAH-based dialysis facility*, a *skilled nursing facility*, or a *community medical center*.[150] As of 2012, while approximately 13 states have laws requiring private insurers to reimburse for telehealth related services, in states without such laws, it is at the discretion of the insurer whether to reimburse providers for services provided through telehealth.[151] Approximately 35 states provided at least some reimbursement through Medicaid as of 2011.[152]

THE MEDICARE TELEHEALTH ENHANCEMENT ACT (H.R. 2068)

Provides $30 million in grants to health facilities to pay for telehealth equipment and expand telehealth support services. Also expected to address JCAHO/CMS credentialing issues

"Medicare Telehealth Enhancement Act of 2009," 111th Congress, Bill H.R. 2068, introduced April 23, 2009; "Telemedicine Boosts Access to Needed Care," by Robert J. Waters, Roll Call, sponsored by Congress.org, June 8, 2009.

[149] Centers for Medicare and Medicaid Services, "Adding Certain Entities as Originative Sites for Payment of Telehealth Services—Section 149 on the Medicare Improvements for Patients and Providers Act of 2008 (MIPPA)," *CMS Manual System*, *Pub. L.* 100-04, January 1, 2009.

[150] Ibid.

[151] Secure Telehealth, "13 States Force Private Insurance to Reimburse for Telepsychiatry," Secure Telehealth, June 7 2012, http://www.securetelehealth.com/private-insurance.html (accessed July18, 2012).

[152] Practice Central, "Reimbursement for Telehealth Services: Here's How Medicare, Medicaid, and Private Payers Now Handle Payment," March 31, 2011, http://www.apapracticecentral.org/update/2011/03-31/reimbursement.aspx (accessed July 18, 2012).

5.3 CLINICAL TECHNOLOGY

In addition to increases in the *development* and *utilization* of *health care management information technology*, there have also been *advances* in the *development* of *clinical technology*, which have led to *numerous treatment discoveries* and innovations. *Clinical technology* encompasses any *method* or *device* used for *patient treatment procedures*, for example, (1) *pharmaceuticals*, (2) *surgical devices*, and (3) *minimally invasive techniques*. Of note, in an *effective* and *efficiently* operated provider enterprise, *management* and *clinical technologies* will complement each other and may, in many cases, *overlap*, as discussed Section 5.2.1, "Technology as 'Process'," in Chapter 5, "Technology."

One significant consequence of advancements in *clinical technology* is the transition to more procedures being offered in outpatient settings. Specifically, advancements make available (1) less *invasive procedures*, (2) shorter *recovery times*, and (3) lower probability of *complications* during and after a procedure, all of which have allowed for procedures that traditionally had to be performed in an *inpatient setting* to be offered on an *outpatient basis*, which made up 64 percent of U.S. surgeries in 2010.[153] The higher costs associated with inpatient care and the overall increase in healthcare demand have contributed to increased *outpatient service utilization* from 300 million visits in 1990 to more than 650 million in 2010, a growth pattern that will likely continue in response to persistent *cost containment pressures* and the advancements in technology that have permitted the shift from inpatient to outpatient.[154]

As technology has advanced, the way patient care is viewed has changed dramatically, leading to technological developments related not only to the *treatment setting* (e.g., movement from *inpatient* to *outpatient*), but also the manner by which diseases are understood and treatments are approached by providers. Recent developments related to *genetics*, *gene therapy*, and *personalized medicine* have been made possible by the science of *genomics*.

---

[153] American Hospital Association, "Chart 3.14: Percentage Share of Inpatient vs. Outpatient Surgeries, 1990–2010," in *Trendwatch Chartbook 2012: Supplemental Data Tables, Utilization, and Volume*, 2012, http://www.aha.org/research/reports/tw/chartbook/2012/chart3-14.pdf (accessed May 14, 2012).

[154] American Hospital Association, *Trendwatch Chartbook 2012: Supplemental Data Tables, Utilization, and Volume*, 2012, http://www.aha.org/research/reports/tw/chartbook/2012/table3-4.pdf (accessed May 15, 2012), p. A-25; "Payments to Hospitals for Inpatient Hospital Services," 42 U.S.C. § 1395(ww)(b)(2).

Gene Therapy

Molecular means of cancer treatment.

"Biopharmaceutical Benchmarks 2006: The Rate of Biopharmaceutical Approvals Has Leveled Off, but Some Milestones Bode Well for the Future," by Gary Walsh, Nature Biotechnology *24, no. 7 (July 2006): 769–776.*

Genomics

The evaluation of the hereditary information provided by an organism's DNA and the application of research findings to the fields of genetic engineering and enhancement, cloning, stem cell research, and eugenics.

"Issues in Genetics and Health," by the National Human Genome Research Institute, February 23, 2009, http://www.genome.gov/10001740 (accessed June 29, 2009).

Personalized Medicine

The fusion of molecular diagnostics and therapeutic measures for specialized screening and treatment plans.

"Proteomics—Technologies, Markets, and Companies," by LeadDiscovery, https://www.leaddiscovery.co.uk/registration/ (accessed July 1, 2009).

5.3.1 Genetics, Genomics, and Genome Technology: The Rise of Personalized Medicine

Genomics is the evaluation of the *hereditary information* provided by an organism's DNA and the application of research findings to the fields of (1) *genetic engineering* and *enhancement*, (2) *cloning*, (3) *stem cell* research, and (4) *eugenics*.[155] In 2001, The *Human Genome Project* at the *National Institutes of Health* initially drafted a map of the *human genome*, a milestone

[155] National Human Genome Research Institute, "Issues in Genetics and Health," February 23, 2009, http://www.genome.gov/10001740 (accessed June 29, 2009).

Factoid

In 2001, The Human Genome Project at the National Institutes of Health completed the initial mapping of the human genome.

"The Era of 'omics Unlimited," by Raj P. Kandpal, Beatrice Saviola, and Jeffrey Felton, BioTechniques *46 (April 2009) (special issue): 351–355.*

that fueled interest in the field of *genomics*, and ultimately completed mapping in 2003.[156]

In 1993, the *National Human Genome Research Institute* (NHGRI) was established by the National Institutes of Health (NIH). The NHGRI is composed of more than 50 researchers who are each dedicated to specific facets of *genetic* and *genomic* research and contribute accordingly to one of seven branches of the NCHGRI: (1) *Cancer Genetics*, (2) *Genetic Disease Research*, (3) *Genetics and Molecular Biology*; (4) *Genome Technology*, (5) *Inherited Disease Research*, (6) *Medical Genetics*, and (7) *Social and Behavioral Research*.[157] Most recently, the NHGRI has made advancements in the (1) *identification of the genes* associated with various human genetic diseases and methods for diagnosis and treatment; (2) development of *new methods for mapping*, *sequencing*, and *interpreting* the *genomes of numerous species*; and (3) development and

The National Center for Human Genome Research Institute (NCHGRI)

Consists of more than 50 researchers who are each dedicated to specific facets of genetic and genomic research and contribute accordingly to one of seven branches of the NCHGRI.

"Issues in Genetics and Health," by the National Human Genome Research Institute, February 23, 2009, http://www.genome.gov/10001740 (accessed June 29, 2009).

[156] Raj P. Kandpal, Beatrice Saviola, and Jeffrey Felton, "The Era of 'Omics Unlimited," *BioTechniques* 46, no. 5 (April 2009): 351; National Human Genome Research Institute, "All About the Human Genome Project," September 10, 2012, http://www.genome.gov/10001772 (accessed October 9, 2012).

[157] National Human Genome Research Institute, "Overview of the Division of Intramural Research," May 11, 2012, http://www.genome.gov/10001634 (accessed September 26, 2012).

application of *methods for large-scale analyses* of *gene expression* and *genomic data*.[158]

The advent and advancement of *genomic mapping* have allowed for the flourishing of *personalized medicine*. A 2012 *Health Affairs* article stated that

> *In recent years, the sequencing of the human genome—along with technological advances that dramatically lowered the cost of DNA sequencing and enabled rapid, accurate measurement of proteins and metabolites in blood and tissue—has given rise to the fields of genomics, proteomics and metabolomics.*[159]

While *personalized medicine* is a relatively recent medicotechnology field, two related fields that have seen significant clinical progress are *cancer treatment* and *pharmacogenomics*.[160] Also, several areas of *genomics*, *cell-based therapies*, and *molecular targeting therapies* appear to hold promise for future advancements in the treatment of cardiac disease. For example, *pharmacogenomics* applies the "genetic variability in patients' responsiveness to a drug in order to inform clinical decisions about dosing and selection."[161] Furthermore, a broader "*vision*" for *personalized medicine* extends beyond the development of *individual treatment plans to individualized disease prevention* and early intervention strategies, for example, *Type 2 diabetes*.[162]

One way to achieve this "*vision*" of *personalized medicine* may be through the use of mobile medical applications ("*m-health apps*") that possess capabilities that allow them to be downloaded onto smartphones and computer tablets. It is hoped that these "*m-health apps*," which are rapidly expanding in the marketplace, will allow healthcare providers

---

[158] Ibid.

[159] Allen M. Spiegel and Meredith Hawkins, "Personalized Medicine to Identify Genetic Risks for Type 2 Diabetes and Focus," *Health Affairs* 31, no. 1 (January 2012): 44.

[160] Ibid.

[161] Elizabeth G. Nabel and Eugene Braunwald, "A Tale of Coronary Artery Disease and Myocardial Infarction," *New England Journal of Medicine* 366, no. 1 (January 5, 2012): 61.

[162] Allen M. Spiegel and Meredith Hawkins, "Personalized Medicine to Identify Genetic Risks for Type 2 Diabetes and Focus," *Health Affairs* 31, no. 1 (January 2012): 44, quoting Ralph Snyderman and Michaela A. Dinan, "Improving Health by Taking It Personally," *Journal of the American Medical Association* 303, no. 4 (January 27, 2010): 363.

CLINICAL UTILITY VERSUS CLINICAL VALIDITY

Two standards for new products. Clinical utility proves benefit through clinical testing and is a higher standard used by the FDA. Clinical validity is a lower standard that proves that accurate measurements are provided within a target population.

"The Human Genome and Translational Research: How Much Evidence Is Enough?" by Janet Woodcock, Health Affairs *27, no. 6 (November/December 2008): 1616–1617.*

to efficiently develop and distribute "*best-practice*" standards and treatment protocols to providers.[163] In addition, "*m-health apps*" may, in the future, likely be used by patients to monitor chronic conditions by reporting such information as blood pressure levels or sugar levels to their physicians.[164]

The term *personalized medicine* has been used in several venues, including *customized pharmaceuticals* and *customized diagnoses*. The *mapping of the human genome* was the first step toward much technological advancement that served as the foundation for a new genre of *pharmaceutical* and *therapeutic medicine*. *Biotechnology* and *biopharmaceuticals* are a significant portion of the current healthcare market, accounting for as much as 93 percent of the total dollars spent on healthcare merger and acquisition activity in recent years.[165]

Genomic understanding has provided pharmaceutical companies with new *therapeutic targets*, as well as *improving existing drugs*.[166] There has been some suggestion that *genetic composition* may be responsible, in part,

[163] Kenneth Kaufman and Mark E. Grubs, *Futurescan 2012: Healthcare Trends and Implications 2012–2017*, Chapter 1: "Healthcare Reform: The Transformation of America's Hospitals: Economics Drives a New Business Model," VHA Inc., Irving, Texas (2012), p. 8.

[164] Michelle McNickle, "5 Critical Technologies Health Systems Should Require," *Healthcare IT News*, http://www.healthcareitnews.com/news/5-critical-technologies-health-systems-should-require, July 30, 2012 (accessed September 21, 2012).

[165] Irving Levin Associates, Inc., "Drug Deals Dominate M&A: Biotech and Pharma Outspend All Other Sectors," *Healthcare M&A Monthly* 14, no. 6 (June 2009): 1.

[166] Jeff Goldsmith, "Technology and the Boundaries of the Hospital: Three Emerging Technologies," *Health Affairs* 23, no. 6 (2004): 150.

for some *adverse drug reactions*, and understanding that *genetic component* may allow *pharmaceutical companies* to design more *compatible* drugs or *identify* those individuals who should not be given particular therapies.[167] In recent years, genes have been associated with an increased risk of developing certain diseases or conditions. Some research suggests that the identification of such genes may allow individuals to take preventative measures against such conditions, particularly various forms of cancer. However, other findings indicate that such "*unsubstantiated information*" may present more harm than benefits, for example, (1) stress for the individual being "*diagnoses*," or (2) *unnecessary medical procedures*, such as *premature mastectomies*.[168]

As the market for *personalized medicine* expands and more research regarding genetic diagnoses saturates consumer-driven healthcare channels, a number of companies offering personalized genetic mapping, known as *genotyping*, have appeared, for example, *23andme.com*. These *direct-to-consumer genetic testing* companies offer genetic kits that take a small sample of cells, such as a check swab, and create a quick genetic profile for the customer that indicates any diseases the individual may be prone to.[169] A 2011 study of 23 direct-to-consumer testing websites found that 78 percent listed at least one limitation of their testing procedure and may present hurdles for an informed patient decision.[170] Some states, for example, California and New York, have intervened in the distribution of an individual's genetic profile and potential future diseases without physician direction, sending cease and desist letters to several companies.[171] Furthermore, four states, that is, (1) California, (2) Nevada, (3) Nebraska, and (4) Pennsylvania, have passed legislation prohibiting misleading advertisements for genetic tests.[172]

---

[167] Ibid.

[168] David J. Hunter, et al., "Letting the Genome Out of the Bottle: Will We Get Our Wish?" *New England Journal of Medicine* 358, no. 2 (January 10, 2008): 106.

[169] 23andme Customer Care, "How does 23andMe genotype my DNA?" https://customercare.23andme.com/entries/21263328 (accessed September 26, 2012).

[170] Amanda Singleton, et al., "Informed Choice in Direct-to-Consumer Genetic Testing (DTCGT) Websites: A Content Analysis of Benefits, Risks, and Limitations," *Journal of Genetic Counseling* 21 (2012): 433.

[171] Sara Hoverter and Danielle Perlman from Georgetown School of Law, "Federal and State Responses to Dangers of At-Home Genetic Testing," Memorandum to Steve Sakamoto-Wengel, Maryland Office of the Attorney General Paul Ballard, Maryland Office of the Attorney General, February 4, 2011.

[172] Ibid.; West's Ann.Cal.Bus. & Prof.Code § 17508(a); Nev. Rev. Stat Ann. § 598.0925; Neb. Rev. Stat § 87-302(a)(14); 18 Pa.C.S.A. § 4107 (a)(10).

The realities of *personalized medicine*, that is, *pharagogenetics* and *genetic testing*, create a multitude of regulatory and reimbursement issues. Although *the Health Insurance Portability and Accountability Act of 1996* (HIPAA) was designed to protect individuals' health information, the advancement of genetic testing has surpassed the regulatory standards set under HIPAA. Subsequent legislation has attempted to protect individuals' genetic information and allow for the furtherance of personalized medicine.[173] (See Chapter 3, "Regulatory Environment," for a further discussion of HIPPA and *protected health information*.) Similar to HIPAA, the *Genetic Information Nondiscrimination Act of 2008* (GINA), enacted on May 21, 2008, is designed to protect individuals from the *misuse* of their *personal health information*. The act prohibits the use of genetic information for *discriminatory* purposes by *health insurance companies* and *employers*. GINA amends both the *Employee Retirement Income Security Act* and the *Internal Revenue Code*.[174]

5.3.2 Stem Cell Research

Within any living organism, each cell is specialized to a specific biological system. *Stem cells* are unspecialized cells capable of renewing themselves through cell division, sometimes after long periods of inactivity, and adapting their function to accommodate a certain type of tissue or organ under the proper conditions. The unique regenerative capacity of stem cells has the potential to change the way health problems such as diabetes and heart disease are treated. As such, efforts to advance *reparative medicine* (therapies that heal the body's natural tissue) by developing efficacious cell therapies are at the forefront of medical research.[175] In July 2011, the first *completely synthetic human organ*, a trachea, was grown from human *stem cells* and successfully *transplanted*.[176] However, *synthetic organs* function at a fraction of their *natural counterparts*, for example, a *synthetic lung* grown from

[173] Randy Vogenberg, et al., "Personalized Medicine—Part 2: Ethical, Legal, and Regulatory Issues," *Journal of Pharmacy and Therapeutics* 35, no. 11 (November 2010): 629.

[174] "Genetic Information Nondiscrimination Act," *Pub. L.* 110-233 (May 21, 2008).

[175] National Institutes of Health Resource for Stem Cell Research, "Stem Cell Information: Stem Cell Basics," April 28, 2009, http://stemcells.nih.gov/info/basics/ (accessed June 29, 2009).

[176] "World's First Synthetic Organ Transplant," *Discovery News*, July 8, 2011, http://news.discovery.com/human/first-artificial-organ-transplant-110708.html (accessed October 15, 2012).

Reparative Medicine

Therapies that heal the body's natural tissue.

"Stem Cell Information: Stem Cell Basics," by the National Institutes of Health resource for stem cell research, April 28, 2009, http://stemcells.nih.gov/info/basics/ (accessed June 29, 2009).

stem cells functions at approximately 5 percent of the effective rate of a *human lung*.[177]

The completion of the draft human genome sequence in 2001 was followed by research inquiries targeting transcripts (*transcriptomics*), RNAi/miRNAs (*interferomics and micro-RNomics*), proteins (*proteomics*), interacting proteins (*interactomics*), DNA and chromatin modifications (*epigenomics*), and metabolites (*metabolomics*).[178] A major breakthrough occurred when researchers were able to reprogram an individual's own *somatic* cells to create new *induced pluripotent stem* (iPS) *cells* to provide a new method for *autologous* stem cell generation, where cells are removed, stored, and later reintroduced to the same person without having to use *embryonic stem cells* (ESC).[179] Developments in these areas contributed significantly to the molecular understanding of biology, pathology, and pharmacology, with molecular diagnostics representing the sector of the genomics market with the most promise.[180]

On January 23, 2009, the first *human embryonic stem cell*–based therapy was approved for clinical trial; *Geron Corporation* announced clearance

[177] Jennifer Welsh, "Scientist Are Solving Our Donor Crisis with Lab-Grown Organs," *Business Insider*, August 28, 2012, http://www.businessinsider.com/lab-grown-organs-2012-8?op=1 (accessed October 15, 2012); Harald C. Ott, et al., "Regeneration and Orthotropic Transplantation of a Bioartificial Lung," *Nature Medicine* 16, no. 8 (August 2010); Ashley Lutz, "Printed Skin Cells Will Change How We Treat Burns Forever," *Business Insider*, August 3, 2012, http://www.businessinsider.com/printed-skin-cells-will-change-how-we-treat-burns-forever-2012-7 (accessed October 15, 2012).

[178] Raj P. Kandpal, Beatrice Saviola, and Jeffrey Felton, "The Era of 'Omics Unlimited," *BioTechniques* 46, no. 5 (April 2009): 351.

[179] Gary Walsh, "Biopharmaceutical Benchmarks 2010," *Nature Biotechnology* 28, no. 9 (September 2010): 918; National Cancer Institute, *NCI Dictionary of Cancer Terms: Autologous Stem Cell Transplantation*, National Institutes of Health, http://www.cancer.gov/dictionary?CdrID=270733 (accessed September 27, 2012).

[180] Raj P. Kandpal, Beatrice Saviola, and Jeffrey Felton, "The Era of 'Omics Unlimited," *BioTechniques* 46, no. 5 (April 2009): 351–355; LeadDiscovery, "Proteomics—Technologies, Markets, and Companies," 1999, https://www.leaddiscovery.co.uk/registration/ (accessed July 1, 2009).

Stem Cells

Unspecialized cells capable of (1) renewing themselves through cell division, sometimes after long periods of inactivity; and (2) specializing to a certain type of tissue or organ under the proper conditions.

"Stem Cell Information: Stem Cell Basics," by the National Institutes of Health resource for stem cell research, April 28, 2009, http://stemcells.nih.gov/info/basics/ (accessed June 29, 2009).

of its *Investigational New Drug* (IND) application for the clinical trial of *GRNOPC1*, which manipulates the growth-stimulating properties of nerve cells to provide rehabilitation for acute spinal cord injuries.[181] Stem cell research is also beginning to investigate the causes of birth defects, enhance drug development by providing molecular insight, and expedite the drug approval process by facilitating preliminary drug testing.[182] Recent trends and advances in stem cell technology are promising, with approximately 145 *adult stem cell* studies completed, 58 actively underway, and another 139 currently recruiting volunteers for FDA *Phase III clinical* trials as of September 2012.[183]

Factoid

On January 23, 2009, the first human embryonic stem cell (hESC)-based therapy was approved for clinical trial.

"Geron Receives FDA Clearance to Begin World's First Human Clinical Trial of Embryonic Stem Cell–Based Therapy," by Geron, Visionary Therapeutics, *January 23, 2009, http://www.geron.com/media/pressview.aspx?id=1148 (accessed July 1, 2009).*

[181] Geron, "Geron Receives FDA Clearance to Begin World's First Human Clinical Trial of Embryonic Stem Cell–Based Therapy," press release, January 23, 2009, http://www.geron.com/media/pressview.aspx?id=1148 (accessed July 1, 2009).

[182] National Institutes of Health Resource for Stem Cell Research, "Stem Cell Information: Stem Cell Basics," April 28, 2009, http://stemcells.nih.gov/info/basics/ (accessed June 29, 2009).

[183] James Netterwald, "Stem Cell Technologies Boost Regenerative Medicine: Symbiotic Relationship Expected to Lead to New Therapies for Diseases," *Genetic Engineering & Biotechnology News* 29, o. 18 (October 15, 2009: http://www.genengnews.com/keywordsandtools/print/1/12982/ (accessed September 27, 2012). Current status of clinical trials can be accessed at the U.S. National Institutes of Health website, ClinicalTrial.gov.

GRNOPC1

Geron Corporation's Investigational New Drug that became the first human embryonic stem cell–based therapy approved for clinical trial. It is used in patients with acute spinal cord injury.

"Geron Receives FDA Clearance to Begin World's First Human Clinical Trial of Embryonic Stem Cell–Based Therapy," by Geron, Visionary Therapeutics, *January 23, 2009, http://www.geron.com/media/pressview.aspx?id=1148 (accessed July 1, 2009).*

5.3.3 Diagnostic Technology

Diagnostic medicine is used in both the *acute* and the *chronic* patient treatment setting for the purposes of *prevention*, *screening*, *disease detection*, and *care management*. Recent diagnostic advances support an attitude of *prevention* that although inherently accepted, has not been supported by systems and processes in healthcare to date. Diagnostic technology is also the backbone of much technological advancement, including (1) *minimally invasive surgery*, (2) *preventative procedures*, (3) *telemedicine*, and (4) *therapeutics*, to name a few. *Diagnostics* may also play a significant role in the advancement of *quality outcomes reporting* and associated *value-based purchasing* initiatives. While the characteristics mentioned provide *clinical benefits* to providers, payors, and patients, the *economic value metrics* of *diagnostic imaging* is unclear, as the technology is also associated with *patterns of overuse* and subsequent *increased healthcare costs*.[184] Diagnostics can be divided into two distinct fields: (1) *imaging technology* and (2) *molecular diagnostics*.

Factoid

Despite the fact that diagnostic testing influences 70 percent of all healthcare decisions made, diagnostics makes up only 2 percent of Medicare spending.

"Medicare Needs to Get with the Times," The Burrill Report, *Burrill and Company, 2009.*

[184]Laurence C. Baker, et al., "Expanding Use of Imaging Technology and the Challenge of Measuring Value," *Health Affairs* 27, no. 6 (November/December 2008): 1468, 1477.

5.3.3.1 Imaging Technology *Medical imaging* is defined as a "non-invasive process used to obtain pictures of the internal anatomy or function of the anatomy using one of many different types of imaging equipment and media for creating the image."[185] Among the various imaging modalities, *Single Photon Emission Computed Tomography* (SPECT), *Magnetic Resonance Imaging* (MRI), and *Positron Emission Tomography* (PET) all offer *high sensitivity imaging*; however, each provides certain benefits for a given patient condition or specialty that the other procedures lack. For example, in cardiology, SPECT is the most widely available procedure and is the most extensively validated. PET is associated with the highest levels of diagnostic performance, while MRI offers a nonradiation alternative that maintains similar levels of accuracy.[186]

The use of diagnostic imaging has grown at a rate much greater than other physician services, likely due to advances in technology allowing for more efficient, effective, and safe procedures. As indicated by MedPAC in the June 2012 publication *A Data Book: Health Care Spending and the Medicare Program*, the number of CT and MRI scans, per 1,000 Medicare B *fee-for-service beneficiaries*, grew significantly between 2000 to 2009, with a slight decrease from 2009 to 2010.[187] The number of CT scans performed, on parts of the body other than the head, more than doubled between 2000

Medical Imaging

Noninvasive process used to obtain pictures of the internal anatomy or function of the anatomy using one of many different types of imaging equipment and media for creating the image.

"Medicare Part B Imaging Services: Rapid Spending Growth and Shift to Physician Offices Indicate Need for CMS to Consider Additional Management Practices," Government Accountability Office, June 2008, GAO-08-452.

[185] Government Accountability Office, "Medicare Part B Imaging Services: Rapid Spending Growth and Shift to Physician Offices Indicate Need for CMS to Consider Additional Management Practices," June 2008, GAO-08-452.

[186] Caroline Jaarsma, et al., "Diagnostic Performance of Noninvasive Myocardial Perfusion Imaging Using Single-Photon Emission Computed Tomography, Cardiac Magnetic Resonance, and Positron Emission Tomography Imaging for the Detection of Obstructive Coronary Artery Disease: A Meta Analysis," *Journal of the American College of Cardiology* 59, no. 19 (May 8, 2012): 1727.

[187] MedPAC "A Data Book: Health Care Spending and the Medicare Program," (June 2012), p. 112.

TABLE 5.5 Medicare Spending on Diagnostic Imaging in 2010

Procedure	Percent of Total Medicare Spending
Standard Imaging	21%
CT	20%
MRI	15%
Echocardiography	11%
Other Echography (ultrasound)	15%
Nuclear Medicine	8%
Imaging Procedures	5%
PET	4%

A Data Book: Health Care Spending and the Medicare Program, MedPAC (June 2012), p. 111.

and 2010, from 258 scans per 1,000 Medicare Part B beneficiaries in 2000 to 548 scans per 1,000 Medicare Part B beneficiaries in 2010. Similarly, the number of MRI scans performed, on parts of the body other than the brain, for Medicare Part B beneficiaries more than doubled during the same time period.[188] Corresponding with the increased use of diagnostic imaging, Medicare spending for these services has also increased; the allocation of Medicare spending for diagnostic imaging under the 2010 *Physician Fee Schedule* is set forth in Table 5.5.

Linear Accelerator (LINAC)

Delivers uniform doses of high-energy X-rays to the localized area of the patient's tumor, while sparing the surrounding normal tissue. It is the device most commonly used for EBT treatments for patients with cancer

"DOTmed Industry Sector Report: Linear Accelerators and Simulators," by Barbara Kram, DOTmed News*, November 19, 2008, http://www.dotmed.com/news/story/7013/ (accessed June 29, 2009).*

5.3.3.1.1 X-ray Many forms of imaging advancements have evolved from the basic *X-ray technology*, including, for example, *CT*, *MRI*, and *PET*, developed in 1895 by Wilhelm Conrad Roentgen, a German physicist who discovered *X-ray technology* and brought it to the United States soon thereafter in 1896. The X-ray process was quickly adopted by both the healthcare

[188] Ibid.

industry and the courts, and in 1903, the first X-ray device was placed in Hanover Hospital.[189] *X-rays* distribute high-energy electrons through a part of the body, which are absorbed at varying rates by different density tissues, and when they are stopped by a metal plate, the elections produce an image, known as a *radiograph*, of the thickest tissue, generally bone.[190] Although imaging technology has developed far beyond the original *tubes and coils*, the presence of this technology has persisted in the field of *diagnostic imaging*.

5.3.3.1.2 Computed Tomography (CT) *Computed tomography* (CT) technology has transformed both *diagnostic* and *interventional* medicine, as the quality of CT images, due to the *cross-sectional scanning* capabilities they afford, surpasses the *anatomical detail* of *competing imaging technologies*, such as X-ray.[191] CT produces *tomographic images* (slices) of a specific area of the body by using a computer to process many X-rays of the area to create a *cross-sectional image*, obtained by rotating the X-ray device around the patient's body in a process known as *CT scanning*.[192] The clearer images provided by CT are due, in part, to the *elimination of image superimposition outside the area of interest* and the *high-contrast resolution* used that can *differentiate* between *varying tissue densities*. In addition, CT appears to *expedite* and *improve* initial triage of patients on an *outpatient basis* and in the *emergency room*, allowing patients to either return home or be admitted for further evaluation.[193] Since its inception in 1970, use of CT technology has grown rapidly, and as of 2011, approximately 85.3 million scans were performed in the United States.[194]

In addition to *high-quality images*, CT can also be a *cost effective* alternative to several other imaging methods that are available. Furthermore,

---

[189] Peter K. Spiegel, "The First Clinical X-Ray Made in America—100 Years," *American Journal of Radiology* 164 (January 1995): 241, 242, 243.

[190] Radiological Society of North America, "X-ray," 2012, http://www.radiologyinfo.org/en/glossary/glossary1.cfm?sTerm=X (accessed September 27, 2012).

[191] David J. Brenner and Eric J. Hall, "Computed Tomography—An Increasing Source of Radiation Exposure," *New England Journal of Medicine* 357, no. 22 (November 29, 2007): 2277.

[192] National Cancer Institute, "Computed Tomography (CT): Questions and Answers," September 8, 2003.

[193] James Brice, "CT Shines as Cardiac Triage Tool in the ER," Diagnosticimaging.com, November 2005, http://www.diagnosticimaging.com/showArticle.jhtml?articleID=174402997 (accessed July 14, 2006).

[194] Fred A. Mettler, et al., "CT Scanning: Patterns of Use and Dose," *Journal of Radiological Protection* 20, no. 4 (2000): 353; IMV, "Latest IMV CT Survey Shows Hospitals Seek to Improve Productivity to Manage Increased Outpatient and Emergency CT Procedure Volume," June 5, 2012, PRWeb, http://www.prweb.com/releases/2011/6/prweb8559972.htm (accessed November 15, 2013).

CT Scanning

The process of making a computed tomography image.

"Computed Tomography (CT): Questions and Answers," National Cancer Institute, September 8, 2003.

CT scanning may be used *incrementally* with older, more invasive methods of diagnostics, for example, *catheter-based angiography*, lowering potential barriers to its implementation.[195] However, it should be noted that for some procedures, *substituting* older methods for *CT scanning* may produce net savings of more than $200 per procedure, not including increased (1) *efficiency*, (2) *productivity*, and (3) *patient satisfaction*.[196] The determination of the various cost efficiencies of such imaging technology is currently much in debate and awaiting further research and cost analysis.

The advent of *multidetector row computed tomography* (MDCT) technology has redefined imaging on the *molecular* and *cellular levels*, thereby enhancing patient management and care.[197] Through the evolution from the *4-slice CT scanner*, the *16-slice CT scanner*, and finally, the *64-slice CT scanner*, MDCT has raised the standard for *image quality* and *accuracy*, allowing for the production of *three-dimensional images*.[198]

Factoid

Italian radiologist Alessandro Vallebona first proposed a method to represent a single slice of the body on the radiographic film, known as tomography, in the early 1900s.

"Radiology in Italy: What Is Happening?" by Stefania Romano, The Practice of Radiology *193, no. 4 (October 2009): w273.*

[195] Laurence C. Baker, et al., "Accessing Cost-Effectiveness and Value as Imaging Grows: The Case of Carotid Artery CT," *Health Affairs* 29, no. 12 (2012): 2260.

[196] Ibid., p. 2265.

[197] Jagat Narula, "Dynamic Volume CT: A Macroevolution?" *Radiology Today* 9, no. 23 (November 17, 2008): 10.

[198] Sal Martino, Jerry Reid, and Teresa G. Odle, *Computed Tomography in the 21st Century: Changing Practice for Medical Imaging and Radiation Therapy Professionals* (Albuquerque, NM: American Society of Radiologic Technologists, 2008), pp. 2,

MULTIDETECTOR ROW CT ("MDCT")

MDCT has raised the standard for image quality and accuracy in identifying differences in patients. In addition to greater acuity, MDCT (namely, 64-slice technology) also operates at an increased speed over previously existing CT technology.

"CT Flexes Muscle in Coronary Disease Detection," by James Brice, Diagnosticimaging.com, November 2005, http://www.diagnosticimaging.com/showArticle.jhtml?articleID=174402602 (accessed July 14, 2006).

In addition to producing images with greater *acuity*, the *64-slice CT* also operates at an increased speed over previously existing CT technology. The average scanning time for the *64-slice scanner* was 313 seconds, which was 64 seconds faster than second-generation *16-slice scanners*.[199] A *64-slice CT scanner* can complete a scan in as little as eight to twelve (8 to 12) seconds, compared to a traditional CT scanner's time of 10 to 20 seconds.[200]

Factoid

The 64-Slice CT is the most popular CT technology in use, as it made cardiac and cerebral CT imaging possible.

"Nuclear Cardiology Adopts Hybrid and Dynamic Imaging," by David Berman, DiagnosticImaging.com, October 2006, http://www.diagnosticimaging.com/display/article/113619/1193342 (accessed February 10, 2009).

8, citing IMV, "Latest IMV CT Census Shows Slow-down in the Purchase of CT Technology," press release (March 20, 2008), http://www.imvinfo.com/user/documents/content_documents/nws_rad/MS_MRI_PressRelease.pdf (accessed October 10, 2012).

[199] James Brice, "CT Flexes Muscle in Coronary Disease Detection," Diagnostic imaging.com, November 2005, http://www.diagnosticimaging.com/showArticle.jhtml?articleID=174402602 (accessed July 14, 2006).

[200] Lisa Fratt, "State-of-the-Art Cardiac CT Prompts Better, Quicker, Diagnosis and Shorter Hospital Stays," *Cardiovascular Business* (March/April 2009): 22–24; Radiological Society of North America, "Cardiac CT for Calcium Scoring," American College of Radiology April 24, 2012, http://www.radiologyinfo.org/en/info.cfm?PG=ct_calscoring (accessed October 10, 2012).

Two of the most recent developments in *CT technology*, the *256-* and *320-detector row systems*, are collectively referred to as *dynamic volume CT*. *Dynamic volume CT* technology is capable of imaging an *entire organ* with *isotropic (uniform) resolution* in one rotation and as a complete volume. The *temporally uniform data* are then reconstructed as a *whole unit*, thereby reducing the chance of *artifacts* and *misregistrations* in the image caused by creating a *composite image*.[201] In addition to being *quicker* and *more accurate*, *dynamic volume CT* provides the benefit of exposing the patient to a significantly *lower dose of radiation* than both 64-slice imaging and the invasive diagnostic technologies. Similarly, *dynamic volume CT scanning* is sensitive enough in its high resolution to allow physicians to detect *subclinical problems*, facilitating *earlier diagnosis* and *treatment*.[202]

5.3.3.2 Magnetic Resonance Imaging (MRI) In contrast to X-ray and CT imaging, which use radioactive material, *magnetic resonance imaging* (MRI) uses powerful *magnetic fields*, *radio waves*, and often a *contrast solution* to produce *cross-sectional images* of *internal structures*, for example, organs, ligaments, and cartilage, that may be invisible to other imaging technologies. While MRIs do not expose patients to radioactive isotopes, the magnetic field created during a MRI procedure cannot be used on any patients with metal prosthetics.[203]

Functional MRI (fMRI), a combined technology using *Positron Emission Tomography* (PET) and the *MRI system*, enables physicians to *observe brain function* while patients perform *physical* and *mental tasks*.[204] fMRI is one of the most *prevalent methods of brain imaging* in today's market.[205] An estimated 30.2 million MRI procedures were performed in

[201] Tony DeFrance, "CT beyond 64 Slices: 'Dynamic Volume CT' Promises to Streamline Workflow, Improve the Bottom Line," *Cardiovascular Business* (January/February 2009 [January 9, 2009]): 24.

[202] Jagat Narula, "Dynamic Volume CT: A Macroevolution?" *Radiology Today* 9, no. 23 (November 17, 2008): 10.

[203] Food and Drug Administration, "MRI (Magnetic Resonance Imaging)," June 6, 2012, http://www.fda.gov/Radiation-EmittingProducts/RadiationEmittingProductsandProcedures/MedicalImaging/ucm200086.htm (accessed September 21, 2012).

[204] B. Divya, "MRI Systems Market: Clinical Application Trends," October 10, 2007, Frost and Sullivan, http://www.frost.com/prod/servlet/market-insight-top.pag?docid=108958393 (accessed June 29, 2009).

[205] Ibid.

2010, a significant growth from 26.6 million procedures conducted in 2006.[206]

While MRIs were previously used in circumstances in which a "*hidden*" trauma was indicated, for example, an injury to *softer tissue*, such as *ligaments*, that was previously missed by the *4-slice CT scan*, studies have shown that a *64-slice CT scan* can identify many of those injuries.[207]

5.3.3.2.1 "Fusion" Imaging: Nuclear Medicine and Combined Technologies *Nuclear imaging* uses trace quantities of *radiopharmaceuticals* that target specific organs, bones, or tissue being imaged to *noninvasively* provide information related to potential abnormalities, for example, differentiating a tumor from the surrounding swollen tissue.[208] The *radiopharmaceuticals* used are specific to the *target* organ, bones, or tissue in question. A *positron emission tomography* (PET), *single photon emission computed tomography* (SPECT), or a gamma camera detects the *radiopharmaceutical* and forms an image of the target region. Of note, the same imaging technology, using high enough doses of *radiopharmaceuticals*, may be used for treatment purposes in addition to diagnostic purposes.[209] While *nuclear imaging* can be time consuming, and image resolution quality may *not* be as high as with CT scans and MRIs, *nuclear imaging* does provide information about the given *abnormality's function*, for example, biological changes associated with the presence of a given disease, alongside its structure.[210]

The adoption of CT utilization in *conjunction* with *nuclear imaging* modalities has resulted in a *hybrid technology* known as *"fusion" imaging*

---

[206] Wayne Forrest, "Workshop Explores MRI Safety Solutions," *Medical Physics Web*, November 8, 2011, http://medicalphysicsweb.org/cws/article/research/47741 (accessed July 17, 2012); "Latest IMV Market Report Shows Continued Demand for High Field MRI Systems," IMV, January 16, 2007, http://www.imvinfo.com/user/documents/content_documents/nws_rad/MS_MRI_PressRelease.pdf (accessed June 29, 2009).

[207] Carlos V.R. Brown, et al., "Computed Tomography versus Magnetic Resonance Imaging for Evaluation of the Cervical Spine: How Many Slices Do You Need?" *American Surgeon* 76, no. 4 (April 2010): 365.

[208] Ashish S. Kumar, et al., "Usefulness of Whole Body FDG18 PET-CT Imaging in Comprehensive Oncologic Management—Initial Experience," *Journal of Cancer Research and Therapeutics* 6, no. 3 (July/September 2010): 290, 294.

[209] SNM, "What Is Nuclear Medicine?" 2009, http://interactive.snm.org/docs/whatisnucmed.pdf (accessed October 6, 2011).

[210] Radiological Society of North America, "Cardiac Nuclear Medicine: What are the Limitations of Cardiac Nuclear Medicine?" RadiologyInfo, 2010, http://www.radiologyinfo.org/en/info.cfm?PG=cardinuclear#part_ten (accessed January 18, 2010).

"FUSION" IMAGING

A hybrid technology that combines nuclear medicine cameras with CT detection methods.

"Nuclear Medicine Usage, Grows, Led by PET," IMV Medical Information Inc. Newsline *47, no. 10 (2006): 13N.*

that combines *nuclear medicine cameras* with *CT detection methods*.[211] *PET-CT*, as well as *SPECT-CT* systems, have various qualities that may prove advantageous over the use of these modalities *independently*. By using a dual system (SPECT-CT or PET-CT), patients can undergo both procedures at once, resulting in *minimized error rates* and *clearer images*.[212] For some procedures, for example, *assessing metabolic status* of a given treatment, PET has been shown to be more effective than CT and MRI in terms of its ability to differentiate variations in images posttreatment.[213]

PET technology allows for substantially *higher sensitivity* than *single-photon imaging technologies* such as SPECT.[214] However, due to the longer *half-life* of *single photon emitters*, SPECT tracers last six hours, while PET tracers have only a 75 second half life. A longer half-life enables the use of a *wider observational time window*.[215] SPECT is much more *available*, is more *widely used*, and may currently be more *affordable* than PET-CT technology, for example, a SPECT camera can cost up to $200,000, while the PET-CT can cost up to $1.5 million; however, both of these imaging

[211] "Nuclear Medicine Usage, Grows, Led by PET," *IMV Medical Information Inc. Newsline* 47, no. 10 (2006): 13N; Dave Fornell, "SPECT vs. PET, Which Is Best?" October 2008, http://www.dicardiology.net/node/28668 (accessed February 10, 2009).

[212] Daniel S. Berman, "Nuclear Cardiology Adopts Hybrid and Dynamic Imaging," *Diagnostic Imaging*, October 2006, http://www.diagnosticimaging.com/display/article/113619/1193342 (accessed February 10, 2009).

[213] Ashish S. Kumar, et al., "Usefulness of Whole Body FDG18 PET-CT Imaging in Comprehensive Oncologic Management—Initial Experience," *Journal of Cancer Research and Therapeutics* 6, no. 3 (July/September 2010): 290, 292; S. Padma, et al., "Role of Positron Emission Tomography Computed Tomography in Carcinoma Lung Evaluation," *Journal of Cancer Research and Therapeutics* 7, no. 2 (April–June 2011): 128, 132, 133.

[214] Arman Rahmim and Habib Zaidi, "PET versus SPECT: Strengths, Limitations, and Challenges," *Nuclear Medicine Communications* 29 (2008): 193–207.

[215] Ibid.

Factoid

PET technology allows for substantially higher sensitivity than single-photon imaging technologies such as the SPECT.

"PET versus SPECT: Strengths, Limitations, and Challenges," by Arman Rahmim and Habib Zaidi, Nuclear Medicine Communications *29 (2008): 193–207.*

modalities are *reimbursed* at approximately the same rate.[216] SPECT is subject to longer scan times and can produce *low-resolution images* that are prone to *artifacts* and *attenuation* (especially in larger patients).[217]

In 2007, the 15.9 million SPECT procedures that were performed significantly outpaced the 1.6 million PET-CT procedures performed.[218] While the number of SPECT procedures declined in 2010, the number of PET procedures increased 8.9 percent from 2009 to 2.1 million.[219] Further supported by the FDA approval of new clinical applications and improved reimbursement within cardiology specialties, PET market sales are projected to increase from $391.8 million in 2010 to $4.31 billion in 2018, as compared to SPECT market sales, which are only expected to increase from $758 million in 2010 to $1.68 billion in 2018.[220] Despite the described barriers, a

Factoid

PET-CT technology has been most incorporated in oncology practices, where budgets appropriately match the need.

"Great Expectations and the Saga of SPECT-CT," by Greg Freiherr, Diagnostic Imaging*, June 25, 2009, http://www.diagnosticimaging.com/display/article/113619/1425226?CID=rss (accessed June 29, 2009).*

[216]T. Valenzia, "Cardiac Imaging: SPECT Versus PET," Interview with Patrick Rooney, CEO of Positron Corp, Imaging Economics, July 2010.

[217]Dave Fornell, "SPECT vs. PET, Which Is Best?" *Diagnostic & Invasive Cardiology*, October 2008, http://www.dicardiology.net/node/28668 (accessed February 10, 2009).

[218]Ibid.

[219]Marvin Burns, "PET and SPECT Markets Should Reach $6 Billion by 2018," Biotech Systems, Inc., July 16, 2011.

[220]Ibid.

majority of the providers surveyed in a 2011 study projected that PET and *combined PET* technologies would eventually replace SPECT procedures altogether.[221]

5.3.3.2.2 Ultrasound *Ultrasound* technology continues to undergo extremely promising improvements, with *greater speed* and *enhanced quality* affording (1) *higher frequency*, (2) *better resolution*, and (3) *three-dimensional imaging*. This increase in ultrasound diagnostic use is fostering an array of possibilities, including (1) added *specificity* of results, (2) a *reduction* in the necessity of *biopsies*, and (3) more *standardized ultrasound* use.[222] While ultrasound technology has been developed in areas such as heart wall motion diagnostics and 3D/4D imaging for obstetrics and gynecology procedures, many radiologists have continued to use ultrasound for "*basic examinations only*."[223] However, advancements in ultrasound procedure guidance are both improving the efficiency and quality of ultrasound procedures that are performed as part of the *fusion imaging* guidance that is utilized during *interventional radiology* procedures.

The increased use of "*hybrid interventional suites*" in the cardiology arena may drive further demand and use of ultrasound equipment in *interventional radiology* procedures that combine the capabilities of a typical *operating room* with *imaging technology* such as *X-ray, CT, MRI,* and *ultrasound*.[224] Typically, patients suspected of having *carotid artery disease*, the most common cause of stroke in the United States, initially undergo an *ultrasound examination* of the carotid arteries before further diagnostic testing is performed.[225] In the past, a *catheter angiogram* of the carotid arteries, an invasive procedure that carries an increased risk of stroke and other complications, has been the traditional follow-up test to an *ultrasound*. However, *Computed Tomographic Angiography* (*CT angiography)* has emerged as a *less-expensive*, *safer*, *noninvasive procedure*, which has been shown to

[221] Nuclear Energy Agency, "The Supply of Medical Radioisotopes: An Assessment of Long-Term Global Demand for Technetium-99," *Nuclear Development* (June 2011): 11.

[222] Kate Madden Lee, "New Breast Ultrasound Techniques May Find More Cancers," *Aunt Minnie*, March 1, 2007, http://www.auntminnie.com/index.aspx?sec=spt&sub=tir&pag=dis&ItemID=74563 (accessed October 11, 2012).

[223] Carly Reed, "Ultrasound in Interventional Radiology: Small Market, Big Future," *Diagnostic Imaging*, February 23, 2012, http://www.diagnosticimaging.com/interventional-radiology/content/article/113619/2036609 (accessed October 5, 2012).

[224] Ibid.

[225] Laurence C. Baker, et al., "Accessing Cost-Effectiveness and Value as Imaging Grows: The Case of Carotid Artery CT," *Health Affairs* 29, no. 12 (2012): 2261.

accurately diagnose *carotid artery disease*.[226] While CT angiography use emerged in the late 1990s, it became a well-established diagnostic tool by the early 2000s, with the advent of high-speed CT technology.[227]

5.3.3.3 Molecular Diagnostics *Molecular diagnostics* traditionally involved the collection of a sample of a patient's tissue that was observed under a microscope to *screen for infections* (e.g., HIV, hepatitis, and tuberculosis) more accurately and effectively than traditional methods.[228] However, the capabilities of *molecular diagnostics* have evolved over time to include (1) *genetic disorder screening*, (2) *pre-implantation screening*, and (3) *cancer screening procedures*, thereby facilitating the transition toward *preventative healthcare*.[229] These advancements have changed the screening procedure to include both *tissue samples* and *genomic samples* isolated through *proteomics* and *DNA synthesis techniques*.[230]

The capabilities afforded by *molecular diagnostics* have relied on developments in (1) *polymerase chain reaction* (PCR)–based technology, (2) *electrochemical detection* of DNA, (3) *biochip technology*, (4) *nanotechnology*, and (5) *proteomic* technologies.[231] *Nanotechnology*, which may be understood as

MOLECULAR DIAGNOSTICS

The capabilities of molecular diagnostics have since evolved to include genetic disorder screening, preimplantation screening, and cancer screening procedures.

"Proteomics—Technologies, Markets, and Companies," by LeadDiscovery, https://www.leaddiscovery.co.uk/registration/ (accessed July 1, 2009).

[226] Ibid.

[227] Ibid.

[228] Harry Glorikan, "The Molecular Diagnostics Industry Today," *Drug Discovery & Development* 9, no. 9 (September 2007): 68; "Market Overview," in *Global Molecular Diagnostics Market and Future Forecast 2010–2014*, Renub Research, July 2011, p. 1.

[229] LeadDiscovery, "Proteomics—Technologies, Markets, and Companies," 1999, https://www.leaddiscovery.co.uk/registration/ (accessed July 1, 2009).

[230] "Market Overview," in *Global Molecular Diagnostics Market and Future Forecast 2010–2014*, Renub Research, July 2011, p. 1.

[231] LeadDiscovery, "Proteomics—Technologies, Markets, and Companies," 1999, https://www.leaddiscovery.co.uk/registration/ (accessed July 1, 2009).

Biomarkers

An important tool for diagnosing and monitoring cancer; however, some critics believe biomarkers, as a clinical treatment process, were a failure.

"Proteomic Applications for the Early Detection of Cancer," by Julia D. Wulfkuble, Lance A. Liotta, and Emanuel F. Petricoin, Nature Reviews: Cancer 3 *(April 2003): 267; "Proteomic Retrenches," by Peter Mitchell,* Nature Biotechnology *28, no. 7 (July 2010): 665.*

the *engineering* of *body systems* on a *molecular level*, has been used in conjunction with the study of (1) *viruses*, (2) *biomarkers*, (3) *neural regeneration*, (4) *drug delivery membranes*, and other fields.[232] The ability to influence healthcare delivery through "highly integrated, miniaturized and smart micro-nano-bio-systems" is currently at the forefront of U.S. healthcare delivery, as it presents the capabilities to "enable the delivery of individualized health services with better access and outcomes at lower costs than previously deemed possible."[233]

Developments in these fields have driven both the advancement and the direction of molecular diagnostics to affect the molecular, nonmolecular, and in vitro diagnostic markets.[234] Advances in genetic engineering and enhancement and pharmacogenomics have led to a fusion of molecular diagnostics and therapeutic measures for specialized screening and treatment plans, which fusion is pivotal to personalized medicine.

Although the field of molecular diagnostics has grown beyond its original focus on screening for infectious disease, this function is still the fastest growing segment of the molecular diagnostics market, that is, 21 percent.[235] Currently,

---

[232] Center for Responsible Nanotechnology, "What Is Nanotechnology," http://www.crnano.org/whatis.htm (accessed October 25, 2012); National Nanotechnology Initiative, "NNI Accomplishments in Nanotechnology," http://www.nano.gov/nanotechnology-initiatives/nano-achievements/results?keywords=health&category[0]=all&agencies[0]=all&submitted=1&op=Search%20Nano%20Achievements&form_build_id=form-af109379a72299af2604516ede8682ff&form_id=omni_achievements_filter_achievements_form (accessed October 15, 2012).

[233] A. Lymberis, "R&D in Micro-Nano-Bio Systems and Contribution to pHealth," *Studies in Health Technology Information*, Col. 177, 2012, p. 26.

[234] Harry Glorikan, "The Molecular Diagnostics Industry Today," *Drug Discovery & Development* 9, no. 9 (September 2007): p. 68.

[235] "Market Overview," in *Global Molecular Diagnostics Market and Future Forecast 2010–2014*, Renub Research, July 2011, p. 3.

the United States controls most of the global molecular diagnostics market, which is projected to reach $15 billion by 2014.[236] The potential profitability for suppliers within the personalized medicine market has led to increased transactional activity among molecular diagnostic companies, whereby large companies are diversifying, to maximize their presence in the personalized market, by purchasing specialized diagnostic entities, for example, in vitro diagnostic companies.[237] Following infectious disease screening, the second largest segment of the molecular diagnostics market is oncology testing.[238]

The field of *cancer diagnostics*, using *molecular technologie*s, has been influential in the transition to *personalized medicine*. *Cancer molecular diagnostics* (CMD) will most likely not, in the foreseeable future, replace traditional *pathological examinations*, but rather will serve to supplement and enhance these methods by employing them in conjunction with (1) *microarrays*, (2) *reverse transcriptase polymerase chain reaction* (RT-PCR), (3) *mass spectrometric proteomic analyses*, and (4) *protein chips*.[239] *CMD technology* will allow practitioners to (1) better *diagnose cancer*, (2) choose and develop *personalized treatment plans*, and (3) identify *predispositions* twice as quickly as other assays for only a fraction of the drug development costs.[240]

CMD TECHNOLOGY

Will allow practitioners to diagnose cancer, choose and develop personalized treatment plans, and identify predispositions twice as quickly as other assays and for only a fraction of the drug development costs.

"Cancer Molecular Diagnostics Take the Stage: CMDS Are at the Forefront of Evolving Healthcare Practices," Genetic Engineering and Biotechnology News *29, no. 7 (April 1, 2009).*

---

[236] Ibid.

[237] Anne Staylor and Mary Thompson, "Integrated Diagnostics and Personalized Care: An Interview with GE Healthcare," *Medtech Insight* 13, no. 6 (June/July 2011): 16.

[238] "Market Overview," in *Global Molecular Diagnostics Market and Future Forecast 2010–2014*, Renub Research, July 2011, p. 3.

[239] Sudeep Basu, "Cancer Molecular Diagnostics Take the Stage: CMDs Are at the Forefront of Evolving Healthcare Practices," *Genetic Engineering and Biotechnology News, BioMarket Trends* 29, no. 7 (April 1, 2009), http://www.genengnews.com/articles/chitem_print.aspx?aid=2852&chid=0 (accessed September 24, 2009).

[240] Ibid.

The identification of *medical predispositions* based on *genomic characteristics* is a relatively new growth market. In addition to the identification of *particular genes* that currently may be used to identify individuals who may be predisposed to certain cancers or diseases, *molecular diagnostics* can identify more than 1,900 *heritable disorders*. Although clinical laboratories are seeking to obtain a broader base for more diagnostics tests, a lack of standards between laboratories has led to a high level of variability and inconclusive results. Direct-to-consumer commercial "*testing kits*" have further diluted the standards for molecular diagnostics, creating concerns regarding the regulation of the field.[241]

Many *molecular diagnostic* technologies are not subject to the stringent compliance requirements set by the FDA for most *device technologies*. Rather, *the laboratory developed tests* (LDT) that encompass the many genetic diagnostic tests on the market are subject to FDA *discretional enforcement*, which is typically determined through the laboratory requirements prescribed in the *Clinical Laboratory Improvement Amendments of 1988*.[242] (See Chapter 3, "Regulatory Environment," for a further discussion of FDA regulations regarding *medical devices* and the *Clinical Laboratory Improvement Amendments of 1988*.)

5.3.4 Therapeutic Technology

The range of use for therapeutic technologies has grown substantially in the last century, and innovation in the field continues to lead to groundbreaking medical discoveries in the fields of *radiation therapy*, *minimally invasive surgery, transplant technologies, home infusion therapy, pain management*, and *molecular pharmacology*.

5.3.4.1 Radiation Therapy Much like *diagnostic imaging technology*, *radiation therapies* have been developed, adapted, and improved since the

[241] Marcia J. Holden, et al., "Molecular Diagnostics: Harmonization through Reference Materials, Documentary Standards and Proficiency Testing," *Expert Review of Molecular Diagnostics* 11, no. 7 (2011): 741–742.

[242] Janet Woodcock, "The Human Genome and Translational Research: How Much Evidence Is Enough?" *Health Affairs* 27, no. 6 (November/December 2008): 1617; "LDT Oversight Should Be Strengthened: Frequently Asked Questions," College of American Pathologists, October 31, 2011, http://www.cap.org/apps/cap.portal?_nfpb=true&cntvwrPtlt_actionOverride=%2Fportlets%2FcontentViewer%2Fshow&_windowLabel=cntvwrPtlt&cntvwrPtlt{actionForm.contentReference}=advocacy%2Fldt%2Fldt_oversight_faq.html&_state=maximized&_pageLabel=cntvwr#regulated (accessed September 27, 2012).

GENEDICINE

The first gene therapy commercially approved (2004) for treatment of head and neck squamous cell carcinomas.

"Biopharmaceutical Benchmarks 2006: The Rate of Biopharmaceutical Approvals Has Leveled Off, but Some Milestones Bode Well for the Future," by Gary Walsh, Nature Biotechnology *24, no. 7 (July 2006): 769–776.*

discovery of the X-ray in 1895.[243] *Radiation therapy* uses high-energy light beams or charged particles to stunt the proliferation of cancer cells by damaging the DNA within the cell, thereby eliminating the cells' ability to divide or killing the cell.[244] However, radiation therapy also has the potential to damage healthy cells. Most side effects of radiation therapy are short term and are usually confined to the area being treated. Typically, treatments are administered on an *outpatient basis*, during the course of multiple sessions.[245] Approximately 50 to 60 percent of cancer patients use some form of radiation therapy at some point during their treatment.[246]

The development of *gamma knives* has increased the therapeutic capability, precision, and ease of use in which they deliver radiation therapy. These tools are used in the various modalities to deliver highly advanced therapy procedures, such *as intensity modulated radiation therapy* and *stereotactic radiosurgery*. In addition to executing treatment plans developed based on

[243] Radiological Society of North America, "Introduction to Cancer Therapy (Radiation Oncology)," *RadiologyInfo*, June 10, 2009, http://www.radiologyinfo.org/en/info.cfm?pg=intro_onco (accessed June 26, 2009).

[244] International Radiosurgery Association, "Radiotherapy Overview," 2008, http://www.irsa.org/radiotherapy.html (accessed June 26, 2009); National Cancer Institute, "Radiation Therapy for Cancer," June, 30, 2010, http://www.cancer.gov/cancertopics/factsheet/Therapy/radiation (accessed November 1, 2012).

[245] International Radiosurgery Association, "Radiotherapy Overview," 2008, http://www.irsa.org/radiotherapy.html (accessed June 26, 2009).

[246] International Radiosurgery Association, "Radiation Therapy," 2008, http://www.irsa.org/radiotherapy.html (accessed June 26, 2009); Radiological Society of North America, "Introduction to Cancer Therapy (Radiation Oncology)," *RadiologyInfo*, June 10, 2009, http://www.radiologyinfo.org/en/info.cfm?pg=intro_onco (accessed June 26, 2009).

PUBLIC HEALTH SERVICE ACT

Legislation that has kept generic biopharmaceuticals from being marketed.

"Rx Watchdog Report, Trends in Manufacturer Prices of Specialty Prescription Drugs Used by Medicare Beneficiaries, 2004–2007," by Stephen W. Schlondelmeyer, Leigh Purvis, and David J. Gross, American Association of Retired Persons, September 2008.

imaging scans, *image-guided radiotherapy* (IGRT) is used in one-third of all radiation oncology sites, with *ultrasound*, *X-ray*, and *CT imaging technologies* being used most frequently.[247]

Gamma Knife

This employs computerized robotic technology to move patients at submillimeter increments during treatment.

"Novalis TX, CyberKnife, TomoTherapy, Linac Radiosurgery and Radiation Therapy," by the International Radiosurgery Association, 2008, http://www.irsa.org/radiotherapy.html (accessed June 26, 2009).

IMAGE-GUIDED RADIOTHERAPY (IGRT)

This is a technology implemented by one-third (⅓) of all radiation oncology sites to date, which implements ultrasound, X-ray, and CT most frequently.

"IMV Reports Increased Use of Image-Guided Radiotherapy in Radiation Oncology," by the Gale Group, BusinessWire *(2007) (accessed June 29, 2009).*

[247]Daniel R. Simpson, et al., "A Survey of Image-Guided Radiation Therapy Use in the United States," *Cancer* 116, no. 16 (August 15, 2010), p. 1.

Stereotactic Radiosurgery

This is a highly precise procedure involving the single, high-dose delivery of precisely targeted gamma-ray or X-ray beams, which is used in different parts of the body, but most frequently to treat brain tumors.

DOTmed Industry Sector Report: Linear Accelerators and Simulators, *by Barbara Kram,* DOTmed News, *November 19, 2008, http://www.dotmed.com/news/story/7013/ (accessed June 29, 2009).*

5.3.4.1.1 Intensity-Modulated Radiation Therapy *Intensity Modulated Radiation Therapy* (IMRT) is an advanced form of radiation therapy using *three-dimensional* (3D) imaging and treatment delivery. It differs from *3D conformal radiation therapy* (3D CRT), which uses linear accelerators to administer varying intensities of radiation without IMRT capabilities.[248] Alternately, IMRT treatments, custom-tailored using 3D CT images alongside computer-generated dose calculations, most effectively treat the *unique three-dimensional shape* of a tumor. This method allows for increased precision in the administration of high-dose radiation, while preserving the surrounding tissue.[249] Currently, CT scans are most commonly used for *IGRT*, such as *IMRT,* due to the technology being able to provide timely volumetric data.[250] Despite reported safety concerns related to certain procedures, for example, *nonmetastatic prostate cancer*, IMRT has been associated with *better patient outcomes* than other similar therapeutic radiation procedures.[251]

Recently, *Varian Medical Systems* introduced a new IMRT treatment technique, RapidArc, which delivers a radiation dose over a single rotation

[248] Radiological Society of North America, "Brain Tumor Treatment," *RadiologyInfo*, April 24, 2012, http://www.radiologyinfo.org/en/info.cfm?pg=thera-brain (accessed October 11, 2012).

[249] Radiological Society of North America, "Intensity-Modulated Radiation Therapy (IMRT)," *RadiologyInfo*, June 10, 2009, http://www.radiologyinfo.org/en/info.cfm?PG=imrt (accessed June 26, 2009).

[250] Vedang Murthy, et al., "Dose Variation during Hypofractionated Image-Guided Radiotherapy for Prostate Cancer: Planned Versus Delivered," *Journal of Cancer Research and Therapeutics* 7, no. 2 (April–June 2011): 162.

[251] Nathan C. Sheets, et al., "Intensity-Modulated Radiation Therapy, Proton Therapy, or Conformal Radiation Therapy and Morbidity and Disease Control in Localized Prostate Cancer," *Journal of the American Medical Association* 307, no. 15 (April 18, 2012): 1611.

Intensity Modulated Radiation Therapy (IMRT)

This is an advanced form of radiation therapy using three-dimensional (3D) imaging and treatment delivery

"Intensity-Modulated Radiation Therapy (IMRT)," by Radiological Society of North America, RadiologyInfo, *June 10, 2009, http://www.radiologyinfo.org/en/info.cfm?PG=imrt (accessed June 26, 2009).*

Biosimilar Production

Redevelopment of new generation biologics.

"Biopharmaceutical Benchmarks 2006: The Rate of Biopharmaceutical Approvals Has Leveled Off, but Some Milestones Bode Well for the Future," by Gary Walsh, Nature Biotechnology *24, no. 7 (July 2006): 769–776.*

Linear Accelerator (LINAC)

Delivers uniform doses of high-energy X-rays to the localized area of the patient's tumor, while sparing the surrounding normal tissue. It is the device most commonly used for EBT treatments for patients with cancer.

DOTmed Industry Sector Report: Linear Accelerators and Simulators, *by Barbara Kram,* DOTmed News, *November 19, 2008, http://www.dotmed.com/news/story/7013/ (accessed June 29, 2009).*

and uses a new software algorithm that can simultaneously control three parameters of treatment: (1) the *speed* of the gantry rotation, (2) the *shape and position* of the aperture created by the movement of *multileaf collimator* (*MLC*) leaves, and (3) the *dose* rate of delivery.[252] *RapidArc* uses *volumetric modulated arc* therapy, which allows treatment to be delivered in a dose to the whole volume of the cancerous cell, rather than slice by slice. *RapidArc* is able to deliver a precise 3D dose distribution with a single

[252] Flemming Kjaer-Kristoffersen, et al., "Rapid Arc Volumetric Modulated Therapy Planning for Prostate Cancer Patients," *Acta Oncologica* 48 (2009): 227–232.

Follow-On Biologics

New generation biologics.

"Biopharmaceutical Benchmarks 2006: The Rate of Biopharmaceutical Approvals Has Leveled Off, but Some Milestones Bode Well for the Future," by Gary Walsh, Nature Biotechnology *24, no. 7 (July 2006): 769–776.*

360-degree rotation with treatments two to eight times faster than typical IMRT techniques.[253]

5.3.4.1.2 Proton Beam Treatment *Proton beam* treatment therapy allows physicians to specifically target the cancer without overexposing healthy tissues to the irradiation pattern and potentially damaging those organs as well. Because protons can *target the cancerous cells*, higher doses of radiation can be used to control and manage cancerous tumors, while minimally jeopardizing healthy tissue and organs. Accordingly, *proton beam therapy* has major advantages over standard or conventional radiation, as the energy distribution of protons emitted can be directed and placed in tissue volumes designated by the physician in a three-dimensional pattern for each beam, giving the physician greater precision and a greater degree of control over the amount of radiation that the patient is exposed to. As a result of this greater control, the oncologist can increase the dose to the *cancerous cells*, while reducing the dose to surrounding normal tissues, which may ultimately lead to fewer harmful side-effects, greater direct impact on the cancerous cells, and overall *increased cancer management.*[254] Of note is that the increased use of *direct-to-consumer advertising* related to *proton therapy* will likely lead to increased use of this technology, despite *clinical evidence* that *links* other radiation treatment alternatives, such as *IMRT*, contribute to better *patient outcomes* for some conditions, as compared to *proton therapy*.[255]

---

[253] Corey Zankowski, "Varian's New RapidArc Delivery: The Next Dimension in Speed and Precision," http://www.varian.com/media/oncology/solutions/pdf/rapidarc_article.pdf (accessed April 7, 2011).

[254] National Association for Proton Therapy, "How Proton Treatment Works," 2012, http://www.proton-therapy.org/howit.htm (accessed October 10, 2012).

[255] Nathan C. Sheets, et al., "Intensity-Modulated Radiation Therapy, Proton Therapy, or Conformal Radiation Therapy and Morbidity and Disease Control in Localized Prostate Cancer," *Journal of the American Medical Association* 307, no. 15 (April 18, 2012): 1611.

5.3.4.1.3 Stereotactic Procedures *Stereotactic radiotherapy* is a nonsurgical procedure involving the single, *high-dose delivery* of *targeted gamma-ray* or *X-ray beams* used to treat tumors and functional abnormalities in the brain.[256] Recently, advances in *stereotactic radiotherapy* allow for *a rapid fall off* in the amount of radiation a patient is exposed to, particularly to the *nontargeted surrounding tissue*, which makes *stereotactic radiosurgery* a particularly well-suited treatment for *brain metastases*, with *control rates* of 65 percent to 95 percent, and *adverse radiation rates* as low as 5 percent to 10 percent.[257] Frequently, stereotactic radiotherapy is administered in one session; however, physicians may recommend *fractionated stereotactic surgery* (treatments that are given over time), in circumstances where tumors are larger than could be treated in one session.[258]

Recently, *stereotactic radiotherapy* has been used to treat tumors located in areas other than the brain, in procedures referred to as *stereotactic body radiotherapy.* The most common sites for which *stereotactic body radiotherapy* is currently being used include (1) the *lungs*, (2) the *liver*, (3) the *abdomen*, (4) the *spine*, (5) the *prostate*, and (6) the *head and neck*.[259]

STEREOTACTIC RADIOSURGERY

This is actually a nonsurgical innovation that serves as an increasingly preferred alternative to invasive surgery for soft tissue tumors.

DOTmed Industry Sector Report: Linear Accelerators and Simulators, *by Barbara Kram,* DOTmed News, *November 19, 2008, http://www.dotmed .com/news/story/7013/ (accessed June 29, 2009).*

[256] Radiological Society of North America and American College of Radiology, "Stereotactic Radiosurgery (SRS) and Stereotactic Body Radiotherapy (SBRT)," 2012, http://www.radiologyinfo.org/en/info.cfm?PG=stereotactic (accessed November 1, 2012).

[257] Mark E. Bernard, et al., "Linear Accelerator Based Stereotactic Radiosurgery for Melanoma Brain Metastases," *Journal of Cancer Research and Therapeutics* 8, no. 2 (April–June 2012): 218.

[258] Radiological Society of North America and American College of Radiology, "Stereotactic Radiosurgery (SRS) and Stereotactic Body Radiotherapy (SBRT)," 2012, http://www.radiologyinfo.org/en/info.cfm?PG=stereotactic (accessed November 1, 2012).

[259] Ibid.

5.3.4.2 Minimally Invasive Surgery *Minimally invasive surgery procedures* typically lessen many of the risks traditionally associated with surgery through the use of several small incisions to guide fiberoptic cameras to the area(s) of interest.[260] Developments in *laparoscopic technologies* and an increasing demand for *minimally invasive surgery* are driving growth in the minimally invasive surgical procedures market, with advancements such as the creation of new and more precise *endomechanical devices* (small devices used for minimally invasive surgery) and *camera systems*.[261] Several product design platforms are being developed to meet this growing demand, including *robotic systems, flexible laparoscopy*, and *3D visualization systems*.[262] *Laparoscopy*, a form of minimally invasive surgery, involves the insertion of a slender tubular endoscope and other surgical instruments through the abdomen wall, allowing the practitioner direct internal visual navigation and control of the surgery.[263] *Laparoscopy* and other forms of *minimally invasive surgery* have evolved from continuous improvements in surgical technology to increase *ease-of-use, comfort*, and *accuracy*.

Medical device manufacturers are consistently designing new *minimally invasive surgery* products to make surgery less invasive for the patient, while still *improving precision* and *visualization for the surgeon*.[264]

Laparoscopy

Minimally invasive surgery that involves the insertion of a slender tubular endoscope through the abdomen wall. A laparoscopy involves the use of surgical instruments that the practitioner controls and fiberoptic technology for visual navigation.

"Robotic Technology in Surgery: Past, Present, and Future," by David B. Camarillo, Thomas M. Krummel, and J. Kenneth Salisbury, American Journal of Surgery *(Suppl. to October 2004): 2S–15S.*

[260] Mayo Clinic, "Minimally Invasive Surgery," 2009, http://www.mayoclinic.org/minimally-invasive-surgery/ (accessed April 6, 2009).

[261] Anne Staylor, "Trends in MIS, Part I: Pushing Surgical Boundaries," *Medtech Insight* 14, no. 5 (May 2012): 18.

[262] Ibid.

[263] Mayo Clinic, "Minimally Invasive Surgery," 2009, http://www.mayoclinic.org/minimally-invasive-surgery/ (accessed April 6, 2009).

[264] Anne Staylor, "Trends in MIS, Part I: Pushing Surgical Boundaries," *Medtech Insight* 14, no. 5 (May 2012): 18.

AUTOMATED ENDOSCOPIC SYSTEM FOR OPTIMAL POSITIONING (AESOP)

This is the first laparoscopic camera holder.

"Robotic Assisted Laparoscopic Radical Prostatectomy: A Review of the Current State of Affairs," by V. R. Patel, M. F. Chammas Jr., and S. Shah, International Journal of Clinical Practice *61, no. 2 (February 2007): 309–314.*

However, the main barrier to expanding the scope of *minimally invasive surgery technologies* may be the *lack of awareness* of, and *training in*, advanced laparoscopic techniques by providers. To avoid the circumstance of manufacturers outpacing *efficient implementation* within the industry, in the development of new technologies manufacturers are focusing on their *ease of use*, in addition to the development of *innovative surgical techniques*.[265]

Recently, the availability of these newly developed *energy devices* has expanded the market for the utilization of *minimally invasive techniques* to include such devices as (1) *electrosurgical generators*, (2) *instruments*, (3) *accessories*, (4) and *thermal ligature systems*, which allow for more *accurate* and *less invasive* procedures by advancing *dissecting*, *cutting*, *coagulating*, and *ligature creation* surgical procedures.[266] In 2011, the *electrosurgical market* included approximately $1.1 billion in sales, which is expected to *increase* an average of 6.1 percent annually and reach approximately 1.37 billion by 2015.[267]

Radiation Therapies

Use high-energy light beams or charged particles to stunt tumor cell proliferation, thereby treating cancer.

"Radiotherapy Overview," by the International Radiosurgery Association, 2008, http://www.irsa.org/radiotherapy.html (accessed June 26, 2009).

[265] Ibid.

[266] Ibid.

[267] Ibid., p. 19.

Brachytherapy

Allows for treatment at higher doses of radiation to treat a smaller area in a shorter time by placing radiopharmaceuticals directly inside or next to the tumor. Brachytherapy can be temporary or permanent, with variable administration rates and doses.

"Brachytherapy," by Radiological Society of North America, RadiologyInfo, *June 10, 2009, http://www.radiologyinfo.org/en/info.cfm?PG=brachy (accessed June 26, 2009).*

5.3.4.2.1 Robotic-Assisted Surgery Of the various *minimally invasive surgery* technologies on the market, *surgical robots* may be best equipped to enable surgeons to perform complex open procedures with a minimally invasive approach.[268] The *da Vinci System*, developed by *Intuitive Surgical Inc.* in 1998 and approved by the FDA in 2000, revolutionized minimally invasive surgery by overcoming the limitations of both traditional surgical procedures and conventionally implemented noninvasive laparoscopic technology. A key feature of the *da Vinci System* is its *EndoWrist technology*, which allows the surgeon to fully rotate his or her hand, therefore giving the surgeon the capacity to reach around, beyond, or behind. The *EndoWrist* technology provides the surgeon with seven *degrees of freedom*, that is, the number of different rotations by the robot "*hand*."[269]

In its early development, *robotic-assisted surgery* performed with this technology was originally limited to *cardiac endoscopy*, but it has expanded

MINIMALLY INVASIVE PROCEDURES

Avoid many of the risks traditionally associated with surgical procedures through their use of several small incisions to guide fiberoptic cameras to areas that need treatment.

Minimally Invasive Surgery," Mayo Clinic, 2009, http://www.mayoclinic.org/minimally-invasive-surgery/ (accessed April 6, 2009).

[268] Ibid., p. 18.

[269] Didier Loulmet, et al., "Endoscopic Coronary Artery Bypass Grafting with the Aid of Robotic Assisted Instruments," *Journal of Thoracic and Cardiovascular Surgery* 118, no. 1 (July 1999): 6.

DA VINCI SYSTEM

Is a robotic system that was introduced in 1996 that revolutionized minimally invasive surgery by overcoming the limitations of both traditional surgical procedures and conventionally implemented noninvasive technology.

"Minimally Invasive and Robotic Surgery," by M. J. Mack, Surgical Endoscopy *20 (2006): S488–S492; "Robot-Assisted Surgery," Mayo Clinic, 2009, http://www.mayoclinic.org/robotic-surgery/ (accessed April 6, 2009).*

to include *gastrointestinal, cardiothoracic, gynecological, urological*, and *other specialty surgical* procedures.[270] The *da Vinci System* uses small incisions for the placement of robotic appendages, which result in fewer scars that require less healing time, decrease patient discomfort, shorten postoperative hospital stays, lower hospital costs, and decrease patient morbidity and mortality.[271] Furthermore, effective use of the *da Vinci System* has been reported to reduce total operative time, while minimizing blood loss.[272]

ENDOWRIST TECHNOLOGY

Allows the surgeon to fully rotate his or her hand, therefore giving the surgeon the capacity to reach around, beyond, or behind. The Endo Wrist technology provides the surgeon with seven degrees of freedom.

"Robotic Technology in Surgery: Past, Present, and Future," by David B. Camarillo, Thomas M. Krummel, and J. Kenneth Salisbury, American Journal of Surgery *(Supplement to October 2004): 2S–15S.*

[270] Joan Trombetti, "Robotic Surgery," *DotMed News*, January 7, 2009, http://www.dotmed.com/news/story/7463 (accessed July 6, 2009); M. J. Mack, "Minimally Invasive and Robotic Surgery," *Journal of the American Medical Association* 285, no. 5 (2001): 569–570; "Robot-Assisted Surgery" Mayo Clinic, 2009, http://www.mayoclinic.org/robotic-surgery/ (accessed April 6, 2009).

[271] M. J. Mack, "Minimally Invasive and Robotic Surgery," *Journal of the American Medical Association* 285, no. 5 (2001): 568; Mayo Clinic, "Robot-Assisted Surgery," 2009, http://www.mayoclinic.org/robotic-surgery/ (accessed April 6, 2009).

[272] Joan Trombetti, "Robotic Surgery," *DotMed News*, January 7, 2009, http://www.dotmed.com/news/story/7463 (accessed July 6, 2009).

Degrees of Freedom

The number of possible rotations that can be made by a robotic "hand."

"Robotic Technology in Surgery: Past, Present, and Future," by David B. Camarillo, Thomas M. Krummel, and J. Kenneth Salisbury, American Journal of Surgery *(Supplement to October 2004): 2S–15S.*

The introduction of the *da Vinci System* represented a substantial progression in the field of *minimally invasive cardiac surgery*, including (1) *mitral valve repair*; (2) *transapical aortic valve implant*; (3) *CABG*; (4) *thoracic endografting*; (5) *repair of atrial fibrillation*; and (6) *robotic revascularization surgery*, that is, the "*DaVinci Revascularization on a Beating Heart*" procedure.[273] On approving the *da Vinci* robot for cardiac procedures, the FDA mandated training of all surgical teams and professionals intending to use the *daVinci* for cardiac procedures.[274] Surgeons who have pioneered the infusion of *robotic technology* into their cardiac programs believe that successful use of the *daVinci System* for cardiac procedures such as *beating heart revascularization* will be possible with the *right team of providers*; a *properly devised curriculum* targeted at surgeons, their teams, and other members of their departments; *multispecialty training*; and *patience*.[275]

In the last 20 years, the number of general surgical, gastrointestinal, gynecological, neurosurgical, orthopedic, pediatric, radiosurgical, and urological procedures that employ either robotically assisted or robotically controlled capabilities has grown steadily, for example, the use of robotic

[273] M. J. Mack, "Minimally Invasive and Robotic Surgery," *Journal of the American Medical Association* 285, no. 5 (2001): S488–S492; Mayo Clinic, "Robot-Assisted Surgery," 2009, http://www.mayoclinic.org/robotic-surgery/ (accessed April 6, 2009).

[274] Food and Drug Administration, "Computer-Assisted Surgery: An Update," 2005, http://www.fda.gov/fdac/features/2005/405_computer.html (accessed April 7, 2009). It should also be noted that government regulations prohibit hospitals from paying the cost for an individual surgeon's training, thereby resulting in the surgeon incurring the cost to invest in da Vinci training. Jonna Lilly, "Robotics in the Operating Room," *Progressive Engineer*, http://www. progressiveengineer.com, 2005 (accessed April 14, 2009).

[275] Wiley Nifong and Randolph Chitwood, "Building a Surgical Robotics Program," *American Journal of Surgery* 188, (2004): 16S–18S.

External Beam Radiation Therapy (EBT)

Involves the administration of high-energy X-ray beams to kill cancer cells and treat tumors. Often, some X-ray, ultrasound, or CT imaging is used prior to the delivery to ensure that the path of the beam will align with the target area.

"External Beam Therapy (EBT)," by Radiological Society of North America, RadiologyInfo*, June 10, 2009, http://www.radiologyinfo.org/en/info.cfm?PG=ebt (accessed June 26, 2009).*

procedures for radical prostatectomy increased from 1 percent in 2001 to more than 50 percent in 2009.[276]

While robotic surgery devices, such as the *da Vinci System,* are now common for *cardiac, urology, and gynecological procedures*, advancements in robotic-assisted surgery, especially in their visualization capacities, are now allowing these less-invasive techniques to be applied to more complicated surgeries, such as those of the spleen and the liver.[277] Initially, the *da Vinci System* was the only approved system on the market; however, in early 2009, *CUREXO Technology Corporation* announced FDA clearance of its robotic orthopedic surgical device, *ROBODOC*, for total hip arthroplasty.[278] Despite the availability of alternative robotic technologies, the *da Vinci System* has experienced *phenomenal growth* and nearly *complete market dominance*, with approximately 1,000 *da Vinci System* units used in hospitals nationwide as of August 2011.[279] In 2012, the company estimated that the *da Vinci System* would be used for 24 percent more procedures than

[276] Joan Trombetti, "Robotic Surgery," *DotMed News*, January 7, 2009, http://www.dotmed.com/news/story/7463 (accessed July 6, 2009); Laura Sigismund Leddy, et al., "Robotic Surgery: Applications and Cost Effectiveness," *Open Access Surgery* 3 (2010): 101.

[277] Anne Staylor, "Trends in MIS, Part II," *Medtech Insight* 14, no. 6 (June/July 2012): 18.

[278] Diana Manos, "CUREXO to Launch New Robotic Surgery Technology," *Healthcare IT News*, February 23, 2009, http://www.healthcareitnews.com/news/curexo-launch-new-robotic-surgery-technology (accessed June 30, 2009); Joan Trombetti, "Robotic Surgery," *DotMed News*, January 7, 2009, http://www.dotmed.com/news/story/7463 (accessed July 6, 2009).

[279] Carmen Phillips, "Tracking the Rise of Robotic Surgery for Prostate Cancer," National Cancer Institute, August 9, 2011, http://www.cancer.gov/ncicancerbulletin/080911/page4 (accessed July 18, 2012).

in 2011, a projection that appeared to be coming true, as the company saw an actual increase of 29 percent in the procedures performed with a *da Vinci System* between Q2 2011 and Q2 2012.[280]

5.3.4.2.2 Carotid Stenting as an Alternative to Cardiac Revascularization Treatment of *coronary artery disease* may be achieved through such procedures as *carotid stenting* or *revascularization*.[281] While *carotid stenting* (the process of inserting a mesh tube inside an artery to improve blood flow) and *cardiac revascularization* (a surgical procedure that places new blood vessels around existing blockages) appear to have *similar outcomes overall*, there is reported to be a higher risk of *stroke* during *stenting procedures*. In addition, *younger patients* appear to experience *better outcomes with stenting*, while *older patients* appear to experience *better outcomes with revascularization*.[282] Despite various studies purporting to identify the *preferable procedure* for a *given patient population*, there is still significant debate among surgeons regarding the *preferable procedure*, particularly in light of the fact that *revascularization* had historically been the *standard of care* for 50 years, while *stenting* has only become an *alternative* to *revascularization* within the last 20 years.[283]

5.3.4.2.3 Implantable Devices *Implantable devices* are also on the forefront of *minimally invasive surgery*, as new technologies related to monitoring chronic conditions, such as *diabetes* and *heart failure*, are expanding. One example is the *CardioFit* system. Similar to a pacemaker, the *CardioFit* system is a subcutaneous heart monitor that automatically reacts to changes in heart activity with *unidirectional stimulation* to the *vagus nerve*.[284] The device's safety and efficacy have been demonstrated, and *CardioFit* has already been approved in the European Union and is currently in FDA *Phase III clinical trials* in the United States.[285] Similar to *CardioFit*, the

[280] Anne Staylor, "Trends in MIS, Part II," *Medtech Insight* 14, no. 6 (June/July 2012): 18.

[281] B. Spencer, et al., "Revascularization for Coronary Artery Disease: Stents versus Bypass Surgery," *Annual Review of Medicine* 61 (February 2010): 199.

[282] Vito A. Mantese, et al., "The Carotid Revascularization Endarterectomy versus Stenting Trial (CREST): Stenting Versus Carotid Endarterectomy for Carotid Disease," *Stroke* 41 (October 2010): S33.

[283] Mayo Clinic, "Endarterectomy vs. Stenting," http://www.mayoclinic.org/medicalprofs/endarterectomy-stenting-crest.html (accessed October 15, 2012).

[284] Mary Thompson, "Heart Failure Devices: Raising Roadblocks to Readmission," *Medtech Insight* 14, no. 1 (January 2012): 10.

[285] Ibid., pp. 10–11.

Subcutaneous

Under the skin.

"FAQs (Frequently Asked Questions)," National Home Infusion Association, 1998, www.nhianet.org/faqs/index.htm (accessed February 5, 2000).

Optimizer III Cardiac Contractility Modulation (CCM) *system* has an implantable mechanism that stimulates the heart muscle itself, rather than the nervous system, in order to ultimately "*train*" the heart to beat stronger.[286] The *Optimizer III* is also in FDA *Phase III clinical trials* and may be the first heart failure device of its kind to reach the commercial market.[287]

5.3.4.3 "Transplant" and "Replacement" Technologies Approximately 18 patients die each day *waiting* on a *transplant list* for organs to become available.[288] The *United Network for Organ Sharing* (UNOS), a private not-for-profit organization established in 1977, coordinates the U.S. organ *procurement* and *transplant* system, including *patient wait lists*, throughout 11 regional centers across the country.[289]

The first successful organ transplant was performed in 1954 with a human *kidney*, and subsequent *pancreas*, *liver*, *heart*, and *lung* transplants were successfully performed during the 1960s and the 1980s, in large part due to the development of *antirejection drugs* in recent decades.[290] As of 2010, the *kidney transplant wait list* was the most extensive, at 52,503 *active patients*, with the number of patients on the *wait list* having nearly doubled since 1998.[291] The number of patients on *transplant wait lists* for other organs is set forth in Table 5.6.

As of 2012, there are approximately 270 hospitals performing organ transplants in the United States.[292]

[286] Ibid., p. 11.

[287] Ibid., p. 12.

[288] United Network for Organ Sharing, "UNOS: Facts and Figures," May 2011, p. 15.

[289] Ibid., pp. 1, 4.

[290] Ibid., pp. 4–5.

[291] United Network for Organ Sharing, *United States Organ Transplantation: OPTN & SRTR Annual Data Report 2010*, Rockville, MD: Department of Health and Human Services, Health Resources and Services Administration, Healthcare Systems Bureau, Division of Transplantation, 2011, p. 7.

[292] Kidney Link, "Choosing a Transplant Center," http://www.kidneylink.org/ChoosingaTransplantCenter.aspx (accessed October 15, 2012).

TABLE 5.6 Active Patients on Transplant Wait Lists, 2010

Organ	Active Patients
Kidney	52,503
Liver	12,454
Heart	1,992
Pancreas-Kidney	1,218
Lung	1,207
Pancreas	432
Intestine	148

United States Organ Transplantation: OPTN & SRTR Annual Data Report 2010, United Network for Organ Sharing, Rockville, MD: Department of Health and Human Services, Health Resources and Services Administration, Healthcare Systems Bureau, Division of Transplantation, 2011, p. 7.

While survival rates following an organ transplant have improved for all types of transplant procedures, *kidney transplants* appear to continue to be the most successful, based on *graft survival rates,* that is, survival with a functioning transplanted organ. See Table 5.7.

A significant factor in determining the ultimate *success* and *longevity* of a transplanted organ is whether the donor was *living* or *deceased* at the time of *donation*, for example, donation from a *living donor* is associated with a *one-year survival rate* of 96.5 percent for kidney transplants, as compared to a *one-year survival rate* of 92 percent for kidney transplants involving a *deceased donor*. The incidence of organ rejection varies by type of organ, with the *lowest incidence of rejection* occurring for *kidney transplants* (10.8 percent), as compared to the *highest incidence of rejection* occurring for *intestinal transplants* (43.1 percent).[293]

Factoid

Cyclosporine, the first antirejection drug for organ transplants, was approved for commercial use.

"UNOS: Facts and Figures," United Network for Organ Sharing, May 2011, pp. 4–5.

[293] United Network for Organ Sharing, *United States Organ Transplantation: OPTN & SRTR Annual Data Report 2010*, Rockville, MD: Department of Health and Human Services, Health Resources and Services Administration, Healthcare Systems Bureau, Division of Transplantation, 2011, p. 8.

TABLE 5.7 One- and Five-Year Survival Rates for Organ Transplant

Organ	One-Year	Five-Year
Kidney	94.3%	76.3%
Pancreas	86.4%	71.6%
Liver	84.9%	67.1%
Heart	88.6%	73.1%
Lung	83.1%	51.6%
Intestine	72.2%	50.6%

United States Organ Transplantation: OPTN & SRTR Annual Data Report 2010, United Network for Organ Sharing, Rockville, MD: Department of Health and Human Services, Health Resources and Services Administration, Healthcare Systems Bureau, Division of Transplantation, 2011, p. 8.

The number of organ donations has increased significantly in the last several decades. Since the 1970s, the *donor body standard* that was used was *brain death*; however, surgeons began using the *nonbeating heart donation standard* in the 1990s.[294]

5.3.4.3.1 Hip and Knee Transplants The market for *artificial hips* and knees appears to have been historically dominated by five companies: (1) *Biomet Inc.*, (2) *DePuy Orthopaedics Inc.*, (3) *Smith and Nephew PLC*, (4) *Stryker Corp*, and (5) *Zimmer Holdings Inc*. In recent years, the artificial knee and hip market began to shrink, due to several factors, including (1) the effects of the "*Great Recession*," (2) *downward pricing* pressure from hospitals, and (3) the resulting impact of a *"successful" 2009 qui tam action* against several device manufacturers in Texas.[295] In 2007, the Department of Justice (DOJ) settled criminal and civil investigations with the above five *hip and knee replacement companies*, which together made up 95 percent of the market at that time. In its *complaint*, the DOJ alleged that between 2002 and 2006, the companies *induced* hundreds of physicians to *exclusively use* a particular implant by entering into certain *consulting agreements* by which certain physicians were compensated in amounts up to hundreds of thousands of dollars

[294] John T. Potts and Roger Herman, *Non-Heart-Beating Organ Transplantation: Medical and Ethical Issues in Procurement* (Washington, DC: National Academy Press, 1997), pp. 1, 20–22.

[295] Tom Salemi, "Smaller Players Find Opportunity in Large Joints," *Medtech Insights* 14, no. 5 (May 2012): 43.

Factoid

The da Vinci System revolutionized minimally invasive surgery by overcoming the limitations of both traditional surgical procedures and conventionally implemented non-invasive laparoscopic technology.

"Robotic Surgery," by Joan Trombetti, DotMed News, *January 7, 2009, http://www.dotmed.com/news/story/7463 (accessed July 6, 2009).*

per year, often undisclosed by the physicians to their patients and affiliated hospitals.[296] The companies agreed to 18 months of monitoring by the DOJ to ensure satisfactory compliance with new corporate procedures that would curtail industry use of *consulting agreements*. By the end of the 18-month monitoring period, the *knee and hip replacement industry* saw a 61 percent reduction in *consulting payments* made to physicians, that is, from $272 million to $105 million, and a 63 percent decrease (from 1,693 to 628) in the total number of physicians who received payments.[297] In total, the DOJ recovered $310 million in civil penalties from the settlements.[298] Significantly, the companies began publicly disclosing the names of all consultants and the amounts paid to them, a practice that is being adopted throughout the *pharmaceutica*l and *medical device industries*.[299]

These market disruptions have allowed for smaller companies to gain momentum within the $11 billion *hip and knee replacement industry*. New technologies have experienced the most success in the market, in particular, *robotically assisted procedures* that provide a greater level of accuracy for knee alignment. Since the 2006 release of MAKO Surgical's *RIO robotic system*, approximately 113 units have been sold and 13,000 procedures

[296] U.S. Department of Justice, "Five Companies in Hip and Knee Replacement Industry Avoid Prosecution by Agreeing to Compliance Rules and Monitoring," press release, September 27, 2007, pp. 2, 4, http://www.usdoj.gov/usao/nj/press/files/pdffiles/hips0927.rel.pdf (accessed October 15, 2012).

[297] U.S. Department of Justice, "Monitoring and Deferred Prosecution Agreements Terminated with Companies in Hip and Knee Replacement Industry," press release, March 30, 2009, p. 2, http://www.justice.gov/usao/nj/Press/files/pdffiles/2009/hips0330%20rel.pdf (accessed October 15, 2012).

[298] U.S. Department of Justice, "Five Companies in Hip and Knee Replacement Industry Avoid Prosecution by Agreeing to Compliance Rules and Monitoring," press release, September 27, 2007, pp. 2–4, http://www.usdoj.gov/usao/nj/press/files/pdffiles/hips0927.rel.pdf (accessed October 15, 2012).

[299] Ibid., p. 4.

have been performed, resulting in MAKO obtaining a 12 percent share of the *$700 million U.S. knee transplant market*.[300]

5.3.4.3.2 Valve Replacements As surgical technology has advanced, surgeons are now better able to repair a patient's body, rather than replacing the failing organ, or part thereof, for example, the total number of *mitral valve repairs* versus the total number of *mitral value replacements* increased from 51 percent in 2000 to 69 percent in 2008. While *mitral valve replacements* have traditionally used *mechanical valve devices*, the use of *mechanical valves* has declined from 68 percent in 2000 to 37 percent in 2008, with *mitral valve tissue transplants* often being performed instead.[301] Similarly, in November 2011, the FDA approved the *Edwards Lifescience Sapien transcatheter heart valve*, which allows surgeons to replace *diseased aortic valves* without the need for open heart surgery, a procedure known as a *transcatheter aortic valve replacement* (*TAVR*). Subsequently, the FDA recommended *TAVR*'s use for *high-risk patients* in July 2012.[302] While *TAVR* has been approved in Europe since 2007, the *Edwards Lifescience transcatheter heart valve* is currently the only valve of its kind in the U.S. market, which is projected to drive the U.S. heart valve market to $1.5 billion by 2016.[303]

5.3.4.4 Home Health Infusion Technology *Infusion therapy* involves the administration of *medications, nutrients*, or other *solutions intravenously*, *subcutaneously*, *enterally*, or *epidurally*, that is, into the bloodstream, under the skin, into the digestive system, or into the membranes surrounding the spinal cord. Specific home infusion therapies include *anti-infectives, chemotherapy, pain management, parenteral and enteral nutrition, hydration therapy*, and *immunotherapy*.[304] The home infusion process requires the

[300] Tom Salemi, "Smaller Players Find Opportunity in Large Joints," *Medtech Insights* 14, no. 5 (May 2012): 49.

[301] James S. Gammie, et al., "Trends in Mitral Valve Surgery in the United States: Results from the Society of Thoracic Surgeons Adult Cardiac Surgery Database," *Annals of Thoracic Surgery* 87, no. 5 (May 2009): 1437.

[302] Seeking Alpha, "Edwards Lifesciences and the Booming Heart Valve Business," August 22, 2012, http://seekingalpha.com/article/821891-edwards-lifesciences-and-the-booming-heart-valve-business (accessed October 15, 2012).

[303] Millennium Research Group, "US Heart Valve Market to Reach $1.5 Billion by 2016," June 26, 2012, http://mrg.net/News-and-Events/Press-Releases/Heart-Valve-Market-062612.aspx (accessed October 15, 2012).

[304] BlueCross BlueShield of Illinois, "Home Infusion Therapy," in *BlueCross BlueShield of Illinois Provider Manual*, May 2008, http://www.bcbsil.com/PDF/providermanual/home_infusion_therapy.pdf (accessed October 2, 2009), pp. 2–3.

Intravenous

Through the bloodstream.

"FAQs (Frequently Asked Questions)," National Home Infusion Association, 1998, http://www.nhianet.org/faqs/index.htm (accessed February 5, 2000).

Enteral

Into the digestive system.

"FAQs (Frequently Asked Questions)," National Home Infusion Association, 1998, http://www.nhianet.org/faqs/index.htm (accessed February 2000).

Epidural

Into the membranes surrounding the spinal cord

"FAQs (Frequently Asked Questions)," National Home Infusion Association, 1998, http://www.nhianet.org/faqs/index.htm (accessed February 2000).

drug itself, durable medical equipment (e.g., a pump or an IV pole), supplies (e.g., tubing), and often nurses to administer the treatment.

In June 2012, the *Medicare Payment Advisory Commission* (MedPAC) submitted its report to Congress regarding the feasibility of expanding Medicare to include *home-based infusion therapy*, in addition to infusion therapy performed in inpatient, outpatient, hospice, and *skilled nursing facility* settings.[305] Approximately 36,000 *Medicare Part B* beneficiaries and approximately 10,000 *Medicare Part D* beneficiaries received home infusion therapy in 2009. Medicare spending on home infusion therapy drugs, as well as the number of beneficiaries receiving these drugs, increased rapidly between 2006 and 2009, with the number of Part D enrollees receiving Part D–covered home infusion drugs increasing at a rate of 21 percent per year, as compared to a growth rate of 5 percent per year for the overall Part D population. In addition, Medicare fee for service spending for Part B–covered home infusion therapy drugs increased at an average rate of 17 percent

[305] Medicare Payment Advisory Commission, *Report to the Congress: Medicare and the Health Care Delivery System*, Washington, DC, June 2012, pp. 169–207.

Non-Parenteral Drug Delivery

A means of drug delivery where the distribution is through a means other than a digestive one.

"Biopharmaceutical Benchmarks 2006: The Rate of Biopharmaceutical Approvals Has Leveled Off, but Some Milestones Bode Well for the Future," by Gary Walsh, Nature Biotechnology *24, no. 7 (July 2006): 769–776.*

per year, as compared to an average growth rate of 6 percent in the number beneficiaries using Part B home infusion drugs.[306] *Home infusion antibiotics* covered by Part D accounted for the largest number of users of Medicare-covered home infusion drugs, followed by *immune globulin* and *alpha-1-proteniase inhibitor* drugs, and several drugs used to treat *rheumatoid arthritis*.[307] Similarly, antibiotics were the most common type of home infusion therapy drug covered by commercial insurers.[308]

According to *the Braff Group*, a healthcare M&A firm, *home infusion therapy* experienced a 60 percent increase in transactional market activity between 2010 and 2011.[309] With 16 deals in 2011 (11 of which had different buyers), the home infusion therapy market posted its highest transaction volume since 2008, according to *Braff*.[310]

5.3.5 Pain Management Technology

It is estimated that pain may perhaps be the most common reason that patients seek medical care, accounting for approximately half of all physician office visits in the United States. Some pain epidemiology studies appear to indicate that approximately 80 to 85 percent of persons over the age of 65 suffer significant health conditions that predispose them to pain.[311]

[306] Ibid., pp. 177–178.

[307] Ibid., p. 178.

[308] Ibid.

[309] Braff Group, "4 Perspectives: 2011 Fourth Quarter," 2011, http://www.thebraffgroup.com/Articles/articlespdfs/perspectives/Q42011.pdf (accessed September 28, 2012), p. 2, 6.

[310] Braff Group, "Market Watch 2012: Pharmacy Services," 2012, http://www.thebraffgroup.com/Articles/articlespdfs/MarketWatch/MW_Pharmacy_Service.pdf (accessed September 28, 2012), p. 2.

[311] Mary Thompson, "U.S. Pain Management Device Market: Catering to an Aging Population," *MedTech Insight* (August 2011): 42.

As the U.S. population continues to age, and chronic diseases, as well as surgical interventions, become more prevalent among this age group, appropriate pain management is likely to become an increasingly important focus of emerging technology developments. In response to this growing demand, it is reported that the combined U.S. sales of pain management devices totaled approximately $2.46 billion in 2010, with *neurostimulators* accounting for approximately 60 percent of sales, *external analgesia infusion pumps* accounting for approximately 26 percent of sales, and *implantable analgesia pumps* accounting for approximately 11 percent of sales.[312]

5.3.6 Molecular Pharmacology

Molecular pharmacology studies the interaction of drugs at a *cellular level* by translating *laboratory pharmacological findings* into *clinical pharmacological applications*—how *drug molecules interac*t with *protein receptors,* both on the surface of, and within, the cell. *Biopharmaceuticals* are *drugs* and *biologics* that interact with an organism via *genetic manipulation of foreign DNA*, while *biologics* are *therapeutic products* that are *developed using living sources*, such as *vaccines*, blood and blood products, and allergenic extracts and tissues.[313] The manufacturing of *biopharmaceuticals*, most specifically *vaccines, monoclonal antibodies, recombinant proteins*, and *stem cells*, relies heavily on the *cell culture market*.[314]

Biologics

Therapeutic products that are developed using living sources. Examples of biologics include: vaccines, blood and blood products, and allergenic extracts and tissues.

The Challenge of CMC Regulatory Compliance for Biopharmaceuticals, *by John J. Geigert (New York: Springer, 2003), pp. 1–2.*

[312] Ibid., p. 43.

[313] U.S. Food and Drug Administration, "Frequently Asked Questions about Therapeutic Biological Products," December 24, 2009, http://www.fda.gov/Drugs/DevelopmentApprovalProcess/HowDrugsareDevelopedandApproved/ApprovalApplications/TherapeuticBiologicApplications/ucm113522.htm (accessed October 11, 2012).

[314] Gary Walsh, "Biopharmaceutical Benchmarks 2006: The Rate of Biopharmaceutical Approvals Has Leveled Off, but Some Milestones Bode Well for the Future," *Nature Biotechnology* 24, no. 7 (July 2006): 769, 771, 775.

Biopharmaceuticals

A pharmaceutical product manufactured by biotechnology methods (involving live organisms or bioprocessing).

"What Is a Biopharmaceutical? Part 1: (Bio) Technology-Based Definitions," by Ronald A. Rader, BioExecutive International*, March 2005, p. 61.*

The FDA has approved drugs and *biologics* in eight categories of *biopharmaceuticals*: (1) *recombinant blood factors*, (2) *recombinant thrombolytics* and *anticoagulants*, (3) *recombinant hormones*, (4) *recombinant growth factors*, (5) *recombinant interferons and interleukins*, (6) *recombinant vaccines*, (7) *monoclonal antibody-based products*, and (8) *miscellaneous recombinant products*.[315] *Insulin* was the first *recombinant protein* to be approved and today remains the prototype for biopharmaceutical development. It was also among the first biopharmaceutical to undergo *molecular engineering,* a process that has since defined development and advancement in *biopharmaceuticals*, and generated $13.3 billion in sales in 2009 alone.[316] With both the incidence and the prevalence of diabetes on the rise, demand for such products is likely to continue to grow.

The Intramural Research Program (IRP) of the National Institutes of Health (NIH) encourages "bench-to-bedside" translational research and includes such programs as the Therapeutics for Rare and Neglected Diseases (TRND) Program, under the National Center for Advancing Translational

CELL CULTURE MARKET

Influential in the manufacture of biopharmaceuticals, most specifically vaccines, monoclonal antibodies, recombinant proteins, and stem cells.

"Biopharmaceutical Benchmarks 2006: The Rate of Biopharmaceutical Approvals Has Leveled Off, but Some Milestones Bode Well for the Future," by Gary Walsh, Nature Biotechnology *24, no. 7 (July 2006): 769–776.*

[315] Ibid., pp. 769–776.

[316] Ibid., p. 918.; Gary Walsh, "Biopharmaceutical Benchmarks 2006: The Rate of Biopharmaceutical Approvals Has Leveled Off, but Some Milestones Bode Well for the Future," *Nature Biotechnology* 24, no. 7 (July 2006): 770.

MOLECULAR ENGINEERING

Molecular revision; has defined development and advancement in biopharmaceuticals.

"Biopharmaceutical Benchmarks 2006: The Rate of Biopharmaceutical Approvals Has Leveled Off, but Some Milestones Bode Well for the Future," by Gary Walsh, Nature Biotechnology *24, no. 7 (July 2006): 769–776.*

Sciences (NCATS); the Psychoactive Drug Screening Program, under the National Institute of Mental Health (NIMH); and the Laboratory of Molecular Pharmacology, under the National Cancer Institute's (NCI) Center for Cancer Research (CCR). The IRP has repositories for both natural and synthetic products and compounds and has access to the NCI-60, a databank of 60 cancer cell lines against which the NCI's Developmental Therapeutics Program screens hundreds of thousands of compounds.[317]

5.3.6.1 Proteomics A major trend in molecular medicine is *proteomics*. Derived from the words *proteins* and *genome*, *proteome* refers to all of the proteins produced "in one sample (e.g., tissue, organism, or cell culture) at a certain point in time."[318] *Proteomics* is similar to *genomics*, in that both can target specific areas of the genome for therapeutic benefit. While the *genome* rarely mutates, the *proteome* is dynamic and changes with every environmental signal within and outside of the cell.[319] The goal of research in this field of medical technology is not only to create a "*master list*" of all *potential gene protein iterations*, but also to *map* the *interconnection between proteins* as they respond to external stimuli.[320]

Therapeutic proteomic technology has seen developments with *innumerable implications* for correcting defective proteins or filling in a gap where

[317] National Institutes of Health, "Molecular Pharmacology," Intramural Research Program, http://irp.nih.gov/our-research/scientific-focus-areas/molecular-pharmacology (accessed September 28, 2012).

[318] American Medical Association, "Current Topics: Proteomics," 2012, http://www.ama-assn.org/ama/pub/physician-resources/medical-science/genetics-molecular-medicine/current-topics/proteomics.page# (accessed September 27, 2012).

[319] Ibid.

[320] Emanuel F. Petricoin, et al., "Clinical Proteomics: Translating Benchside Promise into Bedside Reality," *Nature Reviews: Drug Discovery* 1, no. 9 (September 2002): 683.

a protein is absent.[321] Several *protein kinase inhibitors* are currently in FDA clinical trials and have boosted proteomic research in *phosphorylation-triggered signaling*, known as "*phosphoproteomics*."[322] In addition, more accurate mass spectrometry techniques have allowed researchers to target cancer and tumor suppression proteins with more specificity.[323] Continued advances in this field are expected to support developments in *personalized medicine* technology, which are emerging particularly in the area of *oncology*, where specific therapies are being targeted to *genetically derived tumor types*. As a result, many *pharmaceutical* and *diagnostic companies* are entering the *personalized medicine* market at an accelerating pace.[324]

5.3.6.2 RNAi Therapeutics Other advances in *therapeutic genome technology* include *nucleic acid–based technologies,* which have clinical applications that involve both *deoxyribonucleic acid* (DNA) and *ribonucleic acid* (RNA). Advances in *DNA nanotechnology* have allowed for specifically targeted drug delivery, while advances in *RNA technology* have moved toward therapeutic "*interference*" with the genome. *RNA interference* (RNAi) is a natural cellular process where specific genes (e.g., a cancer gene) can be *targeted* and "*silenced*" so that they cannot *reproduce* and become *symptomatic*. Since its initial discovery in 1998, *RNAi* has become increasingly prevalent in the biomedical industry.[325]

Similar to RNAi, *microRNAs* (miRNA) are encoded within the genome and are anticipated to change therapeutic capabilities, due to the current theory that they regulate approximately one-third of the entire *human genome*.[326] As of 2012, 18 *RNAi therapeutic programs* are actively in *clinical trial stages*, involving almost 1,500 patients and healthy volunteers.[327]

---

[321] American Medical Association, "Current Topics: Proteomics," 2012, http://www.ama-assn.org/ama/pub/physician-resources/medical-science/genetics-molecular-medicine/current-topics/proteomics.page# (Accessed September 27, 2012).

[322] Peter Mitchell, "Proteomics Retrenches," *Nature Biotechnology* 28, no. 7 (July 2010): 669–670.

[323] Ibid., p. 670.

[324] Ann Staylor and Mary Thompson, "Integrated Diagnostics and Personalized Care: An Interview with GE Healthcare," *Medtech Insight* (June/July 2011): 16.

[325] National Institute of General Medical Sciences, "RNA Interference Fact Sheet," National Institutes of Health, January 30, 2012, http://www.nigms.nih.gov/News/Extras/RNAi/factsheet.htm (accessed September 24, 2012).

[326] Ibid.

[327] Dirk Haussecker, "The Business of RNAi Therapeutics in 2012," *Molecular Therapy-Nucleic Acids* 2, no. 8 (February 7, 2012); Akshay K. Vaishnaw, et al., "A Status Report on RNAi Therapeutics," *Silence* 1, no. 14 (2010), http://www.silencejournal.com/content/1/1/14 (accessed September 26, 2012).

However, *bevasiranib*, a drug to treat macular degeneration, was the only *RNAi therapeutic* to reach *FDA Phase III trials* before its FDA approval was halted due to lack of a *placebo test* group to compare efficacy data.[328] Significantly, there has been no report of high-incident side effects or any programs placed on "*clinical hold*" due to safety events throughout the clinical trial process for *RNAi therapeutics*.[329]

These *biopharmaceutical*s show tremendous promise in countless areas, the most notable of which include *anti-viral, Hepatitis C,* and *cancer treatment*, and were predicted to generate approximately $1 billion by 2015.[330] In addition, the number of biopharmaceuticals in general that are available for commercial use is continually growing, with 12 new products approved by the FDA in 2011.[331] However, the rate of FDA approval has slowed since 2006, with the *approval* of *new biological entities* (NBEs), stated as a percentage of *all new approvals,* decreasing from 24 percent between 2003 and 2006, to 21 percent between 2006 and 2010.[332]

Point-of-Care Technology

New technologies that help manage patient treatment plans.

"Working Group 6: The Role of Technology to Enhance Clinical and Educational Efficiency," by Steven E. Nissen, MD, et al., Journal of American College of Cardiology *44, no. 2 (2004): 258.*

---

[328] Akshay K. Vaishnaw, et al., "A Status Report on RNAi Therapeutics," *Silence* 1, no. 14 (2010), http://www.silencejournal.com/content/1/1/14 (accessed September 26, 2012); U.S. National Institutes of Health, "Safety & Efficacy Study Evaluating the Combination of Bevasiranib & Lucentis Therapy in Wet AMD (CARBON)," ClinicalTrials.gov, http://www.clinicaltrial.gov/ct2/show/NCT00557791 (accessed September 25, 2012).

[329] Akshay K. Vaishnaw, et al., "A Status Report on RNAi Therapeutics," *Silence* 1, no. 14 (2010) http://www.silencejournal.com/content/1/1/14 (accessed September 26, 2012).

[330] National Institute of General Medical Sciences, "RNA Interference Fact Sheet," National Institutes of Health, January 30, 2012, http://www.nigms.nih.gov/News/Extras/RNAi/factsheet.htm (accessed September 24, 2012); Scripp Business Insights, "The Outlook for RNAi: Accelerating Drug Discovery and the Development of RNAi Therapeutics," May 2005, http://www.researchandmarkets.com/reports/323964/the_outlook_for_rnai_accelerating_drug_discovery (accessed October 11, 2012).

[331] Ronald A. Rader, "FDA Biopharmaceutical Product Approvals and Trends: 2011," Biotechnology Information Institute, 2012, http://www.biopharma.com/approvals_2011.html (accessed September 23, 2012).

[332] Gary Walsh, "Biopharmaceutical Benchmarks 2010," *Nature Biotechnology* 28, no. 9 (September 2010): 918.

5.4 CONCLUSION

> *Over the coming years, substantial new challenges will force legislators and regulators to make increasingly difficult distinctions. New products based on new technologies, most notably the emerging science of genetics, will proliferate. . . . Policy makers will have to weigh the promotion of innovation against the reduction of hazards in new ways, and the mix of policy and science will involve growing complexity. If history is a guide, our tolerance for risk will initially be high, but at the first sign of scandal, the legislative and regulatory reaction will be strong. Achieving the best regulatory balance will be a crucial task so that clinicians remain equipped with the safest and most effective medical technologies that science can provide.*
>
> —Robert I. Field, *Health Care Regulation in America: Complexity, Confrontation, and Compromise*

Current total spending on healthcare is 17.9 percent of GDP,[333] growing almost 1.6 percent faster than the nation's *per-capita output* in the last 25 years.[334] This growth is fueled by the *perpetual technological advancement*, *dynamic availability* of the most *accelerated technologies*, fear of potential *malpractice* suits, and efforts to procure *economic gain* that support the necessary supply factors to perpetuate this invincible expansion. The *Institute of Medicine* recently described this current "*paradox*" of U.S. healthcare delivery, stating:

> *As a result of improved scientific understanding, new treatments and interventions, and new diagnostic technologies, the U.S. healthcare care system now is characterized by more to do, more to know, and more to manage than any time in history. . . . The result of this paradox: advances in science and technology have improved the ability*

[333] Robert I. Field, *Health Care Regulation in America: Complexity, Confrontation, and Compromise* (New York: Oxford University Press, 2007), pp. 139–140; Centers for Medicare and Medicaid Services, "Table 1: National Health Expenditures Aggregate, Per Capita Amounts, Percent Distribution, and Average Annual Percent Change: Selected Calendar Years 1960–2010," in *National Health Expenditures Data*, http://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/NationalHealthExpendData/Downloads/tables.pdf (accessed June 25, 2012)

[334] Congressional Budget Office, *The 2012 Long-Term Budget Outlook*, June 2012, http://www.cbo.gov/sites/default/files/cbofiles/attachments/06-05-Long-Term_Budget_Outlook.pdf (accessed July 18, 2012), p. 45.

> *of the health care system to treat diseases, yet the sheer volume of new discoveries stresses the capabilities of the system to effectively generate and manage knowledge and apply it to regular care. These advances have occurred at the same time as, and sometimes have contributed to, challenges in health care quality and value.*[335]

In this *era of healthcare reform*, change is constantly on the horizon with increased emphasis on advancements and utilization of new technologies. *Diagnostic* and *therapeutic technologies* continue to emerge, replacing outdated techniques with less invasive, yet more expensive, alternatives. These technological advancements in the clinical treatment of patients will undoubtedly shape the future direction of patient care services in a *reimbursement environment* that *rewards providers* based on "*quality*" over "*quantity*." With growing importance placed on the *value metrics of patient care*, that is, "*highest quality at lowest costs*," an integrated *management information technology* system that includes data input by the patient, the provider, and the payor, may enhance the communication between these stakeholders and improve the *continuum of care*. As summarized by William Baumoll in *The Cost Disease: Why Computers Get Cheaper and Health Care Doesn't*:

> *Announcements of new information about diseases and new methods of diagnosis and treatment arrive with increasing frequency. . . . Some of these do provide cost savings, and many promise benefits that may justify their startling prices. All of them indicate that rapid and impressive change, and the costs this entails, are part of the evolving science of health-care delivery. The effectiveness, safety, and cost of these new medical techniques, however, are generally determined only after the new discoveries are already in use. Over time, many of these new techniques may prove inadequate. As this occurs and better approaches and procedures are recognized, doctors must be ready to abandon the methods that are no longer effective—especially those that come at great expense with little or no benefit to patients. . . .The introduction of incentives for physicians to discontinue costly procedures that have only marginal benefits may be another [means of reducing medical costs]. It may be necessary to subsidize or regulate the cost of expensive new medical*

[335] Mark Smith, et al., *Best Care at Lower Cost: The Path to Continuously Learning Health Care in America,* Institute of Medicine (Washington, DC: National Academics Press, 2012), p. S-4 (prepublication copy—uncorrected page proofs).

equipment, which may be used more often than is absolutely necessary by doctors who have no other means of recouping its cost . . . [and] to train future doctors to prefer diagnostic and treatment options that provide both cost savings and improved medical care to patients.[336]

5.5 KEY SOURCES

Electronic Health Records (EHR) Overview

Overview of EHR.

"Electronic Health Records Overview" National Institutes of Health: National Center for Research Resources, April 2006, p. 1

To Err Is Human: Building a Safer Health System

The first study to show the need for CPOE. Gained national attention and is still quoted today as a reason for CPOE implementation.

To Err Is Human: Building a Safer Health System, Institute of Medicine, November 1999, p. 1

Leapfrog Hospital Survey Results

Leapfrog is a voluntary program aimed at mobilizing employer purchasing power to alert America's health industry that big leaps in health care safety, quality, and customer value will be recognized and rewarded.

"Leapfrog Hospital Survey Results," Leapfrog Group, 2008, p. 3

http://www.leapfroggroup.org/

Saving Lives, Saving Money: The Imperative for Computerized Physician Order Entry in Massachusetts Hospitals

The ramifications and necessity of CPOE use in hospitals. Also a highly quoted and comprehensive study regarding CPOE use in Massachusetts hospitals.

Saving Lives, Saving Money: The Imperative for Computerized Physician Order Entry in Massachusetts Hospitals, by Mitchell Adams et al.,

[336] William J. Baumol, *The Cost Disease: Why Computers Get Cheaper and Health Care Doesn't* (New Haven, CT: Yale University Press, 2012), pp. 176–177.

Massachusetts Technology Collaborative, New England Healthcare Institute, February 2008

"Biopharmaceutical Benchmarks 2006: The Rate of Biopharmaceutical Approvals Has Leveled Off, but Some Milestones Bode Well for the Future"

Information regarding the biopharmaceutical market.

"Biopharmaceutical Benchmarks 2006: The Rate of Biopharmaceutical Approvals Has Leveled Off, but Some Milestones Bode Well for the Future," by Gary Walsh, *Nature Biotechnology* 24, no. 7 (July 2006): 769–776

Rx Watchdog Report, Trends in Manufacturer Prices of Specialty Prescription Drugs Used by Medicare Beneficiaries, 2004–2007

Trends in biopharmaceutical pricing.

Rx Watchdog Report, Trends in Manufacturer Prices of Specialty Prescription Drugs Used by Medicare Beneficiaries, 2004–2007, by Stephen W. Schlondelmeyer, Leigh Purvis, and David J. Gross, American Association of Retired Persons, September 2008

Report to the Congress: Home Health Services

MedPAC report.

Report to the Congress: Home Health Services, MedPAC, March 2008, p. 171

National Institutes of Health (NIH)

A resource for stem cell research.

"Stem Cell Information: Stem Cell Basics," National Institutes of Health resource for stem cell research, April 28, 2009, http://stemcells.nih.gov/info/basics/ (accessed June 29, 2009)

http://stemcells.nih.gov/

Federal Food and Drug Administration (FDA)

The U.S. agency that approves medical devices and pharmaceuticals for sale on the U.S. market.

"About FDA," U.S. Food and Drug Administration, May 23, 2012, http://www.fda.gov/AboutFDA/Transparency/Basics/ucm192695.htm (accessed October 9, 2012)

www.fda.gov

5.6 ACRONYMS

Acronym	Full Title
ACA	Patient Protection and Affordable Care Act of 2010
ADE	Adverse Drug Effect
AMA	American Medical Association
ARRA	American Recovery and Reinvestment Act of 2009
ASC	Ambulatory Surgery Center
BCBS	Blue Cross Blue Shield
CHCS	Composite Health Care System
CMS	Centers for Medicare and Medicaid Services
COSTAR	Computer Stored Ambulatory Record
CPOE	Computerized Physician Order Entry
DHCP	Decentralized Hospital Computer Program
EHRs	Electronic Health Records
EMRs	Electronic Medical Records
HELP	Health Evaluation through Logical Processing
HHS	Department of Health and Human Services
HIPAA	Health Insurance Portability and Accountability Act of 1996
HIT	Health Information Technology
HITECH	Health Information Technology for Economic and Clinic Health Act
IATV	Interactive Television
ICD	International Statistical Classification of Diseases and Related Health Problems
IOM	Institute of Medicine
IT	Information Technology
LDT	laboratory developed test
MIPPA	Medicare Improvements for Patients and Providers Act of 2008
MIS	Minimally Invasive Procedures
NHC	Night Hospitalist Company, LLC
ONC	Office of National Coordinator for Health Information Technology
PHRs	Personal Health Records
TDS	Technicon Data System
TMR	The Medical Record
WWII	World War II

CHAPTER 6

Healthcare Reform

6.1 OVERVIEW

In the last century, U.S. healthcare reform has historically been driven by complex, polar, and potentially conflicting sociopolitical, economic, demographic, and market factors, manifested by increased spending, a growing and aging population, workforce disruptions, increased prevalence and incidence of chronic and acute medical condition, and inefficient delivery and shortcomings in translating emerging technologies into the delivery of quality and affordable care. While the passage of President Barack Obama's signature healthcare reform initiatives (often referred to as "*Obamacare*"), through the March 23, 2010, enactment of the *Patient Protection and Affordable Care Act* and the March 25, 2010, passage of the *Health Care and Education Reconciliation Act of 2010* (hereinafter referred

to as the "ACA"), is a landmark event in U.S. healthcare reform, a multitude of unresolved issues and uncertainties remain.[1] However, the one certainty is that healthcare reform cannot, and should not, be viewed as a singular event, but rather as a long-standing process that will inevitably continue to be subject to various intervening economic circumstances, health variables, and sociopolitical scenarios at each stage.

The implementation of the ACA is an adaptive process, not only bound by the provisions contained in the actual text of the legislation, but also requiring direction by the promulgation of agency rules and regulations in the coming months and years. Furthermore, it is subject to factors beyond the legislative arena, including the level of the public's support and acceptance; the dynamic economic, political, and demographic landscape; the response of both private capital markets and employers; and the practical and operational implementation of the law by healthcare professionals and providers. The action (or inaction) of state governors, legislators, and attorneys general will also affect the ultimate application of many ACA provisions that must be implemented at the state, rather than the federal, level.

While the ACA sets the stage for a tumultuous *future* in U.S. healthcare delivery reform, the direction and ultimate consequence of that process are an extension of what preceded it. President Harry S. Truman once said, "The only thing new in the world is the history you don't know." An analogous concept is the economic principle that "the best indicator of what will happen in the future is the performance of the immediate past," which concept addresses the core foundation for financial valuation, that is, "all valuation is the expectation of future economic benefit." Accordingly, to possess the requisite background to forecast the future, the valuation professional requires an in-depth understanding of the historical development of the healthcare industry under the changing *reimbursement*, *regulatory*, *competitive*, and *technological* backdrop of reform.

6.2 INITIATIVES LEADING TO HEALTHCARE REFORM

The passage of the ACA in 2010 was the most recent episode in the long running saga of healthcare reform initiatives. Political and legislative initiatives related to U.S. healthcare reform date back to the early

[1] "Patient Protection and Affordable Care Act," *Pub. L.* 111-148, 124 Stat 119 (March 23, 2010); "Health Care and Education Reconciliation Act," *Pub. L.* 111-152, 124 Stat 1029 (March 25, 2010).

1900s.[2] (See Chapter 1, "The Chronology U.S. Healthcare Delivery: From Caduceus to Corporatization.") Health reform efforts continued through the late 1930s and 1940s with national initiatives and planning during the administration of President Franklin Delano Roosevelt (FDR), in support of the implementation of a national health insurance plan, for example, congressional passage of the *Social Security Act* in 1935, as well as the establishment of the *Department of Health and Human Services* (*HHS*) in 1939.[3] Later, in 1949, President Truman's attempt at passing the health reform program conceived by FDR was roundly defeated as a result of strong opposition and intense lobbying by the American Medical Association (AMA) and the American Hospital Association (AHA), which used "*Red Scare*" tactics of the time to equate national health insurance with a movement toward *Communism*.[4]

In 1965, U.S. healthcare reform reached another major milestone with the creation of the *Medicare* and *Medicaid* programs, providing funding for healthcare services to the elderly and the poor, which were signed into law by President Lyndon B. Johnson.[5] Following the passage of these landmark programs, U.S. healthcare expenditures began to increase throughout the 1970s, raising public and political concern over national health spending and significantly elevating cost-containment efforts, rather than the development of new national healthcare initiatives, as the main focus of lawmakers.[6]

The emphasis on cost-saving measures and the lack of support for sweeping new healthcare delivery models continued through the 1990s, despite

---

[2]Robert J. Cimasi, et al., "Valuation in the Era of Healthcare Reform: A Brief Primer on the Impact of Recent Legislation," Business Appraisal Practice, Institute of Business Appraisers, Second Quarter, 2010.

[3]Ibid.; Kaiser Family Foundation, "Timeline: History of Health Reform in the U.S., 1935–1939," http://healthreform.kff.org/flash/health_reform-print.html (accessed August 28, 2012).

[4]Monte M. Poen, *Harry S. Truman versus the Medical Lobby: The Genesis of Medicare* (Columbia, MO: University of Missouri Publisher, 1979), p. l; Robert J Cimasi, et al., "Valuation in the Era of Healthcare Reform: A Brief Primer on the Impact of Recent Legislation," Business Appraisal Practice, Institute of Business Appraisers, Second Quarter, 2010.

[5]Denise L. Knaus, *Medicare Rules & Regulations: A Survival Guide to Policies, Procedures and Payment Reform* (Los Angeles: PMIC, 1998), p. 15.

[6]Robert J. Cimasi, et al., "Valuation in the Era of Healthcare Reform: A Brief Primer on the Impact of Recent Legislation," Business Appraisal Practice, Institute of Business Appraisers, Second Quarter, 2010.

Factoid

The Health Insurance for the Aged and Disabled Act became law in August 1965 as part of President Lyndon B. Johnson's "Great Society" initiative and created Medicare.

Medicare Rules & Regulations: A Survival Guide to Policies, Procedures and Payment Reform *by Denise L. Knaus (Los Angeles: PMIC, 1998), p. 15.*

multiple efforts to address the fiscal implications of the rapid increases in healthcare expenditures during a period between 1980 and 1993 in which the healthcare portion of the GDP rose more than 50 percent.[7] Perhaps the most significant reform proposal initiated was the *Health Security Act of 1993* (HSA) led by First Lady Hillary Clinton and Ira Magazine, which would have established near-universal coverage and restructured the market for health insurance, but it failed to pass either house of Congress.[8]

THE HEALTH SECURITY ACT

The Health Security Act included provisions for universal coverage, regulations of the private insurance market, changes to healthcare financing through an employer mandate, cost control enforced by a national health board, and a transformed delivery system through managed care.

"Learning from Failure in Health Care Reform," by Jonathan Oberlander, New England Journal of Medicine *357, no. 17 (October 25, 2007): 1677–1679.*

[7]Peter P. Budetti,"10 Years beyond the Health Security Act Failure: Subsequent Developments and Persistent Problems," *Journal of the American Medical Association* 292, no. 16 (October 27, 2004).

[8]"Timeline: History of Health Reform in the U.S." Kaiser Family Foundation, 2010, http://healthreform.kff.org/flashlhealth_reformprint.html (accessed May 2, 2010); Robert J. Cimasi, et al., "Valuation in the Era of Healthcare Reform: A Brief Primer on the Impact of Recent Legislation," Business Appraisal Practice, Institute of Business Appraisers, Second Quarter, 2010; Peter P. Budetti, "10 Years beyond the Health Security Act Failure: Subsequent Developments and Persistent Problems," *Journal of the American Medical Association* 292, no. 16 (October 27, 2004).

6.3 DRIVERS OF HEALTHCARE REFORM

The continued rise in healthcare expenditures, arguably at an unsustainable rate of increase following the failed 1990s reform efforts, served as one of several catalysts that precipitated the need for the most recent national healthcare reform initiatives. Other forces driving the urgency for passing some kind of national healthcare reform legislation include the increasing number of people who are uninsured or underinsured and unable to gain access to care, the growth and changing patient demographic of the aging baby-boomer population, declining reimbursement for physician services and provider manpower shortages, and increasing public awareness regarding quality of care issues and medical error rates, among others. These circumstances, together with the current economic recession, an unprecedented intensity in political discourse regarding U.S. government deficits and debt, and increasing political polarization and governance, especially related to an ardent renewal of asserting states' rights in opposing federal initiatives, have created a "*perfect storm,*" that may be able, for the first time, to fuel real changes to the current system of healthcare delivery in the United States.

6.3.1 Rising Healthcare Costs

In 2010, total national health expenditures (NHE) in the United States grew to $2.59 trillion, an approximate 3.93 percent increase from 2009.[9] Similarly, NHE for 2011 is estimated to be at approximately $2.7 trillion, an

HEALTHCARE SPENDING

Medicare, Medicaid, and Social Security account for nearly 40 percent of all government spending, with an expected rising percentage in the coming decades.

"The Great Recession and Government Failure," by Gary S. Becker, Wall Street Journal, *September 2, 2011, http://online.wsj.com/article/SB10001424053111904199404576536930606933332.html (accessed April 26, 2012).*

[9] Center for Medicare and Medicaid Services, "National Health Expenditures (NHE) Amounts by Type of Expenditure and Sources of Funds: Calendar Years 1970–2012," January 2012, http://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/NationalHealthExpendData/Downloads/Proj (accessed August 30, 2012).

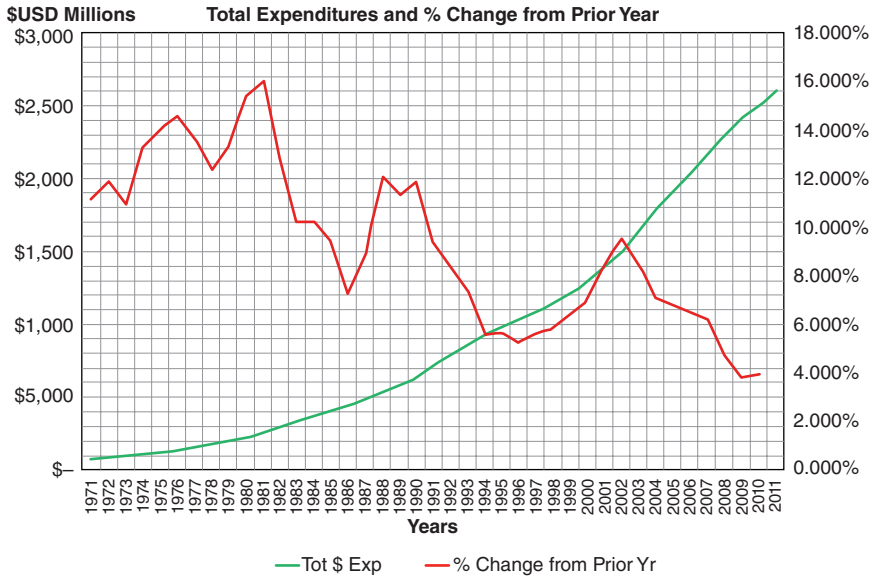


EXHIBIT 6.1 National Health Expenditures 1970–2010

"National Health Expenditures (NHE) Amounts by Type of Expenditure and Sources of Funds: Calendar Years 1970–2012," Centers for Medicare and Medicaid Services, January 2012, http://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/NationalHealthExpendData/Downloads/Proj (accessed August 30, 2012).

approximate 3.9 percent increase over the 2010 rate and just slightly higher than the historically low 2009 growth rate of 3.8 percent.[10] Despite the overall increase in NHE each year since 1970, this trend in the *decreasing rate* of growth in NHE is set forth in Exhibit 6.1.

Despite a growing demand for healthcare services, the patient population continues to experience financial strain when attempting to pay for healthcare services, with out-of-pocket spending for health services rising faster than the typical household income from 2001 to 2004.[11] From 2001 to 2006, the number of Americans indicating high financial burdens due to healthcare spending increased by approximately 1 percent per year, rising from 16.4 percent to 19.1 percent from 2004 to 2006 alone.[12] The financial stability of

[10] Ibid.

[11] Peter J. Cunningham, "The Growing Financial Burden of Health Care: National and State Trends, 2001–2006" *Health Affairs* 29, no. 5 (May 2010): 1–2.

[12] Robert J. Cimasi, et al., "Valuation in the Era of Healthcare Reform: A Brief Primer on the Impact of Recent Legislation," Business Appraisal Practice, Institute of Business Appraisers, Second Quarter, 2010, p. 20.

Factoid

Failed efforts to reduce unemployment and stimulate the economy during the *Great Recession* led to nearly $1 trillion in government spending, causing the recession to grow and deepen.

"The Great Recession and Government Failure," by Gary S. Becker, Wall Street Journal, *September 2, 2011, http://online.wsj.com/article/SB10001424053111904199404576536930606933332.html (accessed April 26, 2012).*

the U.S. population has not improved in more recent years due to the *Great Recession* and is anticipated to remain unstable in the near future.[13]

6.3.2 Physician Manpower and Workforce Changes

Healthcare provider manpower shortages were also a contributing factor compelling recent healthcare reform initiatives. In 2010, the Association of American Medical Colleges (AAMC) approximated a shortage of 13,700 physicians across all specialties, 9,000 of whom provide primary care services. By 2020, the AAMC predicts this shortage will expand to 91,500 physicians, of which approximately half will be primary care providers.[14] This trend is driven by several factors, one of which is an aging baby boomer population, which is expected to increase the 65 and older population from 40.2 million in 2010 (when the first baby boomer turned 65) to 88.5 million in 2050, an increase from 13 percent to 20.2 percent of the total population.[15] In addition, the number of practicing physicians in the United States

[13] Gary S. Becker, "The Great Recession and Government Failure," *Wall Street Journal*, September 2, 2011, http://online.wsj.com/article/SB10001424053111904199404576536930606933332.html (accessed April 26, 2012).

[14] Association of American Medical Colleges, "The Impact of Health Care Reform on the Future Supply and Demand for Physicians Updated Projections through 2025," June 2010, https://www.aamc.org/download/158076/data/updated_projections_through_2025.pdf (accessed August 14, 2012).

[15] U.S. Administration on Aging, "Older Population by Age Group: 1900 to 2050 with Chart of the 65+ Population," Department of Health and Human Services, June 23, 2010, http://www.aoa.gov/AoARoot/Aging_Statistics/future_growth/future_growth.aspx#age (accessed June 25, 2012); U.S. Administration on Aging, "Older Population as a Percentage of the Total Population: 1900 to 2050," Department of Health and Human Services, June 23, 2010, http://www.aoa.gov/AoARoot/Aging_Statistics/future_growth/docs/By_Age_Total_Population.xls (accessed June 25, 2010).

is predicted to remain fairly stagnant during the next decade, due in part to physician lifestyle changes, which have resulted in a reduction of the total number of work hours, and the retirement of the current physician workforce, approximately 26.3 percent of whom were 60 years of age or older in 2010.[16] (See Section 4.3.4, "The Physician-Workforce Shortage: Demand Outpaces Supply," in Chapter 4, "Competition.") At the same time, the dynamic change and the versatility of providers as to scope of practice have been growing to accommodate the changing reimbursement, regulatory, competitive, and technological aspects of an evolving healthcare industry.[17] While the diversity of the shifting demographics of the healthcare workforce has presented significant challenges, it is instrumental to improving efficacy, quality of care, financial efficiency, patient satisfaction, workforce productivity, and professional satisfaction.[18] In order to capitalize on this

PHYSICIAN SHORTAGE AND THE FLEXNER REPORT

In 1910, the Flexner Report was released critiquing the over-supply and poor quality of students graduating from medical schools in North America and resulting in a movement toward higher premedical requirements and stricter admission standards.

"Physician Supply Follows Federal Policy: A Lesson from History," George Washington University School of Public Health and Health Services, Medical Education Futures Study, October, 2008, http://www.medicaleducationfutures.org/sites/default/files/article-internal/PhysicianSupplyFollowsFederalPolicyALessonFromHistory.pdf (accessed September 17, 2012).

[16] Gregory C. Kane, et al., "The Anticipated Physician Shortage: Meeting the Nation's Need for Physician Services," *American Journal of Medicine* 122, no. 12 (December 2009): 1159; Association of American Medical Colleges, "2011 State Physician Workforce Data Book," November 2011, p. 7.

[17] Fred G. Donini-Lenhoff, "Coming Together, Moving Apart: A History of the Term Allied Health in Education, Accreditation, and Practice," *Journal of Allied Health* 37, no. 1 (2008): 47; Alice B. Aiken and Mary Ann McColl, "Interprofessional Healthcare: A Common Taxonomy to Assist with Understanding," *Journal of Allied Health* 38, no. 3 (Fall 2009): e-92.

[18] Alice B. Aiken and Mary Ann McColl, "Interprofessional Healthcare: A Common Taxonomy to Assist with Understanding," *Journal of Allied Health* 38, no. 3 (Fall 2009): e-92.

Factoid

By 2020, it is estimated that the total number of physicians in the United States will reach 759,800, falling approximately 91,500 physicians short of projected demand.

"The Impact of Health Care Reform on the Future Supply and Demand for Physicians, Updated Projections through 2025," Association of American Medical Colleges, June 2010, https://www.aamc.org/download/158076/data/updated_projections_through_2025.pdf (accessed August 14, 2012).

potential, institutions must adopt models that strategically allocate physician and nonphysician manpower resources on the basis of scope and skill set, that is, "ensuring that the right care is provided by the right provider at the right time and place."[19]

6.3.3 Changing Patient Populations

The changing demographics of the patient population are another major catalyst driving healthcare reform. As mentioned earlier, the proportion of U.S. residents aged 65 or older is steadily increasing, expected to double by 2030, which circumstance is expected to have a significant effect on demand for healthcare services, due to the increased incidence and prevalence of disease and chronic conditions in the patient population over the age of 65.[20] The ethnicity of the U.S. patient population is also changing, with the 2010 census figures indicating an increasing degree of racial and ethnic diversity.[21] In 2012, for the first time in U.S. history, the number of minority births surpassed the number of Caucasian births.[22]

[19] Ibid.

[20] Josiah Macy Jr. Foundation, "Ensuring an Effective Physician Workforce for the United States: Recommendations for Reforming Graduate Medical Education to Meet the Needs of the Public: The Second of Two Conferences—The Content and Format of GME," Conference Summary, Atlanta, GA, May 2011, p.1.

[21] Karen R. Humes, Nicholas A. Jones, and Roberto R. Ramirez, "Overview of Race and Hispanic Origin: 2010," U.S. Census Bureau, March 2011, p. 22

[22] Sabrina Tavernise, "Whites Account for Under Half of Births in U.S.," *New York Times*, May 17, 2012, http://www.nytimes.com/2012/05/17/us/whites-account-for-under-half-of-births-in-us.html?pagewanted=all (accessed June 8, 2012).

Further, it is estimated that by 2050, Caucasians will represent a minority faction of the U.S. population.[23] Changing ethnic demographics within the patient population may require a greater level of cultural competency among providers to prevent possible disparities in care, due to poor communication.[24] Disparities in access to care and differences in culture that have an impact on the provision of healthcare services will need to be identified in order to adjust the availability of adequately trained provider manpower to meet the healthcare needs of this growing segment of the U.S. population.[25]

6.3.4 Shifting Reimbursement Trends

There are major shifts taking place within the current healthcare reimbursement environment amid continuing controversy over physician reimbursement levels and the *Sustainable Growth Rate* (SGR) formula for determining the annual *Conversion Factor* (CF) under the *Medicare Physician Fee Schedule* (MPFS) (see Section 2.4.1, "Medicare," in Chapter 2, "Reimbursement Environment"). Every year since 2002, actual Medicare expenditures have exceeded target expenditures; however, congressional

Sustainable Growth Rate (SGR)

The SGR is the current mechanism for updating payment rates for physicians' services and has two key components: an expenditures target level (measured both annually and cumulatively) and a method for adjusting payment rates over time in an attempt to bring expenditures in line with the target level.

"Medicare's Physician Payment Rates and the Sustainable Growth Rate," Statement of Donald B. Marron before the Subcommittee on Health, Committee on Energy and Commerce, and U.S. House of Representatives, Congressional Budget Office, July 25, 2006, p. 1.

[23] Jean Gordon, "Diversity in Health Care," in Nancy Borkowski, *Organizational Behavior in Health Care*, 2nd ed. (Sudbury, MA: Jones and Bartlett, 2011), p. 15.

[24] Ibid., pp. 20, 23–24.

[25] Josiah Macy Jr. Foundation, "Ensuring an Effective Physician Workforce for the United States: Recommendations for Reforming Graduate Medical Education to Meet the Needs of the Public: The Second of Two Conferences—The Content and Format of GME," Conference Summary, Atlanta, GA, May 2011, pp. 2, 14.

action has suspended mandated cuts to payments for physician services every year. These continuous "*doc-fixes*" resulted in a widening gap between the cumulative spending and the cumulative target in each year the proposed cuts were overridden.[26] (See Table 2.8, "Annual Updates to the MPFS CF [CMS Final Rule v Congressional Action], 1997–2013.") Despite the continued debate, and support by many healthcare stakeholders (i.e., Medicare Payment Advisory Committee (MedPAC), the AMA, and the AHA) to repeal the SGR, to date, no legislation has been approved.[27]

At the same time that physicians have been facing decreasing reimbursement for their professional clinical services under traditional *fee-for-service* (*FFS*) reimbursement models, there has been a growing movement toward reimbursing providers based on alternative reimbursement structures that emphasize *value-based purchasing* (which shift a portion of the financial risk from the insurer to the provider), as opposed to FFS models, which have traditionally incentivized the volume of patients treated, in contrast to the value of care (i.e., quality of care per dollar spent), for example, *ACOs*, *Bundled Payments*, *Episode of Care* Reimbursement (see Chapter 2, "Reimbursement Environment"). This trend toward reimbursing providers under a "*value-based*" system has coincided with growing concerns by patients and the medical community regarding increasing medical error rates and the level of quality healthcare services provided to U.S. residents. As indicated in the 2012 issue of *Futurescan*, published by the Society of Healthcare Strategy and Market Development of the American Hospital Association,

> *The new value proposition will demand a totally different system of care. The physician-centric approach to episodic patient care,*

---

[26] "Medicare's Physician Payment Rates and the Sustainable Growth Rate," Statement of Donald B. Marron before the Subcommittee on Health, Committee on Energy and Commerce, and U.S. House of Representatives, Congressional Budget Office, July 25, 2006, pp. 9–10.

[27] Cristina Boccuti, et al., "Moving Forward from the Sustainable Growth Rate System," Medicare Payment Advisory Commission, September 15, 2011, http://interactive.snm.org/docs/MedPAC%20SGR%20sept%202011%20handout.pdf (accessed February 23, 2012); Jessica Zigmond, "Doc Associations Rip Medicare Pay Deal," *Modern Healthcare*, February 15, 2012, http://www.modernhealthcare.com/article/20120215/NEWS/302159974/doc-associations-rip-medicare-pay-deal (accessed February 16, 2012); Jessica Zigmond, "Hospitals Hit Too Hard in SGR Deal: AHA," *Modern Healthcare*, February 16, 2012, http://www.modernhealthcare.com/article/20120216/NEWS/302169948/hospitals-hit-too-hard-in-sgr-deal-aha (accessed July 17, 2012).

Fee-for-Service

A payment policy under which providers receive a fee for each service provided (e.g., an office visit, a test, a procedure, etc.).

The Advisor's Guide to Health Care: An Era of Reform, *by Robert James Cimasi (New York: American Institute of Certified Public Accountants, 2011), p. 279.*

which comes with costs the American society can no longer afford, will need to be replaced by a team-centric approach to population health management, which will require the close integration of hospitals, physicians, and other providers. Because the new model is being driven by the economics of 21st century America, it is going to "happen," independent of what occurs in the White House, Congress, the courts, or programs of the Centers for Medicare & Medicaid Services (CMS). It will not be possible for any hospital executive or board member to ignore or avoid such profound changes and challenges. But, it is possible for healthcare leaders to understand the changing environment and to manage those changes to the best of their ability, positioning their organizations, their communities, and their patients for a better future.[28]

COST OF SGR REPEAL

The *Congressional Budget Office* has estimated that the elimination of the SGR and freezing Medicare physician pay rates could cost as much as $376 billion over 10 years.

"Medicare's Payment to Physicians: The Budgetary Impact of Alternative Policies Relative to CBO's March 2012 Baseline," Congressional Budget Office, July 2012, http://www.cbo.gov/sites/default/files/cbofiles/attachments/43502-SGR%20Options2012.pdf (accessed September 17, 2012).

[28] *Futurescan 2012: Healthcare Trends and Implications 2012–2017*, Society for Healthcare Strategy and Market Development of the American Hospital Association (2012), pp. 6–7.

6.3.5 Demand for Quality Improvements

Patient concerns regarding the quality of healthcare delivered in the United States, despite the high costs associated with such healthcare services, were another significant driver of healthcare reform.[29] The average patient in the United States will typically spend as much as double the amount on a given healthcare service as that of a patient in a similarly developed country and yet will receive less efficient care of a lower quality.[30] For example, relative to other developed countries, the United States spends far more—more than 16 percent of its GDP—on healthcare, yet the United States is ranked very low in terms of health status, due to record-level access barriers and quality disparities.[31] "In the next five to ten years, healthcare costs will rise at a rate that cannot be supported by Medicare and Medicaid on a national level. The size of the baby boom generation aging into Medicare and the declining health of that population, bringing with it rising consumer expectations coupled with more complex health conditions, will create a major challenge for hospitals."[32]

Gross Domestic Product (GDP)

The total current market value of all goods and services produced domestically during a given period. It differs from Gross National Product (GNP) by excluding net income that residents earn abroad.

Dictionary of Health Economics and Finance, *by David Edward Marcinko (New York: Springer, 2007), p. 168.*

---

[29] U.S. Department of Health and Human Services, *Americans Speak on Health Reform: Report on Health Care Community Discussions*, March 2009, http://www.healthreform.gov/reports/hccd/concernsd.html (accessed July 2, 2012), p. 48.

[30] Maggie Fox, "U.S. Scores Dead Last Again in Healthcare Study," Reuters, June 23, 2010, http://www.reuters.com/article/2010/06/23/us-usa-healthcare-last-idUSTRE65M0SU20100623 (accessed July 2, 2012).

[31] Health status can be measured by several means. This list used mortality by measuring life expectancy at birth of the total population. "OECD Health Data 2011—Frequently Requested Data" Organization for Economic Co-operation and Development, November 2011, http://www.oecd.org/document/16/0,3343,en_2649_34631_2085200_1_1_1_1,00.html (accessed January 1, 2012).

[32] *Futurescan 2012: Healthcare Trends and Implications 2012–2017*, Society for Healthcare Strategy and Market Development of the American Hospital Association (2012), pp. 33–34.

Such discrepancies in cost and quality outcomes, in conjunction with limited data on healthcare enterprises quality metrics, have resulted in increased demands for *transparency* and *accountability* in healthcare, two issues addressed in the 2010 reform legislation.

6.4 PATIENT PROTECTION AND AFFORDABLE CARE ACT (ACA)

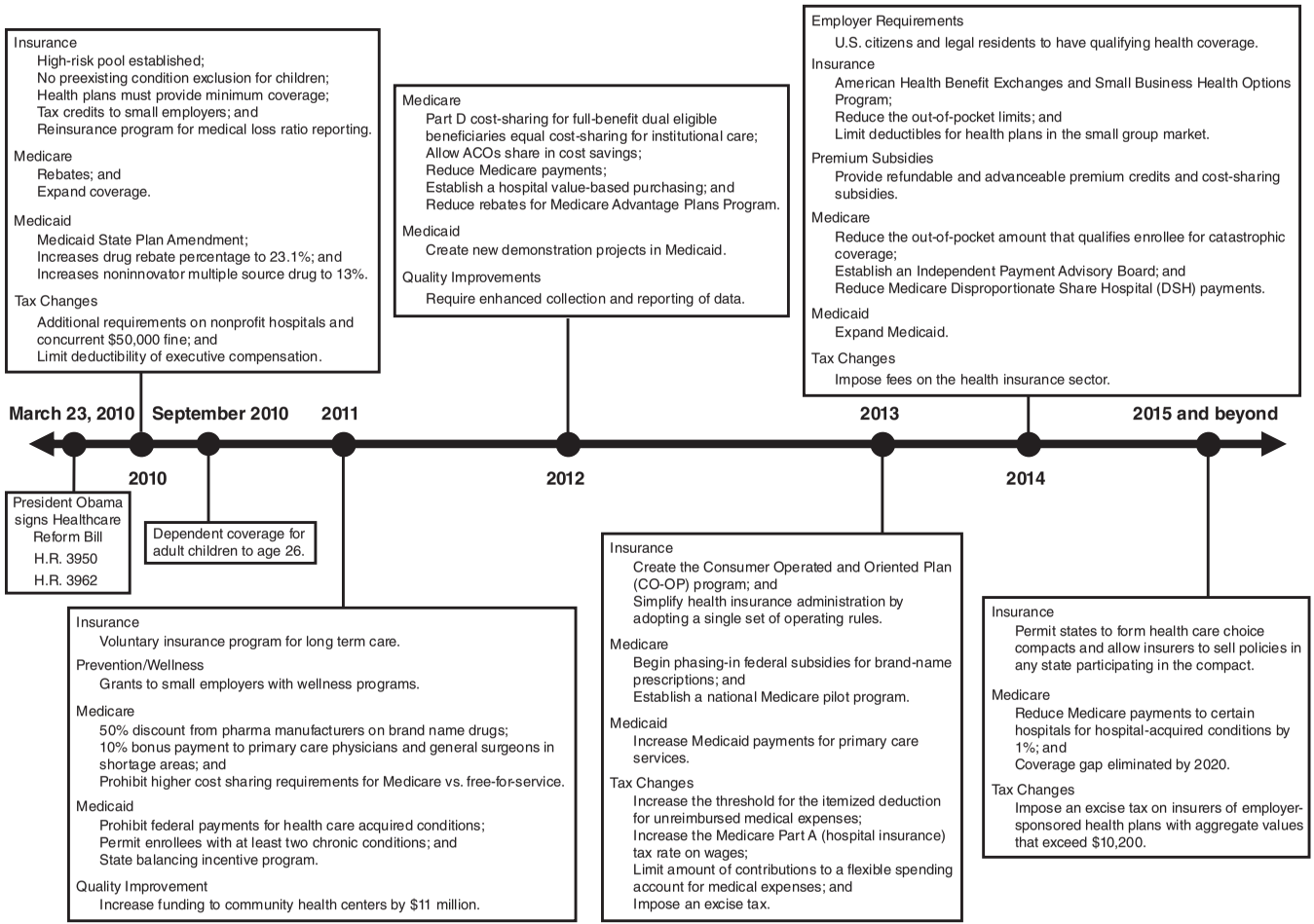
Within the "*eye*" of the previously mentioned "*perfect storm*" and following many months of partisan controversy and political debate during President Obama's first term, Congress passed the ACA in March 2010.[33] While not achieving the objectives of those advocating for a universal coverage insurance program or a single payor system, the 2010 healthcare reform legislation did mark the beginning of a new era in the long march toward U.S. *healthcare reform* (see Chapter 1, "The Chronology of U.S. Healthcare Delivery: From Caduceus to Corporatization"), resulting in a changed paradigm for the way in which healthcare services are delivered and paid for in the United States. The reform's most recent initiatives have already had a significant impact on many aspects of the healthcare delivery system, including, for example, (1) increased regulatory scrutiny, aimed at combating fraud and abuse and antitrust violations; (2) health plan regulation; (3) addressing physician shortages; (4) access to, and quality of, care initiatives; and (5) increased attention to public health/wellness activities, among others.[34] The time line of the implementation of selected ACA provisions is illustrated in Exhibit 6.2.

[33] "Patient Protection and Affordable Care Act," *Pub. L.* 111-148, 124 Stat 119 (March 23, 2010); "Health Care and Education Reconciliation Act," *Pub. L.* 111-152, 124 Stat 1029 (March 25, 2010).

[34] Susan Carhart et al., "Restructuring, Consolidation in Health Care Make Reform Top Health Law Issue for 2010," *BNA Health Law Reporter* 19, no. 5 (January 8, 2010).

EXHIBIT 6.2 2010 U.S. Healthcare Reform Implementation Time Line

"Patient Protection and Affordable Care Act," *Pub. L.* 111–148, 124 Stat 119 (March 23, 2010), as amended by "Health Care and Education Reconciliation Act," *Pub. L.* 111–152, 124 Stat 1029 (March 30, 2010); "Health Reform Implementation Timeline," Kaiser Family Foundation, 2012, http://healthreform.kff.org/Timeline.aspx (accessed March 20, 2012).


March 23, 2010
President Obama signs Healthcare Reform Bill
H.R. 3950
H.R. 3962
Insurance
High-risk pool established;
No preexisting condition exclusion for children;
Health plans must provide minimum coverage;
Tax credits to small employers; and
Reinsurance program for medical loss ratio reporting.
Medicare
Rebates; and
Expand coverage.
Medicaid
Medicaid State Plan Amendment;
Increases drug rebate percentage to 23.1%; and
Increases noninnovator multiple source drug to 13%.
Tax Changes
Additional requirements on nonprofit hospitals and concurrent $50,000 fine; and
Limit deductibility of executive compensation.
September 2010
Dependent coverage for adult children to age 26.
2010
2011
Insurance
Voluntary insurance program for long term care.
Prevention/Wellness
Grants to small employers with wellness programs.
Medicare
50% discount from pharma manufacturers on brand name drugs;
10% bonus payment to primary care physicians and general surgeons in shortage areas; and
Prohibit higher cost sharing requirements for Medicare vs. free-for-service.
Medicaid
Prohibit federal payments for health care acquired conditions;
Permit enrollees with at least two chronic conditions; and
State balancing incentive program.
Quality Improvement
Increase funding to community health centers by $11 million.
2012
Medicare
Part D cost-sharing for full-benefit dual eligible beneficiaries equal cost-sharing for institutional care;
Allow ACOs share in cost savings;
Reduce Medicare payments;
Establish a hospital value-based purchasing; and
Reduce rebates for Medicare Advantage Plans Program.
Medicaid
Create new demonstration projects in Medicaid.
Quality Improvements
Require enhanced collection and reporting of data.
2013
Insurance
Create the Consumer Operated and Oriented Plan (CO-OP) program; and
Simplify health insurance administration by adopting a single set of operating rules.
Medicare
Begin phasing-in federal subsidies for brand-name prescriptions; and
Establish a national Medicare pilot program.
Medicaid
Increase Medicaid payments for primary care services.
Tax Changes
Increase the threshold for the itemized deduction for unreimbursed medical expenses;
Increase the Medicare Part A (hospital insurance) tax rate on wages;
Limit amount of contributions to a flexible spending account for medical expenses; and
Impose an excise tax.
2014
Employer Requirements
U.S. citizens and legal residents to have qualifying health coverage.
Insurance
American Health Benefit Exchanges and Small Business Health Options Program;
Reduce the out-of-pocket limits; and
Limit deductibles for health plans in the small group market.
Premium Subsidies
Provide refundable and advanceable premium credits and cost-sharing subsidies.
Medicare
Reduce the out-of-pocket amount that qualifies enrollee for catastrophic coverage;
Establish an Independent Payment Advisory Board; and
Reduce Medicare Disproportionate Share Hospital (DSH) payments.
Medicaid
Expand Medicaid.
Tax Changes
Impose fees on the health insurance sector.
2015 and beyond
Insurance
Permit states to form health care choice compacts and allow insurers to sell policies in any state participating in the compact.
Medicare
Reduce Medicare payments to certain hospitals for hospital-acquired conditions by 1%; and
Coverage gap eliminated by 2020.
Tax Changes
Impose an excise tax on insurers of employer-sponsored health plans with aggregate values that exceed $10,200.

6.4.1 Impact on Individuals

In a controversial provision referred to as the "*individual mandate,*" the ACA requires U.S. citizens and legal residents to maintain "*minimum essential coverage*," which may include government-sponsored programs, eligible employer-sponsored programs, plans in the individual market, grandfathered group health plans, as well as some other types of coverage. Individuals who fail to maintain this minimum essential coverage will be subject to the following excise tax penalty: $95 in 2014, $325 in 2015, and $695 in 2016 and beyond. This penalty is also applied in the event, however, that an individual's dependents do not maintain minimum essential coverage. Individuals who qualify for hardship or religious exemptions are excluded.[35] The ACA provides for refundable tax credits that eligible taxpayers may use to assist them in paying for individual and family plan premiums for health insurance purchased through a *State Health Benefit Exchange*. The requirements of, and concerns regarding, the establishment of state health insurance exchanges are discussed further below. Each individual enrolled in a plan offered through an *Exchange* will be required to report his or her income to the *Exchange*, on which basis of the information provided by the individual, the U.S. Treasury will pay a credit directly to the insurance plan in which the individual is enrolled. The individual will then pay the difference between the credit amount and the total premium charged.[36]

Factoid

On June, 28, 2012, the Supreme Court of the United States, in ruling on *National Federation of Independent Business v Sebelius* and *HHS v. Florida*, upheld the constitutionality of the *individual mandate*, deciding that the penalty for noncompliance fell within Congress's taxing power.

Florida, et al., v. Department of Health and Human Services, et al., *Writ of Certiorari, Motion No. 11–400, November 14, 2011.*

[35] "Tax Provisions in the Health Care Act," *Journal of Accountancy*, March 22, 2010, http://www.journalofaccountancy.com/Web/20102724.htm (accessed April 10, 2010).

[36] Ibid.

Minimum Essential Coverage

Level of coverage that includes insurance offered in the individual market (such as qualified health plan enrolled in through an Affordable Insurance Exchange), an eligible employer-sponsored plan, or government-sponsored coverage such as Medicare, Medicaid, the Children's Health Insurance Program, TRICARE, or veteran's health.

"Requests for Comments on Reporting of Health Insurance Coverage," Internal Revenue Service, Notice 2012–32, http://www.irs.gov/pub/irs-drop/n-12–32.pdf (accessed September 18, 2012).

State Health Benefit Exchange

A state-established marketplace through which low- and moderate-income individuals and families and employees of small businesses will receive premium and cost-sharing subsidies in an effort to make private health insurance coverage more affordable.

"Establishing Health Insurance Exchanges: An Overview of State Efforts," Henry J. Kaiser Family Foundation, Focus on Health Reform, August 2012, http://www.kff.org/healthreform/upload/8213–2.pdf (accessed September 18, 2012).

6.4.2 Impact on Employers

All employer-related regulations related to ACA take effect January 1, 2014, and require that employers either offer affordable "*minimum essential coverage*" or pay an excise tax. An "*applicable large employer*" is defined as an employer who employs an average of at least 50 full-time employees during the preceding calendar year.[37] Employer-sponsored "*minimum essential coverage*" must be affordable, in that (1) the premium does not exceed 9.5 percent of the taxpayer's household income, and (2) the plan covers at least 60 percent of the total allowable costs of coverage.[38] If the

[37] "Patient Protection and Affordable Care Act, Sec. 4980H," *Pub. L.* 111-148, 124 Stat 119 (March 23, 2010), p. 254; "Shared Responsibility for Employers Regarding Health Coverage," 26 I.R.C. § 4980H(c)(2).

[38] "Refundable Credit for Coverage Under a Qualified Health Plan," 26 U.S.C. § 36(B)(c)(2)(C).

employer-sponsored plan is not deemed affordable, and an employee meets other income requirements, then the employee can be certified as having purchased health insurance through a state exchange with respect to which a "*premium tax credit*" or a cost-sharing reduction is allowed or paid to the employee.[39] An "*applicable large employer*" who *does not* offer *minimum essential coverage* for all of his or her full-time employees and has at least one full-time employee (FTE) who receives a premium tax credit will be assessed a fee in the amount of one-twelfth of $2,000 (approximately $166.67) per FTE, excluding the first 30 employees from the assessment.[40] If an applicable large employer *does* offer coverage but has at least one FTE receiving a premium tax credit who cannot afford the offered coverage, then the employer is subject to the lesser of (1) one-twelfth of $3,000 (approximately $250) for each employee receiving a premium tax credit who is given a government subsidy and purchases coverage through a *Health Insurance Exchange* or (2) one-twelfth of $2,000 for each FTE.[41]

The ACA also requires employers who offer coverage to their employees to provide *free choice vouchers* to their employees with incomes less than 400 percent of the *federal poverty level* (FPL), or whose premium exceeds 8 percent but is less than 9.8 percent of their income and who choose to enroll in a plan in the *Exchange*.[42] The voucher, in an amount equal to what the employer would have paid to provide coverage to the employee under the employer's plan, is used to offset the premium costs for the plan in which the employee is enrolled.[43] Employers with more than 200 employees were required to automatically enroll employees into health insurance plans

---

[39] "Patient Protection and Affordable Care Act, Sec. 1411, 1513," *Pub. L.* 111-148, 124 Stat 119 (March 23, 2010), pp. 224, 253; "Tax Provisions in the Health Care Act," *Journal of Accountancy*, March 22, 2010, http://www.journalofaccountancy.com/Web/20102724.htm (accessed April 10, 2010).

[40] "Patient Protection and Affordable Care Act, Sec. 1513," *Pub. L.* 111-148, 124 Stat 119 (March 23, 2010), pp. 253–256; "Shared Responsibility for Employers Regarding Health Coverage," 26 I.R.C. § 4980H(b); "Tax Provisions in the Health Care Act," *Journal of Accountancy*, March 22, 2010, http://www.journalofaccountancy.com/Web/20102724.htm (accessed April 10, 2010).

[41] "Patient Protection and Affordable Care Act, Sec. 5000A," *Pub. L.* 111-148, 124 Stat 119 (March 23, 2010), p. 244; "Shared Responsibility for Employers Regarding Health Coverage," 26 I.R.C. § 4980H(b); "Refundable Credit for Coverage Under a Qualified Health Plan," 26 U.S.C. § 36(B)(c)(2)(C).

[42] "Patient Protection and Affordable Care Act, Sec. 10108," *Pub. L.* 111-148, 124 Stat 119 (March 23, 2010), pp. 912–913.

[43] Ibid.

offered by the employer; however, employees could opt out of coverage.[44] The ACA's *free choice voucher* provisions, however, were repealed in 2011 by the *Department of Defense and the Full-Year Continuing Appropriations Act*, significantly reducing the number of persons covered.[45]

6.4.3 Impact on Insurers

Perhaps the most significant provisions of the ACA affecting health insurers are related to prohibiting health insurers from excluding individuals on the basis of a preexisting condition and *mandating* health insurance *coverage for dependent children.* Effective September 23, 2010, all health insurance plans (1) were prohibited from *excluding children under age 19* on the basis of a preexisting condition, (2) were required to provide *dependent coverag*e for children *up to age 26* for all individual and group policies, and (3) may not impose annual maximum benefit limits for "*essential benefits*," except those limits that may be permitted by regulations at a later date.[46] Effective January 1, 2014, group health plans are prohibited from excluding *any* patient on the basis of preexisting conditions.[47] In addition, plans that are self-funded must provide covered individuals with the option to seek

Wellness Programs

Wellness programs are plans offered to employees by employers that encourage healthier living habits, such as weight loss initiatives and assistance in quitting smoking.

"Federal Health Care Reform: Impacts on Employers," Anthem, April 7, 2010, http://preferredinscenter.com/learn/Anthem-Employer-HealthcareAct-Full.pdf (accessed April 14,2010).

[44] Ibid., p. 252.

[45] "Department of Defense and Full-Year Continuing Appropriations Act," *Pub. L.* 112-10, 125 Stat 38 (April 15, 2011), pp. 168–169.

[46] "Patient Protection and Affordable Care Act, Sec. 1302, 2714," *Pub. L.* 111-148, 124 Stat 119 (March 23, 2010), pp. 132, 163–164; Deloitte Center for Health Solutions, "Health Care Reform Memo: April 12, 2010," April 12, 2010, http://www.deloitte.com/view/en_US/us/Insights/Browse-by-Content-Type/Newsletters/health-care-reform-memo/6a8e7661b62f7210VgnVCM100000ba42f00aRCRD.htm (accessed May 19, 2010).

[47] "Patient Protection and Affordable Care Act, Sec. 1101," *Pub. L.* 111-148, 124 Stat 119 (March 23, 2010), pp. 141–143.

external independent medical review of certain claims, such as claims that are denied based on a purported *lack of medical necessity.*[48] Further, insurance plans cannot require prior authorization or increased cost sharing for emergency services, even if those services are provided out-of-network, and are prohibited from discriminating in favor of highly compensated employees.[49] Group health plans are also allowed to increase incentives for *wellness program investments* from 20 percent to 30 percent of the cost of the insurance premium.[50]

In 2010, a temporary national high-risk pool was created to permit adults with preexisting conditions to obtain *subsidized coverage* that meets two criteria: (1) the payor's share of the costs is at least 65 percent of the total costs, and (2) the beneficiary's maximum out-of-pocket costs are capped at the current limit set for *high deductible health plans* (HDHPs), which are often associated with *health savings accounts* (HSAs).[51] (For more information on HSAs, see Section 2.5.2.4, "Health Savings Accounts [HSA]," in Chapter 2, "Reimbursement Environment.") This high-risk pool will be dissolved on January 1, 2014, when all insurers will be prohibited from excluding persons with preexisting conditions.[52] In addition, beginning in 2011, health plans were required to report the proportion of premium dollars spent on clinical services

Health Savings Accounts (HSAs)

Special accounts into which employers and employees both contribute, and from which the employee can draw funds to pay for health services. If the employer contributes, the value of those contributions is not taxable to the employee. Similarly, if the employee makes contributions, they count as "above-the-line" deductions.

The Advisor's Guide to Health Care: An Era of Reform, *by Robert James Cimasi (New York: American Institute of Certified Public Accountants, 2011), p. 280.*

[48] Ibid., pp. 887–888.

[49] Ibid., pp. 884, 888–889.

[50] Ibid., pp. 132, 156–159; "Federal Health Care Reform: Impacts on Employers" Anthem, April 7, 2010, http://preferredinscenter.com/learn/Anthem-Employer-HealthcareAct-Full.pdf (accessed April 14, 2010).

[51] "Patient Protection and Affordable Care Act, Sec. 1101," *Pub. L.* 111-148, 124 Stat 119 (March 23, 2010), pp. 141–143; "High Deductible Health Plans," I.R.C. § 223(c)(2) (1986).

[52] "Patient Protection and Affordable Care Act, Sec. 1101, 1341," *Pub. L.* 111-148, 124 Stat 119 (March 23, 2010), pp. 141–143, 208–211.

and quality initiatives and to provide rebates to consumers for any amount spent that was less than *85 percent of premium dollars for large group plans* and *80 percent of premium dollars for individual and small group plans*.[53] In 2010, a process for reviewing increases in health plan premiums was established to require insurance companies to justify premium increases.[54]

It should be noted that the ACA provides special rules for *grandfathered health plans*, which is any group health plan or individual coverage that was effective on March 23, 2010, the date of the ACA's enactment. The ACA allows employers to maintain current levels of health insurance coverage for individuals who are already enrolled in plans, as well as for subsequently enrolled family members and new hires, provided that the plan allowed for dependent or family coverage on March 23, 2010. If those conditions are met, the grandfathered status of the plan will not be negated.[55] *Collectively bargained agreements* are grandfathered until the date on which the last of the collective bargaining agreements relating to the *grandfathered coverage* terminates.[56] Grandfathered plans are generally able to avoid many of the ACA's requirements pertaining to health insurers but are still subject to the following key provisions, as discussed earlier: (1) preexisting conditions, (2) dependent coverage, (3) elimination of coverage rescissions, (4) coverage limits, and (5) in 2014, excessive waiting periods.[57]

6.4.3.1 ACA's Impact on the Medicare Program In addition to those provisions of the ACA affecting all insurance providers (both public and private), the *Medicare Program* is required to (1) provide a productivity adjustment and reductions to *market-basket updates* for many providers; (2) make several concessions to e*xpand primary care*, coordinated care, and delivery system

[53]Ibid., pp. 887–888.

[54]Kaiser Family Foundation, "Summary of New Health Reform Law," April 21, 2010, http://www.kff.org/healthreform/upload/8061.pdf (accessed May 6, 2010).

[55]Paul M. Hamburger and James R. Napoli, "'Grandfathered' Plans Spared Some Reform Mandates," Society for Human Resource Management, April 9, 2010, http://www.shrm.org/hrdisciplines/benefits/Articles/Pages/GrandfatheredPlans.aspx (accessed April 15, 2010).

[56]"Patient Protection and Affordable Care Act, Sec. 1251," *Pub. L.* 111-148, 124 Stat 119 (March 23, 2010), p. 162; "Federal Health Care Reform: Impacts on Employers," Anthem, April 7, 2010, http://preferredinscenter.com/learn/Anthem-Employer-HealthcareAct-Full.pdf (accessed April 14, 2010).

[57]Paul M. Hamburger and James R. Napoli, "'Grandfathered' Plans Spared Some Reform Mandates," Society for Human Resource Management, April 9, 2010, http://www.shrm.org/hrdisciplines/benefits/Articles/Pages/GrandfatheredPlans.aspx (accessed April 15, 2010).

reform; (3) support *quality initiatives*; (4) provide a rebate for Medicare Part D beneficiaries who are required to pay *out of pocket for prescription drug coverage* in 2010; (5) enforce provisions to continuously reduce the gap between generic and brand-name drugs by 2020; (6) add restrictions on revenue spending in 2014 for Medicare Advantage plans; and (7) update *disproportionate share payments (DSH*), among others.

6.4.3.2 ACA's Impact on the Medicaid Program Reform initiatives related to the *Medicaid Program* are being phased in between 2010 and 2014 and include several provisions related to (1) expanding enrollee eligibility, (2) prescription drug coverage, and (3) primary care and preventive services coverage, among others. In addition, Medicaid will be required to designate new matching payments for eligible individuals with increased Medicaid payment rates for primary care physicians. Specifically as related to Medicaid and the *Children's Health Insurance Program* (CHIP), healthcare reform provisions require states to maintain current income eligibility levels for children in Medicaid and CHIP until 2010 and extend funding levels for CHIP through 2015, with the CHIP benefit package and cost-sharing rules to continue under current laws. Beginning in 2015, states will be given the option to receive a 23 percent increase in the CHIP *match rate* up to a *cap of 100* percent. In addition, children who are eligible for CHIP but who are unable to enroll in the program, due to enrollment caps, will be eligible for tax credits.[58]

Following the invalidation by SCOTUS of the ACA provisions that mandated states to expand their Medicaid programs or lose all matching federal funds, states have been given the choice of whether to (1) *opt into the Medicaid expansion,* in exchange for significant federal assistance; or (2) *maintain their Medicaid programs' status quo* and deny access to potentially millions of poor and uninsured constituents. For states that *choose to participate*, the federal government will pay 100 percent of the costs of the expansion for three years, gradually scaling its matching funds down to 90 percent by 2020 and beyond.[59] (See Chapter 2, "Reimbursement Environment.") Beginning in 2017, states will become responsible for a percentage of the healthcare expenses for both adults who are newly eligible under the expansion and adults who are currently eligible under states' existing programs

[58]Kaiser Family Foundation, "Summary of New Health Reform Law," *Focus on Health Reform* (last modified April 8, 2010), p. 2.

[59]"Patient Protection and Affordable Care Act, Sec. 2001," *Pub. L.* 111-148, 124 Stat 119 (March 23, 2010), pp. 271–278.

and who, even in the absence of the expansion, will enroll in Medicaid as required by the ACA's individual mandate.[60] However, states stand to experience *significant financial gain* should they elect to expand their programs, in that the federal government would (1) pay a significantly higher percentage of the healthcare costs incurred by certain currently eligible adults; (2) provide coverage for poor and near-poor uninsured adults, which may decrease some of the non-Medicaid costs associated with these individuals, for example, mental health services and uncompensated care payments to hospitals; and (3) cause, through the economic/multiplier ripple effect, a significant additional amount of federal Medicaid funds to come into the state, thereby resulting in a substantial increase in the state's total economic activity, which would in turn generate revenue in the form of additional state income and sales taxes, as well as insurance premium and provider taxes where applicable.[61]

For example, in Missouri, the state would spend $431 million during the first five years of the expansion's implementation but would receive $8.4 billion in funding from the federal government in return.[62] Of further note, in 2011, Missouri spent almost $980 million in uncompensated care, and opting in to the expansion could lower that amount to $311 million, as well as reduce the $1.8 to $3.7 billion the state loses in economic productivity

Factoid

The *Congressional Budget Office* estimates that the Supreme Court's decision to strike down mandated Medicaid expansion in the ACA will reduce government health care spending by $84 billion from 2012 to 2022.

"Estimates for the Insurance Coverage Provisions of the Affordable Care Act Updated for the Recent Supreme Court Decision," Congressional Budget Office, July 2012, p. 2.

[60] Stan Dorn, "Considerations in Assessing State-Specific Fiscal Effects of the ACA's Medicaid Expansion," Urban Institute Health Policy Center, Washington, DC, August 20, 2012, p. 1.

[61] Ibid.

[62] John Holahan and Irene Headen, "Medicaid Coverage and Spending in Health Reform: National and State-by-State Results for Adults at or below 133% FPL," Urban Institute, to Kaiser Commission on Medicaid and the Uninsured (Washington, DC: Kaiser Family Foundation, May 2010), pp. 1, 10.

annually as a result of its citizens' healthcare needs going unmet.[63] Opting in to the *Medicaid Expansion* program in Missouri would mean expanding access to more than 300,000 Missourians, reducing the state's uninsured rate, stimulating the economy, and easing the burden that $1 billion in uncollected medical bills places on the state's hospitals each year.[64] Similarly, a study of the potential impact of the ACA's *Medicaid expansion*'s provisions in Nebraska estimated that the cost of expansion to the state would range from $140 to $168 million, but, in return, the state would receive $2.9 to $3.5 billion from the federal government through 2020, and the influx of federal funds would also generate a minimum of $700 million every year in new economic activity, which could potentially finance more than 10,000 jobs annually through 2020.[65] In contrast, forgoing the expansion could potentially cost Nebraska more than $1 billion in uncompensated care through 2019.[66]

Currently, 25 states remain undecided about whether to expand their Medicaid programs, 12 states and the District of Columbia have opted in, and 5 states have announced they will not expand their Medicaid programs (Florida, Louisiana, Mississippi, South Carolina, and Texas). Further, another five states appear unlikely to expand their programs: Iowa, Missouri, Nevada, New Jersey, and Nebraska.[67] While some states have offered specific reasons for their leanings, including the unwillingness to raise taxes

---

[63] Fredric Blavin, Matthew Buettgens, and Jeremy Roth, "State Progress toward Health Reform Implementation: Slower Moving States Have Much to Gain," Urban Institute, January 2012, p. 7; Robert Gatter, "Guest Commentary: $20 for Medicaid Expansion," *St. Louis Post-Dispatch,* July 12, 2012, http://www.stltoday.com/news/opinion/guest-commentary-for-medicaid-expansion/article_954e67b7-b3af-57fe-95d1-32d3d942d1a8.html (accessed July 18, 2012).

[64] "Guest Commentary: $20 for Medicaid Expansion," *St. Louis Post-Dispatch,* July 12, 2012, http://www.stltoday.com/news/opinion/guest-commentary-for-medicaid-expansion/article_954e67b7-b3af-57fe-95d1-32d3d942d1a8.html (accessed July 18, 2012); John Holahan and Irene Headen, "Medicaid Coverage and Spending in Health Reform: National and State-by-State Results for Adults at or below 133% FPL," Urban Institute, to Kaiser Commission on Medicaid and the Uninsured (Washington, D.C.: Kaiser Family Foundation, May 2010), p. 10.

[65] Jim P. Stimpson, "Medicaid Expansion in Nebraska Under the Affordable Care Act," UNMC Center for Health Policy, Omaha, NE, August 2012, p. 1.

[66] Ibid.

[67] The Advisory Board, "Where Each State Stands on ACA's Medicaid Expansion: A Roundup of What Each State's Leadership Has Said about Their Medicaid Plans," July 17, 2012, http://www.advisory.com/Daily-Briefing/2012/07/05/Where-each-state-stands-of-the-Medicaid-expansion (accessed August 23, 2012).

STATES OPTING IN TO MEDICAID EXPANSION

States choosing to expand their Medicaid coverage include Arkansas, California, Connecticut, Delaware, Hawaii, Illinois, Maryland, Massachusetts, Minnesota, Rhode Island, Vermont, and Washington.

"Where Each State Stands on ACA's Medicaid Expansion: A Roundup of What Each State's Leadership Has Said about Their Medicaid Plans," The Advisory Board, July 17, 2012, http://www.advisory.com/Daily-Briefing/2012/07/05/Where-each-state-stands-of-the-Medicaid-expansion (accessed August 23, 2012).

or the purported inability to fund other areas of need, such as education, other states have simply declined to participate, such as Texas, whose governor stated there was "no intention to implement so-called state exchanges or to expand Medicaid under Obamacare."[68]

Although the original mandated Medicaid expansion would have offered eligibility to more than half of the 41.2 million adults who lacked insurance as of 2010, the *Congressional Budget Office* (CBO) now predicts that 3 million fewer individuals will have insurance as a result of the Medicaid expansion being made optional.[69] In addition, those states that choose not to participate will cause a *higher per-person* cost to the federal government than if those individuals were covered by Medicaid, and many others will be left without coverage at all, due to ineligibility for Medicaid or private insurance subsidies.[70]

6.4.3.3 ACA's Establishment of Health Insurance Exchanges Under the ACA, states are required to have a state health insurance exchange (*Exchange*) in

[68] Ibid.

[69] Kaiser Commission on Medicaid and the Uninsured, "How Will the Medicaid Expansion for Adults Impact Eligibility and Coverage?" Washington, DC: Kaiser Family Foundation, July 2012, p. 3; Congressional Budget Office, "Estimates for the Insurance Coverage Provisions of the Affordable Care Act Updated for the Recent Supreme Court Decision," July 2012, p. 3.

[70] Congressional Budget Office, "Estimates for the Insurance Coverage Provisions of the Affordable Care Act Updated for the Recent Supreme Court Decision," July 2012, p. 4.

operation by January 1, 2014.[71] By providing a single place for consumers to (1) search for and *compare health plans*, (2) ask questions regarding coverage, (3) *check eligibility for programs* and tax credits, and (4) ultimately *enroll in a health plan*, the *Exchanges* are designed to both facilitate the *process of purchasing* health insurance and make it more affordable.[72] Though states may elect not to create these *Exchanges* and may allow the federal government to do so in their place, they must provide the secretary of HHS with a decision by January 1, 2013, regarding whether they will implement an independently designed *Exchange*.[73] In order to receive at least conditional approval of their respective exchanges by the January 1, 2013, deadline, states are encouraged to submit an "*Exchange Blueprint*" by November 16, 2012, which leaves little time for those states that deferred action pending the outcome of the SCOTUS June 2012 decision.[74]

AFFORDABLE INSURANCE EXCHANGES

A state health exchange can help an individual look for and compare private health plans. Individuals will be able to ask questions about coverage options and find their eligibility for health programs and state and federal tax credits.

"Affordable Insurance Exchanges," U.S. Department of Health and Human Services, http://www.healthcare.gov/law/features/choices/exchanges/index.html (accessed September 18, 2012).

[71] "Patient Protection and Affordable Care Act, Sec. 1311," *Pub. L.* 111-148, 124 Stat 119 (March 23, 2010), pp. 173–181.

[72] U.S. Department of Health and Human Services, "Key Features of the Law: Insurance Choices: Affordable Insurance Exchanges," January 25, 2012, http://www.healthcare.gov/law/features/choices/exchanges/index.html (accessed March 20, 2012).

[73] "Patient Protection and Affordable Care Act, Sec. 1321," *Pub. L.* 111-148, 124 Stat 119 (March 23, 2010), pp. 186187; Kaiser Family Foundation, "Health Reform Source: Implementation Timeline," 2012, http://healthreform.kff.org/Timeline.aspx (accessed March 20, 2012), p. 13.

[74] "Patient Protection and Affordable Care Act; Establishment of Exchanges and Qualified Health Plans; Exchange Standards for Employers," *Federal Register* 77, no. 59 (March 27, 2012): 18446; Center for Consumer Information and Insurance Oversight, "Draft Blueprint for Approval of Affordable State-Based and State Partnership Exchanges," Centers for Medicare and Medicaid Services, May 16, 2012, p. 4.

Published on March 27, 2012, the final rule regarding *health insurance exchanges* offers states significant flexibility in the design and operation of their *Exchanges* and combines the policies from two previously published *Notices of Proposed Rulemaking*, which provide states with more options through which to customize their *Exchanges* with respect to member eligibility, health plan participation, and the overall operation of the *Exchange*.[75] *Flexibility* is also a main focus in a state's operation of the *Small Business Health Options Programs* (*SHOPs*), which are programs that offer insurance options for small employers within state *Exchanges*.[76] Through SHOPs, employers will be able to choose the level of coverage they will offer to their employees, and states will be able to determine the size of the small group market participating in SHOPs.[77] In addition, small employers who purchase coverage through SHOPs may be eligible for a tax credit beginning in 2014.[78]

Small Business Health Option Programs (SHOPs)

Programs enacted as part of the ACA that are designed to assist qualified employers in the state who are small employers in facilitating the enrollment of their employees in qualified health plans offered in the small group market in the state.

"Patient Protection and Affordable Care Act," Pub. L. *111–148, § 1311(b)(1)(B), March 23, 2010.*

---

[75] "Patient Protection and Affordable Care Act; Establishment of Exchanges and Qualified Health Plans; Exchange Standards for Employers," *Federal Register* 77, no. 59 (March 27, 2012): 18310 et seq.; Margaret Dick Tocknell, "HIX Final Rule Released," HealthLeaders Media, March 13, 2012, http://www.healthleadersmedia.com/page-1/HEP-277640/HIX-Final-Rule-Released (accessed March 20, 2012).

[76] "Patient Protection and Affordable Care Act; Establishment of Exchanges and Qualified Health Plans; Exchange Standards for Employers," *Federal Register* 77, no. 59 (March 27, 2012): 18310 et seq.; U.S. Department of Health and Human Services, "Affordable Insurance Exchanges: Choices, Competition and Clout for States," July 11, 2011, http://www.healthcare.gov/news/factsheets/2011/07/exchanges07112011a.html (accessed August 7, 2012).

[77] U.S. Department of Health and Human Services, "Affordable Insurance Exchanges: Choices, Competition and Clout for States," July 11, 2011, http://www.healthcare.gov/news/factsheets/2011/07/exchanges07112011a.html (accessed August 7, 2012).

[78] Ibid.

Factoid

As of August 2012, 15 states and the District of Columbia have established state-based insurance exchanges, while 7 states have decided not to create a state exchange.

"Establishing Health Insurance Exchanges: An Overview of State Efforts," Henry J. Kaiser Family Foundation, Focus on Health Reform, *August 2012, http://www.kff.org/healthreform/upload/8213–2.pdf (September18, 2012).*

6.4.4 Impact on Providers

In addition to the ACA's impact on individuals, employers, and insurers, the 2010 healthcare reform legislation also has significant implications for healthcare providers. For example, *primary care physicians (including family medicine, internal medicine geriatrics and pediatric physician providers)* whose Medicare charges for office, nursing facility, and home visits make up at least 60 percent of their total Medicare charges will be eligible for a 10 percent bonus payment for services performed from 2011 through 2016.[79] In addition, general surgeons who conduct major procedures in a *designated health professional shortage* area will be eligible for a 10 percent bonus payment for these services from 2011 to 2016.[80] Medicare will also increase payment for psychotherapy services by 5 percent, and will extend Medicare

Designated Health Professional Shortage Area

Areas designated by the Health Resources and Services Administration (HRSA) as having shortages of primary medical care, dental, or mental health providers and may be geographic (a county or service area), demographic (a low-income population), or institutional (lacking a comprehensive health center, a federally qualified health center, or another public facility).

"Find Shortage Areas: HPSA by State & County," Health Resources and Services Administration, September 18, 2012, http://hpsafind.hrsa.gov/ (accessed September 18, 2012).

[79] American Hospital Association, "How the Passage of Federal Health System Reform Legislation Impacts Your Practice," http://www.ama-assn.org/ama1/pub/upload/mm/399/hsr-impacts-practice.pdf (accessed April 19, 2010).

[80] Ibid.

Factoid

The Federal Poverty Level is issued each year in the *Federal Register* by the Department of Health and Human Services for administrative purposes, such as determining financial eligibility for certain federal programs.

"2012 HHS Poverty Guidelines," Department of Health and Human Services, http://aspe.hhs.gov/poverty/12poverty.shtml (accessed September 18, 2012).

incentive payments of 1 percent in 2011 and .5 percent from 2012 to 2014 for voluntary participation in *Medicare's Physician Quality Reporting Initiative* (*PQRI*).[81] Beginning in 2015, physician providers who do not successfully participate in the PQRI program will have their payments reduced by 1.5 percent in 2015 and by 2 percent in subsequent years.

As related to the Medicaid program, effective 2013, there will be *increased Medicaid payments for primary care physician services* for 2013 and 2014, with 100 percent federal funding.[82] Significantly, in 2014, states will have the option to participate in an expansion of Medicaid coverage to all non-Medicare eligible individuals under age 65 (i.e., children, pregnant women, parents, and adults without dependent children) with incomes up to 133 percent of the federal poverty level, based on a modified adjusted gross income, and Medicaid provides for enhanced federal matching funds for new eligible enrollees.[83] As discussed earlier, providers may realize additional revenues through the increased federal funding for these new enrollees and have less uncompensated care from these previously uninsured patients and increased state economic activity.

6.4.4.1 ACA's Establishment of Accountable Care Organizations The *Medicare Shared Savings Program* (*MSSP*) of the ACA, as discussed in Chapter 2, "Reimbursement Environment," and in Chapter 4, "Competition," provides for the creation of *Accountable Care Organizations* (ACOs), an organized network of providers who coordinate care in order to lower costs and increase quality to achieve financial incentives established through a contract with CMS. As one of the most commonly cited features of the ACA,

[81] Ibid.

[82] Kaiser Family Foundation, "Health Reform Implementation Timeline," *Focus on Health Reform* (last modified March 31, 2010), p. 3.

[83] Ibid., p. 4.

Accountable Care Organizations (ACOs)

ACOs are healthcare organizations in which a set of providers, usually physicians and hospitals, is held accountable under a contract with payor(s) for the cost and quality of care delivered to a specific local population.

"Can Accountable Care Organizations Improve the Value of Health Care by Solving the Cost and Quality Quandaries?" by Kelly Devers and Robert Berenson, Robert Wood Johnson Foundation, Urban Institute, October 2009, http://www.rwjf.org/files/research/acosummaryfinal.pdf (accessed January 19, 2012), p. 1.

ACOs have already taken effect in the federal market (under the *MSSP*), with similar entities being developed in the commercial market. It should be noted that there are also commercial ACOs being developed (see Chapter 4, "Competition").

With the issuance of the final rule regarding the establishment of ACOs on November 2, 2011, many organizations that had been considering ACO formation or that were already operating an ACO-like entity took steps to formally continue the development of those initiatives and implementation processes. The following month, CMS announced the names of 32 organizations that would participate in its *Pioneer ACO Model*, set to begin January 1, 2012.[84] In April 2012, 27 organizations were announced as participants in the MSSP, along with 5 participants for the Advanced

SUCCESS OF ACCOUNTABLE CARE ORGANIZATIONS

Despite the rapid growth in the number of federal ACOs, the success of the program is dependent on the clinical and management collaborations between healthcare providers within ACOs and whether ACOs can lower healthcare costs for both providers and payors through coordination of patient care.

Section 4.6.4.2, "Accountable Care Organizations (ACOs)," in Chapter 4, "Competition."

[84] "CMS Announces Pioneer ACO Participants," *American Hospital Association News*, December 19, 2011, http://www.ahanews.com/ahanews/jsp/display.jsp?domain=AHANEWS&dcrpath=AHANEWS/AHANewsNowArticle/data/ann_121911_ACOs (accessed July 21, 2012).

Payment ACO Model.[85] On July 1, 2012, another 89 organizations joined the MSSP, bringing the total number of federal ACOs to 154 and the total number of Medicare beneficiaries covered to 2.4 million.[86] Despite this rapid proliferation of ACOs across the country and general health policy support of the *accountable care* concept, the long-term feasibility and sustainability of the ACO model have not yet been demonstrated at this early juncture. A September 2012 study published in the *Journal of the American Medical Association* (*JAMA*) titled, "*Spending Differences Associated with the Medicare Physician Group Demonstration*" appeared to indicate that on average, per capita Medicare spending for seniors who were also covered by Medicaid (i.e., *dual eligible beneficiaries*) declined by approximately $532 annually for those seniors included in the five-year *Physician Group Demonstration accountable care* pilot.[87]

6.4.5 Fraud and Abuse Initiatives

Pursuing fraud and abuse of government healthcare payments has been a topic of heated debate in the healthcare industry, legislative and agency venues, and popular media for decades. In the last decade, the intensity of these discussions has been manifested by new regulatory initiatives. At the American Bar Association's 19th annual National Institute on Healthcare Fraud, OIG chief counsel Lewis Morris stated the OIG's intention to increase its monitoring of physician financial activities, including both physician referral and billing patterns.[88] The ABA's conference also included discussions of the recent expansion of the False Claims Act (FCA) and the *Fraud Enforcement and Recovery Act* (FERA).[89] FERA expanded the scope

---

[85] "CMS Names 27 Medicare ACOs," *American Hospital Association News*, April 10, 2012, http://www.ahanews.com/ahanews/jsp/display.jsp?domain=AHANEWS&dcrpath=AHANEWS/AHANewsNowArticle/data/ann_040312_ACO (accessed July 21, 2012).

[86] Ibid.

[87] Carrie H. Colla, et al., "Spending Differences Associated with the Medicare Physician Group Demonstration," *Journal of the American Medical Association* (September 12, 2012): 1020.

[88] William H. Carlile, "Physicians under Increased Scrutiny in Health Fraud Cases, OIG Official Says," Bureau of National Affairs *Health Law Reporter*, 18 HLR 654, (May 21, 2009).

[89] Sec. 4 Clarifications to the False Claims Act to Reflect the Original Intent of the law," United States Senate, Fraud Enforcement and Recovery Act S.386, April 2009, http://thomas.loc.gov/cgi-bin/query/F?c111:3:./temp/~c111f3yFGF:e10867 (accessed May 1, 2009).

of the *False Claims Act* by redefining the definition of "*knowingly*," thereby reducing the government's burden of proof and allowing for easier conviction for violation of the FCA.[90] One amendment to FERA, which was signed by President Obama on May 20, 2009, involved *civil investigative demands* (*CIDs*). CIDS are "*subpoenas to compel documents and testimony*" and had been subject to being approved by the attorney general.[91] The amendment to FERA allowed other top officials in the Department of Justice (DOJ) to also approve CIDs. Furthermore, the amendment requires that information obtained from a CID that is deemed necessary to an FCA investigation be shared with the *qui tam relator* (see Chapter 3, "The Regulatory Environment"). The amendment also expands the definition of "*official use*" to allow the government to use the information in communications with other government departments and with counsel for other parties.[92]

During the week of May 18, 2009, following the passage of the *Fraud Enforcement and Recovery Act* (*FERA*), newly appointed HHS secretary, Kathleen Sebelius, and the *Department of Justice* (*DOJ*) announced the creation of the *Healthcare Enforcement Action Team* (*HEAT*) and discussed the creation or expansion of several HHS antifraud programs. First, Sebelius announced the establishment of a new HHS initiative to focus on fraud prevention and elimination, named the *Healthcare Fraud Prevention and Enforcement Action Team* (HEAT), an anti-fraud group composed of both DOJ and HHS members and funded by allocations in President Obama's budget for increasing fraud prevention. HEAT has significantly increased regulatory scrutiny of provider arrangements, for example, additional site visits to *Durable Medical Equipment* (DME) providers to ensure that only Medicare-approved contractors are providing necessary services.[93]

---

[90] Ibid.

[91] Ben Amirault, "Obama Signs Law That Redefines False Claims Act Terms," *HealthLeaders Media*, May 26, 2009; "Senate Unanimously Agrees to Include FCA Amendments in Fraud Bill Passed by House," Bureau of National Affairs, *Health Law Reporter*, 18 HLR 656, May 21, 2009.

[92] William H. Carlile, "Physicians under Increased Scrutiny in Health Fraud Cases, OIG Official Says," Bureau of National Affairs *Health Law Reporter*, 18 HLR 654, (May 21, 2009); "Senate Unanimously Agrees to Include FCA Amendments in Fraud Bill Passed by House," Bureau of National Affairs, *Health Law Reporter*, 18 HLR 656, May 21, 2009.

[93] Ben Amirault, "Sebelius: New Fraud Prevention Team Will Turn Up Heat," *HealthLeaders Media*, May 21, 2009, http://www.healthleadersmedia.com/content/233446/topic/WS_HLM2_FIN/Sebelius-New-Fraud-Prevention-Team-will-Turn-up-Heat.html (accessed May 21, 2009).

HEAT OBJECTIVES

In addition to increasing the number of site visits, HEAT will work to increase Medicare compliance training for suppliers, improve data sharing between CMS and law enforcement officials, and strengthen overall program integrity activities.

"Sebelius: New Fraud Prevention Team Will Turn up HEAT," by Ben Amirault, Health Leaders Media, *May 21, 2009, http://www.healthleadersmedia.com/content/233446/topic/WS_HLM2_FIN/Sebelius-New-Fraud-Prevention-Team-will-Turn-up-Heat.html (accessed May 21, 2009).*

Sebelius also announced (1) the expansion of the *Medicare Fraud Strike Forces*, which had previously been focused in South Florida and Los Angeles, California, to also focus efforts on Detroit, Michigan, and Houston, Texas; (2) the expansion of government funding for (a) Medicare Integrity monitors to ensure compliance under Medicare Parts C and D, (b) s Medicaid provider audit program, (c) information-sharing among government organizations, (d) implementation of technology to assist in combating fraud, (e) training on Medicare compliance, and (f) the intent to roll out additional antifraud measures, as well as to create a website to track the progress of each of the above initiatives.[94]

The HHS and the OIG have striven to demonstrate and publicize that government expenditures on fraud investigation and prevention programs are prudent investments, touting that four dollars has been recovered for every one dollar spent.[95] The results also include the total number of cities

[94] Department of Health and Human Services, "Background: Turning up the HEAT to Stop Medicare and Medicaid Fraud," http://www.hhs.gov/stopmedicarefraud/background.html (accessed May 21, 2009); Ben Amirault, "Sebelius: New Fraud Prevention Team Will Turn Up HEAT," *HealthLeaders Media*, May 21, 2009, http://www.healthleadersmedia.com/content/233446/topic/WS_HLM2_FIN/Sebelius-New-Fraud-Prevention-Team-will-Turn-up-Heat.html (accessed May 21, 2009); Department of Health and Human Services, "Turning Up the HEAT to Stop Medicare and Medicaid Fraud," http://www.hhs.gov/stopmedicarefraud/ (accessed May 21, 2009).

[95] Ben Amirault, "Sebelius: New Fraud Prevention Team Will Turn Up HEAT," *HealthLeaders* Media, May 21, 2009, http://www.healthleadersmedia.com/content/233446/topic/WS_HLM2_FIN/Sebelius-New-Fraud-Prevention-Team-will-Turn-up-Heat.html (accessed May 21, 2009).

with strike force prosecution teams increased to nine in FY 2011, using advanced data analysis techniques to identify "emerging or migrating schemes as well as chronic fraud areas," for example, high-billing levels, that interagency teams target. Strike force operations, in FY 2011 alone, (1) "*charged a record number of 323 defendants who allegedly collectively billed the Medicare program more than $1 billion,* (2) *secured 172 guilty pleas,* (3) *convicted 26 defendants at trial, and (4) resulted in the sentencing of 175 defendants to prison, with an average sentence in of more than 47 months.*"[96] [Emphasis added.]

New fraud and abuse initiatives, most significantly various efforts to increase transparency and accountability among providers and payors, have been announced as the main focus of the Obama administration's 2010 ACA healthcare *reform legislation*, *including such projects as enhanced* screening and other enrollment requirements with a higher level of scrutiny for providers and suppliers applying to participate in Medicare, Medicaid, and CHIP "who may pose a higher risk of fraud or abuse . . . [which] includes licensure checks and site visits to confirm legitimacy and location." Also, the Affordable Care Act authorized (1) a new Automated Provider Screening (APS) system being launched in December 2011 "to support the Affordable Care Act's new requirements for risk-based provider enrollment . . . [using] existing information from public and private sources to automatically and continuously verify information submitted on a provider's Medicare enrollment application including licensure status . . . [and replacing] the time and resource-intensive process of manual review of the enrollment application"; (2) "the Secretary to impose a temporary moratorium on newly enrolling providers or suppliers of a particular type or in certain geographic areas if necessary to prevent or combat fraud, waste, and abuse; (3) "Increased Coordination of Fraud Prevention Efforts . . . among states, CMS, and its law enforcement partners at the OIG and DOJ . . . to suspend Medicare payments to providers or suppliers during the investigation of a credible allegation of fraud . . . [reversing] a long-standing Medicare practice of paying claims then attempting to recoup funds if the claim is found to be an error or fraudulent; and (4)[restricting] fraudulent providers and suppliers [from moving] easily from state to state or between Medicare and Medicaid by requiring all states to terminate anyone whose billing privileges have

[96]Department of Health and Human Services, "Turning Up the HEAT to Stop Medicare and Medicaid Fraud," http://www.hhs.gov/stopmedicarefraud/ (accessed May 21, 2009).

been revoked by Medicare or who has been terminated by another state Medicaid program for cause.[97]

It is clear from recent events that the passage and subsequent Supreme Court decision upholding the Obama administration's 2010 ACA healthcare reform legislation have created a significant impact on both the scope and the intensity of regulatory initiatives to both prosecute and prevent fraud and abuse in the healthcare industry. Given the fiscal and debt circumstances of the U.S. economy, it is unlikely that these efforts will subside any time soon (see Chapter 3, "Regulatory Environment").

6.5 PAYING FOR HEALTHCARE REFORM

Preliminary estimates regarding the cost of healthcare reform are anticipated to be at $820 billion, or more, during the 10-year period after its enactment, which may be funded in a variety of ways, including (1) reducing fraud and abuse within existing government health programs, (2) removing large subsidies to insurance companies, (3) increasing healthcare delivery efficiency through streamlining paperwork and coordinating care, and (4) through various taxes revenues obtained from individuals and companies.[98] The *Congressional Budget Office* (*CBO*) projects that the ACA will save $511 billion in medical spending and will produce a net reduction in the federal budget deficit by $143 billion from 2010 to 2019.[99] The various means established through the ACA legislation to fund its more expensive provisions are discussed later.

6.5.1 Tax Revenues

In addition to the already-mentioned sources to be used to help fund healthcare reform initiatives, other sources of funding for the ACA may

[97] "New Tools to Fight Fraud, Strengthen Federal and Private Health Programs, and Protect Consumer and Taxpayer Dollars," June 26, 2012, Healthcare.gov press release, http://www.healthcare.gov/news/factsheets/2011/03/fraud03152011a.html (accessed September 9, 2012).

[98] Congressional Budget Office, "The Congressional Budget Office Cost Estimate of H.R. 4872, Reconciliation Act of 2010," March 20, 2010, http://www.cbo.gov/doc.cfm?index=11379 (accessed August 7, 2012); Health Insurance Reality Check, "Frequently Asked Questions about Health Insurance Reform," The White House, http://www.whitehouse.gov/realitycheck/faq#c1 (accessed June 16, 2012).

[99] "The Congressional Budget Office Cost Estimate of H.R. 4872, Reconciliation Act of 2010," March 20, 2010, http://www.cbo.gov/doc.cfm?index=11379.

include (1) new annual fees paid by insurers, estimated to yield $60.1 billion from 2014 to 2019; (2) new annual fees paid by pharmaceutical manufacturers, which is estimated to raise $27 billion from 2013 to 2019; (3) a 2.9 percent excise tax on medical device manufacturers, which is estimated to rise $20 billion from 2013 to 2019; and (4) an excise tax on high-cost insurance plans, which will raise an estimated $32 billion from 2018 to 2019.[100]

6.5.2 Public Programs

Significant changes to Medicare alone are projected to result in net savings of $575 billion from 2010 to 2019.[101] Overpayments to Medicare managed care plans identified through increased fraud and abuse audits are projected to save more than $204 billion from 2010 to 2019.[102] In addition, Medicare payments to providers will be adjusted for improvements in quality and productivity under *value-based purchasing* initiatives, which will apply to payments made to inpatient hospitals, long-term care facilities, inpatient rehabilitation facilities, psychiatric hospitals and outpatient hospitals. The CBO projects that these payment adjustments will save $160 billion from 2010 to 2019, and that Medicare spending growth will slow from anticipated increases of 6.8 percent to 5.2 percent annually, extending the stability of the Medicare trust fund through 2026 and saving an estimated $397 billion from 2010 to 2019.[103]

CMS also estimates substantial savings in Medicare costs from certain ACA provisions to "(1) reduce Part A and Part B payment levels and adjust future 'market basket' payment updates for productivity improvements ($233 billion); (2) eliminate the Medicare improvement fund ($27 billion); (3) reduce disproportionate share hospital (DSH) payments ($50 billion); (4) reduce Medicare Advantage payment benchmarks and permanently extend the authority to adjust for coding intensity ($145 billion); (5) freeze the income thresholds for the Part B income-related premium for [nine]

[100] The Commonwealth Fund, "What Will Happen Under Health Reform—and What's Next?" April 30, 2010, http://www.commonwealthfund.org/Content/Publications/Other/2010/What-Will-Happen-Under-Health-Reform-and-Whats-Next.aspx.

[101] Centers for Medicare and Medicaid Services, "Estimated Financial Effects of the 'Patient Protection and Affordable Care Act,' as Amended," Office of the Actuary, April 22, 2010, p. 4.

[102] "The Congressional Budget Office Cost Estimate of H.R. 4872, Reconciliation Act of 2010," March 20, 2010, http://www.cbo.gov/doc.cfm?index=11379.

[103] Ibid.

Factoid

In CMS's first annual report to Congress detailing the findings of the Recovery Audit Contractor (RAC) program, California providers owed more than $6.6 million in Medicare overpayments for FY 2010—the most of any state.

Implementation of Recovery Auditing at the Centers for Medicare and Medicaid Services: FY 2010 Report to Congress As Required by Section 6411 of Affordable Care Act, *Centers for Medicare and Medicaid Services (2011).*

years ($8 billion); (6) implement an Independent Payment Advisory Board, together with strict Medicare expenditure growth rate targets ($24 billion); and (7) increas[e] the [Hospital Insurance (HI)] payroll tax rate by 0.9 percentage points for individuals with incomes above $200,000 and families above $250,000 ($63 billion)."[104]

6.6 FUTURE OF THE ACA

> *The search for a remedy to America's problems in health care has turned into a peculiarly arduous struggle—peculiar in its duration, its rancor, and its salience and centrality in national politics. Other democracies long ago resolved whether they have an obligation to provide care for the sick and protection against medical costs. For a century the United States has been fighting over that issue, and instead of subsiding, the disagreements have intensified and at times shaken the political arena. In their euphoria immediately after passage of the Affordable Care Act, its supporters believed they had achieved a historic breakthrough. But those who make history can never be sure what history will make of them. If the opponents of the law succeed, the triumph of the Obama years will turn into another chapter in a story of triumphant reaction.*[105]
>
> —Paul Starr

[104] Centers for Medicare and Medicaid Studies, "Estimated Financial Effects of the 'Patient Protection and Affordable Care Act,' as Amended," Office of the Actuary, April 22, 2010.

[105] Paul Starr, *Remedy and Reaction* (New Haven, CT: Yale University Press, 2012), pp. 279–280.

On June 28, 2012, the Supreme Court of the United States (SCOTUS), in a 5–4 decision, affirmed the constitutionality of the ACA (despite removing the requirement that states had to participate in the *Medicaid Expansion* program), ensuring that the ACA's provisions that had gone into effect to date would stand, and that the remaining provisions would be implemented as scheduled, for example, (1) expanding funding for fraud and abuse compliance and requiring physicians to identify potential Stark Law violations; (2) mandating that the aggregate cost of applicable employer-sponsored coverage be reported on Form W-2, beginning in 2011; (3) providing a federal tax credit to small businesses with 25 or fewer FTEs to offset the cost of insurance premiums (up to 35 percent); and (4) giving tax-exempt organizations a 25 percent (increasing to 35 percent in 2014) credit in the form of a refund.[106]

Yet despite the June 2012 SCOTUS decision, there is still a considerable level of uncertainty as to the ultimate impact of the ACA's implementation and whether the ACA will remain intact as it currently stands. For example, in its originally enacted form, the ACA included a provision that would have required states to opt in to a significant expansion (to include individuals with incomes up to 133 percent of the poverty line) of Medicaid beginning in 2014, in order to retain federal funding for all of their existing Medicaid programs.[107] By expanding their Medicaid programs to cover all non-Medicare eligible individuals, states would have received federal funding to cover 100 percent of the expansion's costs from 2014 to 2016, with federal funding being scaled down to 90 percent for 2020 and later years.[108] Through the use of both a "*stick*" and a "*carrot*," respectively, the ACA's Medicaid provisions were anticipated to expand access to more than

[106] *National Federation of Independent Business v. Sebelius*, Slip Opinion Nos. 11-393, 11-398 and, 11-400, 2012 BL 160004, 53 EBC 1513 (U.S. June 28, 2012); Amanda Cassidy, "Small Business Tax Credits. The Affordable Care Act Offers Incentives so That More of These Companies Will Help Provide Their Employees with Health Insurance," *Health Affairs: Health Policy Brief*, January 14, 2011; "The Patient Protection and Affordable Care Act," *Pub. L.* 111-148, 124 Stat 119 (March 23, 2010).

[107] Kaiser Family Foundation, "Summary of New Health Reform Law," April 21, 2010, http://www.kff.org/healthreform/upload/8061.pdf (accessed May 6, 2010); Jordan Rau and Julie Appleby, "Justices Uphold Individual Mandate, Set Limits on Medicaid Expansion," *Kaiser Health News*, June 28, 2012, http://www.kaiserhealthnews.org/stories/2012/june/28/supreme-court-upholds-individual-mandate.aspx (accessed July 21, 2012).

[108] Kaiser Family Foundation, "Summary of New Health Reform Law," April 21, 2010, http://www.kff.org/healthreform/upload/8061.pdf (accessed May 6, 2010).

17 million Americans.[109] However, in deciding the constitutionality of several challenged ACA provisions, SCOTUS removed the "*stick*," stating that the federal government could not compel the states to opt in to the Medicaid expansion by withholding federal funding for their existing Medicaid programs.[110] With only the "*carrot*" remaining, there is a significant amount of federal funding available to incentivize states; however, as mentioned in Chapter 1, "The Chronology of U.S. Healthcare Delivery," states now have the option of declining to participate in the Medicaid expansion and thus continue with their existing levels of Medicaid eligibility.

Since the enactment of the ACA in 2010, various members of Congress have staged at least 33 votes to repeal the legislation, albeit unsuccessfully.[111] In the aftermath of the SCOTUS decision that ultimately upheld the legislation, there are three potential political scenarios (resulting from the 2012 presidential and congressional elections) that could significantly alter the progression of the ACA: (1) a Republican president is elected, (2) a Republican majority controls the House and/or the Senate, and (3) both of the prior events occur. Any of these results could lead to the defunding, undercutting, amendment, or repeal of the ACA.

Despite any action a Republican president may take against the ACA, a full repeal would be unlikely, as there would be an insurmountable Democratic filibuster in the Senate.[112] However, the president, whether Democrat or Republican, will be able to exercise his extensive political leverage to attempt to both push his political agenda through Congress and create regulatory changes through HHS.[113] The ACA gives the president discretion in implementing many of its provisions, including employer contributions to *health savings accounts* (*HSAs*), *quality improvement measures* for providers who contract with private insurers, and *CO-OP insurer tax-exempt status*.[114]

---

[109] Jordan Rau and Julie Appleby, "Justices Uphold Individual Mandate, Set Limits on Medicaid Expansion," *Kaiser Health News*, June 28, 2012, http://www.kaiserhealthnews.org/stories/2012/june/28/supreme-court-upholds-individual-mandate.aspx (accessed July 21, 2012).

[110] Ibid.

[111] Robert Pear, "Repeal of Health Care Law Approved, Again, by House," *New York Times*, July 11, 2012, http://www.nytimes.com/2012/07/12/health/policy/house-votes-again-to-repeal-health-law.html?pagewanted=print (accessed July 24, 2012).

[112] Oliver Wyman, "The Supreme Court's PPACA Decision: Substance and Implications for HLS Clients," June 28, 2012, p. 6.

[113] Ibid.

[114] Ibid., p. 9.

In the event of a Republican Senate majority, a full repeal of the ACA would also be unlikely, because even a Republican Congress would need to overcome a Democratic filibuster in the Senate. However, Congress could vote to reduce or cut the law's discretionary funding appropriations.[115] The ACA establishes its own budget authority within the law, so any attempt to defund its mandatory spending provisions would be impossible without a Senate super-majority (60 votes).[116] Despite the super-majority requirement, an amendment is not out of the realm of possibility, as funding for the *Prevention and Public Health Fund* (*PPHF*) has already been cut by $5 billion over 10 years by the *Middle Class Tax Relief and Job Creation Act of 2012*.[117] Discretionary spending provisions for programs such as *Pediatric Accountable Care Organizations* and *Rural Hospital Flexibility Grants*, inter alia, are at more risk of defunding, as they are subject to annual budget appropriations review.[118]

6.7 CONCLUSION: FUTURE OF U.S. HEALTHCARE DELIVERY IN AN ERA OF REFORM

The increased turmoil regarding continued threats to physician reimbursement under the *sustainable growth rate*; the increasing political storm surrounding the slow pace of economic recovery from the 2008 *Great Recession*, with the accompanying clamor for deficit reduction; the pressure to reduce Medicare spending; and the rising insurance premium costs for small businesses and families presented a "*perfect storm*" that set the initial stages for the ACA.[119] While the portending challenge of these looming demographic trends were clear even during previous attempts at healthcare reform, the U.S. electorate had yet to feel the full impact of the demographic time bomb related to the aging baby boomers in the U.S. population, with a higher incidence and prevalence of chronic disease and associated burgeoning healthcare costs.

---

[115] Ibid., p. 6.

[116] Ibid., p. 8.

[117] Ibid.

[118] C. Stephen Redhead, et al., *Discretionary Spending in the Patient Protection and Affordable Care Act (ACA)*, Congressional Research Service Report for Congress, May 18, 2012, pp. 34–35.

[119] Gary S. Becker, "The Great Recession and Government Failure," *Wall Street Journal*, September 2, 2011, http://online.wsj.com/article/SB10001424053111904199404576536930606933332.html (accessed April 26, 2012).

Provider affiliations are likely to increase, due to the disproportionate number of physicians retiring, an inadequate supply of medical school graduates, and the expected continuing growth in patient utilization demand.[120]

Much of the implementation of the healthcare reform efforts going forward will depend on state government agency initiatives, legislative actions, and court rulings. Even with significant funding cuts, the healthcare industry has already adopted a new focus on quality, transparency, and lower costs. The initial drivers of healthcare reform remain and have already led to the development of commercial counterparts to several of the ACA provisions, including changing reimbursement methods emphasizing *bundled and episode of care payments*, *commercial ACOs*, and *federal transparency initiatives* as to pricing and quality.[121] While many healthcare industry stakeholders touted the ACA and the SCOTUS decision as a step forward, hospital and health system executives (proponents and critics of the ACA alike) have indicated that the SCOTUS decision has not changed their current strategic plans.[122]

The new paradigm regarding the delivery of healthcare in this era of reform is focused on the development of new models of cooperation and collaboration among a continuum of healthcare providers, in an enhanced pursuit of increasing the objectives of efficiency, quality, and access to care, while decreasing the acceleration in the rise in cost of providing healthcare services, such as through *Medical Homes*, *ACOs*, *Comanagement Arrangements, hospital/physician integration*, *and a myriad of other inter and intra provider relationships*. With the ACA's strong emphasis on quality, cost-effectiveness, and increased access, hospitals, physicians, and other providers will need to increase collaboration in order to achieve these objectives.

---

[120] American Medical Association, *Physician Characteristics and Distribution in the US 2010 Edition*, 2010, p. 458; "Table 201—Total and Active Physicians (MDs) and Physician-to Population Ratios, Selected Years: 1950–2000," in *Health Resources Statistics, 1965*, by the U.S. Department of Health, Education, and Welfare, National Center for Health Statistics, PHS Pub. No. 1509, 1966.

[121] PricewaterhouseCooper, "Implications of the US Supreme Court Ruling on Healthcare," Health Research Institute, July 2012, pp. 1, 4.

[122] Philip Betbeze, "CEOs: Now It's Time to Address Affordability," HealthLeaders, June 29, 2012, http://www.healthleadersmedia.com/print/LED-281811/CEOs-Now-Its-Time-to-Address-Affordability (accessed July 16, 2012); Scott Mace, "CIOs and CMIOs Speak Their Minds about the Supreme Court Decision," July 3, 2012, http://www.healthleadersmedia.com/print/TEC-281957/CIOs-and-CMIOs-Speak-Their-Minds-about-the-Supreme-Court-Decision (accessed July 16, 2012).

These new provider relationships and affiliations will necessarily present opportunities for valuation professionals to provide financial appraisal services related to (1) *transactional activities* as may be involved in *integration, affiliation, acquisition and divestiture* of the various provider enterprises (and interests therein), assets, and services; (2) the *value metrics* of *capital formation* related to the development and structure of *ACOs*, *joint ventures* and related *Provider Service Agreements*, *Comanagement Arrangements*, and other related ventures; and (3) financial feasibility analyses, including the development of forecasts, budgets, and income distribution plans related to these new integration initiatives.

In order to perform an effective valuation and execute the due diligence and analysis required for developing the observations, findings, conclusions, and opinions provided in a valuation report, the appraiser needs to possess an in-depth and robust understanding of the historical background from which the medical profession and the U.S. healthcare delivery system has evolved, as well as the current direction and *future trends* of healthcare reform efforts. Given the complexities, volatilities, and relatively esoteric nature of the industry, attaining the requisite command of this body of knowledge can best be achieved through the conceptual framework of the *Four Pillars of the Healthcare Industry*, that is, *reimbursement*, *regulatory*, *competition*, *and technology*, as these factors apply to the appraisal of *healthcare enterprises*, *assets*, *and services*.

6.8 KEY SOURCES

The Patient Protection and Accountable Care Act (ACA)

ACA is the key piece of the 2010 health reform legislature. It is a federal statute signed into law on March 23, 2010, by President Barack Obama.

"Patient Protection and Affordable Care Act," *Pub. L.* 111–148, 124 Stat 119 (March 23, 2010)

http://housedocs.house.gov/energycommerce/ppacacon.pdf

The Congressional Budget Office

The Congressional Budget Office produces independent, nonpartisan, timely analyses of economic and budgetary issues to support the congressional budget process.

"Overview," Congressional Budget Office, http://www.cbo.gov/about/overview (accessed September 19, 2012)

http://www.cbo.gov

United States Department of Health And Human Services Office of Inspector General

The Office of the Inspector General of the United States Department of Health and Human Services oversees all HHS programs in order to protect the integrity of the programs and the health and welfare of beneficiaries.

"Office of the Inspector General," U.S. Department of Health and Human Services, http://oig.hhs.gov/ (accessed September 22. 2009)

http://oig.hhs.gov/

Health Reform Implementation Timeline

The Health Reform Implementation Timeline is an interactive tool developed by the Henry J. Kaiser Family Foundation. The tool is designed to explain how and when the provisions of the health reform law will be implemented during the next several years.

"Health Reform Implementation Timeline," Focus on Health Reform, Kaiser Family Foundation, http://healthreform.kff.org/timeline.aspx (accessed September 19, 2012)

http://healthreform.kff.org/timeline.aspx

Association of American Medical Colleges (AAMC)

The Association of American Medical Colleges is a not-for-profit association representing all 138 accredited U.S. and 17 accredited Canadian medical schools; nearly 400 major teaching hospitals and health systems, including 51 Department of Veterans Affairs medical centers; and 90 academic and scientific societies.

"About the AAMC," Association of American Medical Colleges, https://www.aamc.org/about/ (accessed September 18, 2012)

https://www.aamc.org/about/

Healthcare.gov

Healthcare.gov is a federal government website managed by the U.S. Department of Health and Human Services that offers resources for helping individuals find insurance options and learn how healthcare reform will affect their lives.

"The Health Care Law & You," U.S. Department of Health and Human Services, http://www.healthcare.gov/law/index.html (accessed September 18, 2012)

http://www.healthcare.gov

About the Companion Website

This book includes a companion website, which can be found at http:// www .wiley.com/go/healthcarevaluation (password: cimasi234). The companion website contains five comprehensive bibliographies to serve as a useful reference of sources related to healthcare valuation on the topics of healthcare reform; regulatory pronouncements; economics; revenue and expense considerations; and general trends related to healthcare enterprises, assets, and services. Also included is a compendium of professional tools and practice aids, including over 50 sample valuation schedule templates; various process diagrams and flowcharts; engagement checklists; illustrative valuation methodology schematics; and detailed examples of tables of contents for various types of valuation reports.

Index

NOTE: Page references in *italics* refer to exhibits and tables.
The volume is indicated by the *italic* number before the colon.

Healthcare Valuation

Volume 2

Founded in 1807, John Wiley & Sons is the oldest independent publishing company in the United States. With offices in North America, Europe, Australia and Asia, Wiley is globally committed to developing and marketing print and electronic products and services for our customers' professional and personal knowledge and understanding.

The Wiley Finance series contains books written specifically for finance and investment professionals as well as sophisticated individual investors and their financial advisors. Book topics range from portfolio management to e-commerce, risk management, financial engineering, valuation and financial instrument analysis, as well as much more.

For a list of available titles, visit our Web site at www.WileyFinance.com.

Healthcare Valuation

Volume 2

The Financial Appraisal of Enterprises, Assets, and Services

ROBERT JAMES CIMASI

WILEY

Cover Image: © iStockphoto.com/kalawin jongpo; © iStockphoto.com/Dean Turner
Cover Design: WILEY

Published by John Wiley & Sons, Inc., Hoboken, New Jersey.
Published simultaneously in Canada.

Library of Congress Cataloging-in-Publication Data

Cimasi, Robert James.
The financial appraisal of enterprises, assets, and services / Robert James Cimasi.
volumes cm.—(Wiley finance series)
Includes index.
ISBN 978-1-118-83297-4 (2 vol. set)—ISBN 978-1-118-29279-2 (vol. 1: cloth)—
ISBN 978-1-118-83291-2 (vol. 2: cloth)—ISBN 978-1-118-84406-9 (epub)—
ISBN 978-1-118-84409-0 (epdf) 1. Medical care, Cost of—United States.
2. Health insurance—United States. 3. Health care reform—United States. I. Title.
RA410.53.C56 2014
362.10973—dc23

Printed in the United States of America

10 9 8 7 6 5 4 3 2 1

Dedicated to my wife,
Laura M. Baumstark, MBA, CAE

Contents

Volume 2

Foreword

This comprehensive book traces the structure and economies of the healthcare system in the United States from its origins through the present day, as the foundation for the financial appraisal of healthcare enterprises, assets, and services.

It is based on exhaustive research and the 20-plus years of experience of Bob Cimasi's firm, Health Capital Consultants (its library holds over 50,000 books, papers, etc.). The book is heavily documented—the first chapter alone has more than 300 footnotes, and the second, more than 650!

While Bob is one of the most incisive authors covering the healthcare system, he is at the same time one of the system's harshest critics. For example, he makes reference to "the falling rank of U.S. health status as compared to other developed nations," and

> *The last two decades have seen the accelerated transformation of the U.S. healthcare professions into a service industry enterprise, whereby health services have been unitized, protocolized, and homogenized, in order to facilitate their sale in the market, just as if they were any other fungible market commodity, e.g., soybeans and pork bellies.*

Note his frequent use of italics for emphasis, so that the reader can almost hear him speaking.

His chapter on technology gets into the value drivers of management technology, as well as what we more conventionally think of as scientific technology. For example, he offers statistics on the rise in the incidence, complexity, and cost of both Electronic Health Records (EHRs) and the new version of the *International Statistical Classification of Diseases and Related Health Care Problems* (ICD). Originally established in 1893, ICD-10, scheduled to be implemented in 2014, will increase the number of procedure codes from 4,000 to 72,000 and diagnostic codes from 14,000 to 69,000.

Bob Cimasi introduces a lot of healthcare industry–specific acronyms, (e.g., ACA for Affordable Care Act) and defines each acronym the first time it is used, but most often not subsequently, so readers need to pay attention to the sidebars of acronyms and key terms included in each chapter (as well

as the Glossary found in Volume 2) so that they don't get lost in the sea of acronyms, which are seemingly endemic in healthcare.

As a layman with respect to healthcare, I was surprised and impressed with the recent developments in clinical technology, both diagnostic and treatment, that Bob summarizes in his extensive chapter on healthcare technology.

He liberally sprinkles illustrative tables, charts, and graphs where applicable throughout the text. These are often quite helpful to the reader to give more detail or a more lucid feeling for what the text is saying.

Prior to the chapters on the valuation of specific types of healthcare entities, there are three excellent general chapters on valuation in Volume 2, "Basic Valuation Tenets"; "Valuation Approaches, Methods, and Techniques"; and "Cost of Capital." These comprehensive chapters delve into more detail than I perceive the average reader may need to know, so I believe that the average reader can skip over some of the more esoteric parts of these chapters without losing the central essence of them, while the more advanced professional may seek to focus on this robust content.

The several chapters on the valuation of specific types of healthcare enterprises, services, and their various tangible and intangible assets demonstrate Bob's insightful knowledge of the healthcare industry and its components. For each major category of enterprises within the healthcare professions, he explains the nature, value drivers, and relevant trends of each subcategory, from hospitals to various types of clinical and nonclinical services.

For example, in the chapter on valuing inpatient enterprises, he points out that for hospitals, both capacity and occupancy rates are among the value drivers, and he provides a table of average occupancy rates by ownership category and size from 1975 through 2009. He gives a useful chart of other variables to consider and another convenient chart of sources of benchmarking data for these variables.

Readers should not delude themselves into believing that they will become instant experts in healthcare valuation. This is not a "how to" book. However, it provides both breadth and depth of detailed understanding into many specialties within the healthcare field, for both facilities and services. At this time of the greatest evolution in the history of healthcare valuation, it provides both exhaustively researched information and keen insight into value drivers and trends in most aspects of the healthcare field. It is a monumental contribution to the literature about the valuation of the healthcare industry and the medical profession.

Shannon Pratt, CFA, FASA, MCBA, ARM, ABAR
Shannon Pratt Valuations, Inc.
Portland, Oregon
shannon@shannonpratt.com

Preface

The great thing in this world is not so much where we stand, as in what direction we are moving.

—Oliver Wendell Holmes

This year marks my thirtieth as a healthcare appraiser and the twentieth anniversary of Health Capital Consultants (HCC), the consulting firm I started in 1993. During that period, I've witnessed and experienced unprecedented change in both the healthcare industry and the valuation profession, as described in the following sections.

THE CHANGING HEALTHCARE INDUSTRY PARADIGM: THE CORPORATIZATION OF MEDICINE

The *corporatization* of medicine and the rise of *for-profit* healthcare have replaced the cottage industry of *Marcus Welby*–physician practices and the small community hospitals that were prevalent at the start of my career. The last three decades have seen the accelerated transformation of the medical professions into U.S. healthcare service *industry* enterprises, whereby healthcare services have been *unitized*, *protocolized*, and *homogenized*, in order to facilitate their *sale* in the market, just as if they were any other fungible market commodity, little differentiated from soybeans and pork bellies. This new healthcare delivery paradigm has accelerated alongside the *corporatization* of medicine, as demonstrated by the increase in large hospital systems; the retreat from private practice of medicine to employed physicians; and the consolidation of payors by large, for-profit health insurance firms.

CHANGES IN THE ENTERPRISES, ASSETS, AND SERVICES SUBJECT TO APPRAISAL AND SCOPE OF ENGAGEMENT

This changing paradigm has resulted in an evolving array in the types of *enterprises*, *assets*, and *services* that are subject to being appraised. As the complexities associated with healthcare transactions have increased

significantly, there has been a simultaneous increase in the opportunities available for the business valuation profession in scope and diversity arising from the growing demand for analysis related to both *Fair Market Value* and *commercial reasonableness* opinions for pending transactions. There will inevitably be fewer engagements focused on appraising solo and small group medical practices, as the healthcare industry consolidates, and greater numbers of physicians and other providers form larger organizations based on new emerging models of organizing the delivery of care.

These *emerging healthcare organizations* (EHOs) will continue to be driven by the need to develop new affiliations, capital structures, and governance configurations, in order to align the interests of patients/consumers with the various U.S. healthcare industry subsectors, including *inpatient* and *outpatient* providers; *payors* and *managed care entities*; and *suppliers* and *vendors*, in such a manner as to address the emergence of *value-based reimbursement* initiatives focused on both lowering costs and improving quality. These factors have necessarily also changed the scope of appraisal assignments, with an increasing volume of appraisals focused on property interests other than at the *total enterprise* level, and more emphasis on discrete property interests and services, as well as more focused attention on the *highest and best use* concept and the selection of the appropriate *premise of value*, that is, either *value in-use as a going concern* or *value in-exchange*. Given these complexities, the opportunities for additional collaboration among the various appraisal disciplines, such as business valuation, intangible assets and intellectual property, real estate, and machinery and equipment and personal property, have never been greater.

CAPITAL MARKET CHANGES: AVAILABILITY OF CAPITAL AND NEW FINANCIAL INSTRUMENTS

Changes in the capital markets related to both the availability of capital sources and the types of financial instruments used in financing healthcare transactions, particularly in recent years following the Great Recession, have transformed the way that healthcare providers, as well as the healthcare transactional marketplace, operate.[1] Neither healthcare enterprises nor the *capital markets* in which they operate, exist within a *vacuum*. Wide-ranging *factors* have an impact on the global and national economy and *reverberate* through markets, affecting the functioning of *capital markets* in healthcare,

[1] As with other industries, healthcare was dramatically affected during the difficult years following the collapse of the capital markets from 2007 through 2009.

as well as in other industries. The effects of the economic downturn of the Great Recession included a dramatic *retraction in the availability of capital*, as well as the *imposition of strict lending conditions* on those few credits that were being granted, even for stable and profitable healthcare enterprises.[2]

CHANGES IN THE VALUATION LITERATURE AND EDUCATION

The valuation profession has also progressed significantly during the last three decades. When I first began my appraisal education in the late 1970s, the availability of business valuation literature related to the appraisal of closely held enterprises was virtually nonexistent, with only a few seminal interdisciplinary valuation works, for example, Taussig's *Principles of Economics* (1918), Bonbright's *The Valuation of Property* (1937), and Babcock's *Appraisal Principles and Procedures* (1968), with most other authoritative texts relating only to real estate appraisal and corporate finance.[3] However, starting in the 1970s, several books began to address (albeit slowly) the appraisal of other closely held businesses and business interests.[4] During the next two decades, several additional texts related to appraising closely held business enterprises were published, including:

- **1977:** *How to Price a Business: A Special Report* by Raymond C. Miles;
- **1981:** *Valuing a Business* by Shannon Pratt;
- **1984:** *Basic Business Appraisal* by Raymond C. Miles; and
- **1987:** *Appraisal and Valuation: An Interdisciplinary Approach* by Richard Rickert.[5]

---

[2] Gary S. Becker, "The Great Recession and Government Failure," *Wall Street Journal*, September 2, 2011, http://online.wsj.com/article/SB10001424053111904199404576536930606933332.html (accessed April 26, 2012).

[3] F. W. Taussig, *Principles of Economics* (New York: Macmillan, 1918); James C. Bonbright, *The Valuation of Property* (New York: McGraw-Hill Book Company, 1937); Henry A. Babcock, *Appraisal Principles and Procedures* (Washington, DC: American Society of Appraisers, 1989).

[4] For example, McCarthy and Healy's *Valuing a Company*, published by John Wiley & Sons, in 1971, devoted just four pages to valuing professional practices and services companies.

[5] Raymond C. Miles, *How to Price a Business: A Special Report by Raymond C. Miles* (Englewood Cliffs, NJ: Institute for Business Planning, 1977); Shannon P. Pratt, DBA, CFA, CFP, ASA, *Valuing a Business* (Homewood, IL: Dow Jones-Irwin, 1981); Raymond C. Miles, *Basic Business Appraisal* (New York: John Wiley & Sons, 1984); Richard Rickert, *Appraisal and Valuation: An Interdisciplinary Approach* (Washington, DC: American Society of Appraisers, 1987).

Beginning in the 1980s, the cannon of professional valuation literature related to appraising professional practices, including medical practices, began to emerge, including such titles as:

- **1980:** *How to Value Professional Practices* by Glenn Desmond;
- **1981:** *Valuing a Medical Practice* by the American Medical Association;
- **1986:** *Valuing Small Businesses and Professional Practices* by Shannon Pratt;
- **1987:** *New Trends in Dental Practice Valuation and Associateship Arrangements* by James Jackson and Roger Hill;
- **1988:** *Selling the Medical Practice* by Madeleine Pelner Cosman;
- **1989:** *Understanding the Valuation of Medical Practices* by James Unland;
- **1990:** *Valuing Professional Practices* by James Horvath; and,
- **1991:** *Financial Valuation of Your Practice* by Linda Ginsburg.[6]

Since that time, there has been a flurry of books and peer-reviewed journal articles, as well as academic research sources and industry newsletters, related to the various aspects of financial valuation, including the application of *cost of capital*, *tax affecting*, and *discounts for lack of marketability* to the valuation of closely held businesses and professional practices. Today, there are now excellent treatises and other authoritative texts and sources related to those aspects of financial valuation, as well as benchmarking and forecasting in both the transactional and litigation support arenas.

While healthcare financial appraisal literature has grown exponentially in the last 10 years, its very availability and the volume of information present a challenge to all professional consultants working at the forefront of this competitive healthcare industry. Simply stated, how do we find the

[6] Glenn M. Desmond, *How to Value Professional Practices* (Los Angeles: Valuation Press, 1980); *Valuing a Medical Practice* (Monroe, WI: American Medical Association, 1981); Shannon Pratt, DBA, CFA, CFP, ASA, *Valuing Small Businesses and Professional Practices* (Homewood, IL: Dow Jones-Irwin, 1986); James B. Jackson and Roger K. Hill, *New Trends in Dental Practice Valuation and Associateship Arrangements* (Chicago: Quintessence Publishing, 1987); Madeleine Pelner Cosman, *Selling the Medical Practice* (Tenafly, NJ: Bard Hall Press, 1988); James J. Unland, *Understanding the Valuation of Medical Practices* (Chicago: Health Capital Group, 1989); James L. Horvath, Ca, CBV, ASA, CCH, *Valuing Professional Practices* (Canadian Limited, 1990); Linda G. Ginsburg, *Financial Valuation of Your Practice* (Los Angeles: Practice Management Information Corporation, 1991).

time to sort through an accelerating ocean of information and data, select what is relevant, analyze it, and report it to our clients in a comprehensible, timely, and cost-effective manner? I addressed these challenges in my career by making a commitment to act on behalf of those providers who lacked the resources to adapt to change quickly enough to effectively compete in today's intensely competitive and dynamically turbulent market. Toward that end, the development of a disciplined healthcare finance and economics research staff and library resource was established as the focus of the core services that HCC delivers to its clients.

CHANGE IN VALUATION PROFESSION STANDARDS

Valuation standards and codes of ethics have also evolved during the last 30 years, concurrent with the development of professional business valuation designations by the American Society of Appraisers, the Institute of Business Appraisers, the National Association of Certified Valuators and Analysts, and the American Institute of Certified Public Accountants. The emergence of these various groups in promulgating standards has sometimes presented the appraisal community with conflicting valuation standards—perhaps due, in part, to changes in accounting concepts and procedures, for example, International Financial Reporting Standards (IFRS) versus Financial Accounting Standards Board (FASB) pronouncements.

More recently, the International Valuation Standards Council (IVSC) and other groups, building on the previous efforts of CLARENCE to develop the international glossary of business valuation terms, and the National Association Business Valuation Standards Council, which attempted to *harmonize* the standards of various appraisal organizations, have made efforts to consolidate professional standards. The issuance of judicial gatekeeping authority regarding expert witness testimony emanating from *Daubert v. Merrell Dow Pharmaceuticals, Inc.*, decided by the U.S. Supreme Court in 1993, superseded the *Frye* (1923) standard in federal courts regarding the admissibility of *scientific* expert testimony, and in 1999, the *Kumho Tire v. Carmichael* case held that *Daubert*'s factors should be extended to apply to *nonscientific* expert testimony, thereby setting additional thresholds and standards for appraisers.[7]

[7] *Frye v. US,* 293 F. 1013 (D.C.C. 1923); *Daubert v. Merrell Dow Pharms., Inc.*, 509 U.S. 579 (1993); *Kumho Tire v. Carmichael*, 526 U.S. 137 (1999).

CHANGES IN REGULATORY SCRUTINY

During the last several years, there has been intensifying regulatory scrutiny related to the healthcare transactional marketplace regarding the potential for Anti-kickback, Stark, and other fraud and abuse violations involving Medicare and other government payors. Initiatives such as the Fraud Enforcement and Recovery Act (FERA), the Healthcare Fraud Prevention and Enforcement Action Team (HEAT), and the Medicare Fraud Strike Force have only been intensified with the passage of the 2010 Patient Protection and Affordable Care Act (ACA). A significant portion of this regulatory scrutiny has focused on the issues of Fair Market Value and *commercial reasonableness* related to the consideration being paid in transactions between tax-exempt hospital organizations to for-profit physician groups as part of the massive consolidation and integration initiatives currently being undertaken.

There has also been heightened regulatory scrutiny and the potential for severe penalties aimed at appraisers under Section 6695A of the Pension Protection and Affordable Care Act of 2006 for "substantial and gross valuation misstatements attributable to incorrect appraisals" that were "prepared by a person who prepared an appraisal of the value of property and who knew, or should reasonably have known, the appraisal would be used in connection with a return or claim for refund."[8]

CHANGES IN CLIENT EXPECTATIONS

Client expectations have also evolved, particularly as a result of technological advancements that have transformed the manner by which we communicate with our clients. The days of hanging wet copy fax pages on a clothesline to dry and using a 56K dial-up modem have been replaced with cell phones, e-mail, instant messaging, video teleconferencing, and secure *back offices* and *data rooms*. Each of these advances has come with an accompanying rise in client expectations and demands for access to appraisers, as well as a rise in the requirement for appraisers to be instantaneously accessible throughout the engagement. The way in which our financial models are developed and prepared has also evolved, largely due to the accessibility

[8] Substantial value is 150 percent or more than the amount determined to be correct (income tax); or the value is 65 percent or less than the amount determined to be correct (estate or gift tax). Gross value is 200 percent or more than the amount determined to be correct (income tax); or the value is 40 percent or less than the amount determined to be correct. "Substantial and gross valuation misstatements attributable to incorrect appraisals," Internal Revenue Code, 26 USC § 6695A.

of available data sources required for *due diligence* (particularly prevalent in the healthcare arena) that we receive electronically through databases and other data portals, as well as the exponential growth in the availability of healthcare financial and economic literature, and the input of academic theory, especially during the last 10 years.

HEALTHCARE INDUSTRY SPECIALIZATION

While the subject of industry specialization has been a point of contention for many years, in 1999, Chris Mercer (a valuation thought leader whom I greatly admire and respect), stated the issue succinctly as, "The basic question often boils down to: Should we hire an *industry expert* for this engagement, or is it preferable to hire a *valuation professional*?" Chris commented that "I believe I can say, based on many years of valuation experience, that *valuation expertise* combined with a broad base of industry experience, is a preferable experience set than purely industry expertise."[9] Based on my more than 30 years of healthcare valuation experience, I believe I can say that I both agree (in part) and disagree (in part) with Chris's comment.

I hold both valuation "generalists" and healthcare "industry specialists" in high regard; each group has contributed enormously to the advancement of the valuation profession. I would certainly agree that a strong base of general business knowledge and experience, as well as a thorough education in economic and financial principles, basic valuation tenets, appraisal methodology, and professional standards, are prerequisites to a successful appraisal engagement. However, given the complexities associated with understanding the value drivers that are often unique to the healthcare industry, the explosion of information and data available to appraisers, the heightened regulatory scrutiny, and the volatile dynamics of the new paradigm of healthcare reform, the valuation profession has necessarily evolved toward industry specialization. This is generally the result of the recognition that to be credible in performing a healthcare valuation, the appraiser also needs to possess an in-depth, informed understanding of the esoteric and complex attributes of the healthcare industry, which often appears to operate under a disparate, seemingly counterintuitive, framework of market economics (e.g., demand-driven, inelastic pricing).

The in-depth, robust knowledge required of a healthcare appraiser often can begin with a background of healthcare industry expertise, such

[9] Mercer Capital Management, Inc., "The 'Valuation Professional' vs. the 'Industry Expert,'" *E-Law Business Valuation Perspective Newsletter*, 1999-17 (December 15, 1999).

as in hospital financial management, but that experience alone is not sufficient without a thorough valuation education. Furthermore, credibility as an appraiser of healthcare interests requires a continuing commitment to keep abreast of the almost daily changes in national and regional economic conditions impacting the healthcare industry; payment and reform initiatives, reimbursement trends, regulatory and enforcement trends, the payor/delivery system mix, healthcare manpower and labor practices, supply-side dynamics, capital costs, emerging and declining models of healthcare organizations, and other issues related to the healthcare industry and transactional markets. For those valuation professionals who lack specific healthcare industry expertise, there has never been greater access to data and information related to the economic financial, and transactional areas of healthcare. Also, there is an increasing availability for both valuation education and professional development, as well as for obtaining a comprehensive understanding of the healthcare arena through healthcare associations and medical societies; online newsletters, journals, and health law and policy reporters; academic curricula; and courses, conferences, workshops, and symposiums, many of which are available through distance education, for example, audio conferences webinars.

There has long been a discernible pattern of consensus among healthcare industry clients to engage healthcare valuation specialists, at least for projects of any size or complexity. Recently, there also appears to be a growing acknowledgment in the valuation profession that industry specialization, in this case, with a professional focus on research and training specific to the healthcare industry, is warranted. Toward that end, on January 28, 2012, the Board of Governors of the American Society of Appraisers (ASA), "the oldest and only major appraisal organization representing all of the disciplines of appraisal specialists," passed a resolution establishing the "ASA Advanced Multidisciplinary Education in Healthcare Valuation" program as developed by the ASA Healthcare Special Interest Group (ASA HSIG) educational subcommittee.[10]

WHY I WROTE THIS BOOK

The healthcare industry is a vast and diverse part of the American economy that is undergoing a sustained and dramatic transformation. While the ultimate course that U.S. healthcare reform initiatives will follow is uncertain,

[10] "About US," American Society of Appraisers, www.appraisers.org/AboutUs/AboutUs.aspx (accessed April 22, 2013).

and there is still a quandary of unresolved issues posed by this *perfect storm*, one thing I know for certain is that whether one views it as a blessing or a curse, it is undeniable that there will be exponential growth in the demand for healthcare valuation professional services, and that the financial appraisal of healthcare enterprises, assets, and services will continue to grow in scope and complexity.[11]

In writing *Healthcare Valuation*, I focused, first and foremost, on the historical development of the U.S. healthcare industry and medical profession and the broad underlying market conditions and trends in which healthcare transactions and litigation take place, as well as the related basic tenets of financial economics in regard to the approaches and methods of healthcare valuation. The objective of this text is to gather and present the technical aspects of business valuation methodology relative to the financial appraisal of emerging healthcare organizations, within the context of the Four Pillars of the healthcare industry, that is, *reimbursement*, *regulatory*, *competition*, and *technology*.

This book is intended to *supplement*, not *supplant*, the existing cannon of professional valuation literature and builds on a solid foundation of authoritative texts, treatises, and research by professionals who have contributed greatly to that literature, as well as to the development of the business valuation profession, many of whom I am proud to call my friends and colleagues of many years and gratefully acknowledge as mentors. It is my hope that this book will augment what they have previously contributed.

Robert James Cimasi, MHA, ASA, FRICS, MCBA, AVA, CM&AA
Health Capital Consultants
Saint Louis, Missouri
March 2013

[11] See the Introduction.

Acknowledgments

The assistance and support of a number of my Health Capital Consultants (HCC) colleagues were instrumental to the development and publication of this book.

Todd A. Zigrang, MBA, MHA, FACHE, ASA, HCC President, and Anne P. Sharamitaro, Esq., HCC Executive Vice President and General Counsel, were central to the development of this project and greatly assisted by contributing to this work.

Other HCC colleagues who contributed significantly to this book include Vice President Matthew J. Wagner, MBA; Vice President John R. Chwarzinski, MSF, MAE; Senior Financial Analyst Jonathan T. Wixom; and Senior Financial Analyst Grant D. Heggie, MBA, MHA.

In addition, HCC's research and library staff, as well as members of HCC's consulting and administrative support team, were of great help.

Also, many thanks to our professional colleagues and clients who served as reviewers of, and commentators on, the various drafts of this work along the way, including Dr. Shannon Pratt, CFA, FASA, MCBA, ARM, ABAR, for his encouragement and inspiration over many years, as well as his comments on this text and his contribution of the Foreword; David Grauer, Esq., of Squire Sanders, LLP; Bob Morrison, ASA, BV/IA; Robert Schlegel, ASA, CBA, CCP, CDP, CISA, CSP; Richard M. Wise, FASA, MCBA, FCBV, FRICS, CVA, FCA, CPA, CA; Chris M. Mellen, ASA, MCBA, CVA, ABAR, CM&AA, MBA; Michael Gregory, ASA, AVA, PE; James B Lurie, ASA, CBA, CVA, BVAL; Howard Lewis, MS, GVA, AVA; Robert L. Wilson, Jr. Esq.; Lari B. Masten, MSA, CPA, ABV, CFF, CVA, ABAR; John Paglia, PhD, MBA; Dick Thorsen, CPA, CMEA, CVA; Morton Cohen, CPA; and, Tim Alexander, MLS, for their helpful review and commentary.

About the Author

Robert James Cimasi, MHA, ASA, FRICS, MCBA, AVA, CM&AA, serves as Chief Executive Officer of Health Capital Consultants (HCC), a nationally recognized healthcare financial and economic consulting firm headquartered in St. Louis, Missouri, serving clients in 49 states since 1993. Mr. Cimasi has more than 30 years of experience in serving clients, with a professional focus on the financial and economic aspects of healthcare service sector entities, including valuation consulting and capital formation services; healthcare industry transactions, including joint ventures, mergers, acquisitions, and divestitures; litigation support and expert testimony; and certificate-of-need and other regulatory and policy planning consulting.

Mr. Cimasi holds a Masters in Health Administration from the University of Maryland, as well as several professional designations: Accredited Senior Appraiser (ASA—American Society of Appraisers); Fellow—Royal Institute of Chartered Surveyors (FRICS—Royal Institute of Chartered Surveyors); Master Certified Business Appraiser (MCBA—Institute of Business Appraisers); Accredited Valuation Analyst (AVA—National Association of Certified Valuators and Analysts); and Certified Merger & Acquisition Advisor (CM&AA—Alliance of Merger & Acquisition Advisors). He has served as an expert witness on cases in numerous courts and has provided testimony before federal and state legislative committees. He is a nationally known speaker on healthcare industry topics and the author of several books, the latest of which include *Accountable Care Organizations: Value Metrics and Capital Formation* (Taylor & Francis, a division of CRC Press, 2013), *The Adviser's Guide to Healthcare*—Vols. I, II, and III (2010—AICPA), and *The U.S. Healthcare Certificate of Need Sourcebook* (2005—Beard Books). Mr. Cimasi is the author of numerous additional chapters in anthologies, books, and legal treatises, published articles in peer-reviewed and industry trade journals, and research papers and case studies, and he is often quoted by the healthcare industry press. In 2006, Mr. Cimasi was honored with the prestigious "Shannon Pratt Award in Business Valuation," conferred by the Institute of Business Appraisers. Mr. Cimasi serves on the Editorial Board of the Business Appraisals Practice of the Institute of Business Appraisers, of which he is a member of the College of Fellows. In 2011, he was named a Fellow of the Royal Institution of Chartered Surveyors (RICS).

Disclaimer

This work includes information regarding the basic characteristics of various statutes, regulations, and case law related to the healthcare industry. It is intended to provide only a general overview of these topics. This information is provided with the understanding that the author and the publisher are not rendering legal or tax advice and services. The author has made every attempt to verify the completeness and accuracy of the information; however, neither the author nor the publisher can guarantee, in any way whatsoever, the applicability of the information found herein. Furthermore, this work is not intended as legal or tax advice or as a substitute for appropriate legal counsel.

Introduction

Whereof what's past is prologue; what to come, in yours and my discharge.

—William Shakespeare, *The Tempest*, Act 2, scene

It may be the "*perfect storm.*" The continued rise in healthcare expenditures, the increasing segment of the U.S. population that is uninsured or underinsured, the growth in demand for care from the changing patient demographic of the aging baby-boomer population, and declining reimbursement for physician services and provider manpower shortages are just a few of the several catalysts that are driving the *turbulent transactional marketplace* for healthcare *enterprises*, *assets*, and *services* in this new *era of reform*.

Those valuation analysts, whose healthcare engagements have been focused on appraising historically *traditional* provider organizations, for example, physicians in solo and small group practices, are seeing a decline in their client base as the healthcare industry consolidates, and greater numbers of providers form new and larger *emerging healthcare organizations* (EHOs). These EHOs are driven by the need to develop new affiliations, capital structures, and governance configurations, in order to align the interests of patients/consumers, as well as various U.S. healthcare industry subsectors, including *inpatient* and *outpatient* providers, *suppliers* and *vendors*, *payors*, and *managed care entities*, in such a manner as to address the emergence of *value-based reimbursement* initiatives, such as *Accountable Care Organizations*.

This book will address the key issues that the professional appraiser should consider when undertaking a healthcare valuation assignment, set within the conceptual construct of the "*Four Pillars*" of the U.S. healthcare delivery system.

THE FOUR PILLARS OF THE HEALTHCARE INDUSTRY

In developing an understanding of the forces and the stakeholders that have the potential to drive *healthcare markets*, it is useful to examine what *value*

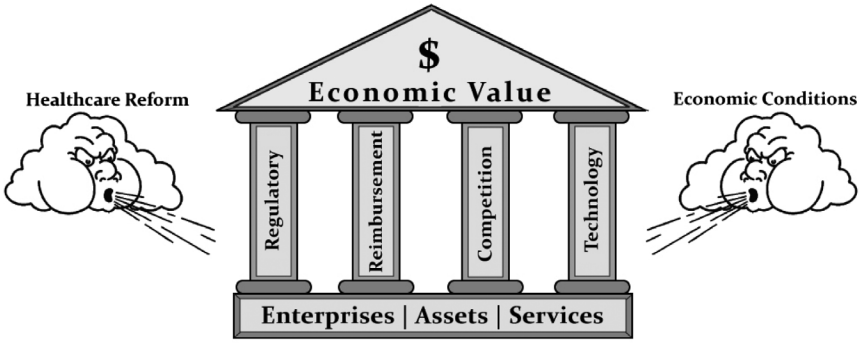


EXHIBIT I.1 The Four Pillars of the Healthcare Industry

may be attributable to healthcare *enterprises*, *assets*, and *services* as they relate to the four paramount market influences of the healthcare industry, that is, the *Four Pillars—reimbursement*, *regulatory*, *competition*, and *technology.* These four elements of the healthcare industry marketplace shape the dynamic by which providers and enterprises operate within the current transactional environment, while also serving as a conceptual framework for analyzing the *viability*, the *efficiency*, the *efficacy*, and, ultimately, the *value* that may be attributed to property interests, whether enterprises, assets, or services. Each of these *Four Pillars*, depicted in Exhibit I.1, will be further addressed in subsequent chapters.

STRUCTURE OF THIS TEXT

This text is meant to serve as both a *resource* and a *reference* and is focused on providing guidance in an era of reform related to the requisite research and analytical processes for both (1) the development of a supportable and replicable valuation conclusion and opinion in the financial appraisal of healthcare enterprises, assets, and services; and (2) the submission of a certified valuation report that is both comprehensive and credible. It is written for readers with a wide range of experience and professional focus, including healthcare industry C-suite executives; physicians and other clinical providers and their professional advisers, including attorneys, accountants, and consultants; banking, investment, and transactional advisors; and academics, researchers, and students, as well as other interested stakeholders.

This book is structured in two parts:

1. **Volume 1** consists of six chapters, beginning with a chronology of the U.S. healthcare delivery system, from the origins of medicine to the transformation of modern healthcare in the twentieth and twenty-first centuries (*Chapter 1*). *Chapters 2 through 5* explore the paramount influences of the *Four Pillars*, that is, *reimbursement*, *regulatory*, *competition*, and *technology*, as they apply to healthcare enterprises, assets, and services. *Chapter 6* provides an overview of the current healthcare environment in this new era of healthcare reform.
2. **Volume 2** consists of ten chapters, of which the first four provide a discussion of *basic valuation tenets* (*Chapter 7*), as well as a presentation of the generally accepted *valuation approaches*, *methods*, and *techniques* (*Chapter 8*), and the *costs/sources of capital* (*Chapter 9*), as these topics may be pertinent to healthcare valuation. *Chapter 10* sets forth the *planning* and *process* elements related to a healthcare valuation engagement. The next five chapters examine the following: the *value drivers* unique to each type of healthcare enterprise, asset, or service, as well as appropriate *valuation approaches*, *methodologies*, and *techniques* applicable to inpatient enterprises (*Chapter 11*), outpatient and ambulatory enterprises (*Chapter 12*), other healthcare-related enterprises (*Chapter 13*), tangible and intangible assets (*Chapter 14*), and healthcare services (*Chapter 15*). Finally, Chapter 16 provides the background and methodology regarding the regulatory threshold of *Commercial Reasonableness*.

READER TOOLS

This book will likely be used intermittently as a resource and a reference, in contrast to being read "cover to cover" in one sitting. Accordingly, to enhance the utility of this text as a navigable source for readers of various backgrounds, certain tools have been developed and appear throughout the text, including the following categories: *Key Concepts*, *Key Terms*, *Acronyms*, *Key Sources*, and *Factoids*. *Key Concepts* are the important *concepts* mentioned in the text that are significant to the healthcare valuation analysis. As an acknowledgment, *key concepts* are italicized in the text for emphasis and contrast. *Key Terms*, also italicized, refer to those significant words appearing in the text that may need to be defined for the reader and serve as a subset of the comprehensive *Glossary* that appears in Volume 2. *Acronyms*, formed by combining the initial letters or parts of a series of

words, are particularly prevalent in (and often the favorite pastime of) the healthcare industry and appear at the end of each chapter, as well as being included as part of the *Glossary*. *Key Sources* point to significant sources of data and information that are fundamental to the chapter content and serve as a subset of the comprehensive *Bibliography*, which is included in Volume 2. *Factoids* are brief, related facts of interest that are mentioned within the text. Also included are some concluding remarks and a brief epilogue.

A bedrock principle of financial valuation is that *economic value* is the *expectation* of *future economic benefit* to be derived from the *ownership* or *control of property.* The valuation analyst should, in keeping with the concept of the *principle of induction*, begin his forecast of the *future* with an in-depth understanding of the *past*, including the historical development of the U.S. healthcare delivery system within the context of the *Four Pillars*, the changing *reimbursement*, *regulatory*, *competitive*, and *technological* backdrop of an array of volatile, often complex market forces that make up the "*perfect storm*" within which the current U.S. healthcare transactional marketplace exists.[1] The first chapter of this text, "The Chronology of U.S. Healthcare Delivery: From Caduceus to Corporatization," begins the journey toward understanding the *financial appraisal of healthcare enterprises*, *assets*, and *services* in the *era of reform.*

[1]See Section 8.1.1.2.3.1, "Historical and Industry Trend Analysis," in Chapter 8, "Valuation Approaches and Methods."

CHAPTER 7

Basic Valuation Tenets

7.1 ECONOMIC PRINCIPLES

Underlying the arithmetic of it all, the application of the various approaches, methods, and techniques, as well as the rigors of the appraisal process, healthcare valuation is a discipline in the field of financial economics. Before proceeding with the subsequent chapters, which address the methodology and process of financial appraisal, this chapter reviews those economic principles and financial concepts that support the entire valuation endeavor, beginning with the principles of *scarcity* and *utility.*

7.1.1 Scarcity

> *"What each one of us can get is limited by time, by the incomes we earn, and by the prices we must pay. Everyone ends up with some unsatisfied wants. What we can get as a society is limited by our productive resources. These resources include the gifts of nature, human labor and ingenuity, and tools and equipment that we have produced.... Our inability to satisfy all our wants is called* ***scarcity****."*[1]

[1] Michael Parkin, *Economics* (Boston Pearson Addison Wesley, 2008), p. 2.

It has long been held that the first *principle of economics*, which gives rise to all questions of interest in economics, is the *principle of scarcity.* The practice of economics involves the analysis of the relationships between the *individual actors* and the *goods and services* available to them. Given the limited nature of resources, *rational economic actors* are forced to make decisions as to their choice of and consumption of the various goods and services within the economy. This decision making process is the primal question that economics seeks to answer. To wit:

> *The all-pervasive economic problem is that of* ***scarcity****. Not all desired things are available to individuals, the ultimate decision-making agents, when and as desired. Even if all desired physical commodities were present in unlimited quantities, we would not have enough* ***time*** *to enjoy them all.... It is the fact of scarcity that forces us to make economic decisions, that is, to organize our efforts for production and/or to engage in trade with a view toward obtaining desired objects.*[2]

Binger and Hoffman explain scarcity within the relationship of goods and time to enjoy them, positing that:

> *Every economy faces the problem of* ***scarcity:*** *individuals in an economy always wish to consume more goods and services than the economy is capable of producing. Even primitive societies, which appear to have limited wants, and frontier societies, which appear to have unlimited resources, face scarcity. In both of these examples, time is still a scarce resource and it must be carefully allocated between production of goods and consumption of leisure. Everyone would prefer to have the same amount of goods and more leisure, but that is not possible because leisure time must be given up to get produced goods.*[3]

However, the study of economics goes beyond simply describing how *economic actors* make decisions, it attempts to *prescribe* the *optimal strategy* that an economic actor *should* select. To assist in developing these *prescriptions*, economists use certain *simplifying assumptions* regarding the behavior of individuals, among which are the following: (1) individuals

---

[2] *Price Theory and Applications*, 3rd ed., by Jack Hirshleifer (Englewood Cliffs, NJ: Prentice-Hall, 1984), p. 16.

[3] Brian R. Binger and Elizabeth Hoffman, *Microeconomics with Calculus*, 2nd ed., (Boston: Addison Wesley Longman, 1998), p. 95.

would prefer more of a good to less, (2) individuals generally operate in a rational manner, and (3) individuals are capable of recognizing their preferences between separate bundles of goods, that is, individuals have *ordered* preferences of which they are aware. In addition, economists also posit certain mathematical principles regarding the properties of an individual's preferences (e.g., preferences are *complete*, *reflexive*, *transitive*, and *continuous*) that allow for the calculation of an optimal strategy. The combination of these simplifying assumptions, along with the scarcity of resources, and the assumption of *decreasing marginal utility* (discussed later) provides sufficient axioms to construct a framework for the economic decision-making process in which, mathematically, utility is maximized.

The reality of *scarcity* necessitates that *economic actors* make decisions regarding their consumption of various *goods* (and *services*). If resources were *unlimited*, individuals would not be faced with a conflict when choosing which bundle of goods to consume. There would be no restriction on an individual's consumption of as much of whichever goods he or she might prefer at any moment. To wit:

> *Scarcity is the present or anticipated supply of an item relative to the demand for it. In general, if demand is constant, the scarcity of the commodity makes it more valuable. Land, for example, is still generally abundant, but useful, desirable land is relatively scarce and, therefore, has greater value.* No object, including real property, can have value unless scarcity is coupled with utility. *Air, which has a high level of utility, has no definable economic value because it is abundant.*[4] *[Emphasis added]*

This *scarcity* of goods or services forces *economic actors* to differentiate between the items that they will choose to *consume* and those they choose

Factoid

Scarcity is the present or anticipated supply of an item relative to the demand for it. In general, if demand is constant, the scarcity of the commodity makes it more valuable.

The Appraisal of Real Estate, *10th ed. (Chicago: Appraisal Institute, 1992; orig. pub. 1951), pp. 24–25, 34.*

[4]Appraisal Institute, *The Appraisal of Real Estate, 10th ed.* (Chicago: Appraisal Institute, 1992; orig. pub. 1951), pp. 24–25, 34.

to *forgo*. An individual must consider the trade-offs between one bundle of goods and another. This process of decision making requires a methodology to discern, in a formal manner, between preferred outcomes and those that are less preferred. The principle of scarcity serves as the foundation of economic value to the extent that the scarce goods and services have usefulness, which is inexorably linked to the principle of utility as the foundation for economic value.

7.1.2 Utility Theory

As was noted earlier, economists assume that individuals can discern their relative preferences between goods. *Utility theory*, as developed in the economic literature, defines the criteria by which individuals determine their preferences.

> *In the modern theory, a utility index is simply a representation of a consumer's ordinal preferences. Economists model utility maximization mathematically because it is convenient to do so, but what they have in mind is not choosing the highest number but, rather, choosing the* ***most-preferred consumption bundle*** *allowed by a consumer's budget.*[5]

Utility is an abstract concept that encompasses not only the *satisfaction* that an individual enjoys from the ownership or use of a good, but also the satisfaction received from a *reduction in pain or discomfort*. For example, if an individual is relieved of an expense (an *avoidance of cost*), this would, on net, increase his or her stock of utility. In this sense, utility is a balance account. It is theoretically possible to capture a snapshot of

UTILITY THEORY

The formalized economic foundation for analyzing an individual's consumption patterns requiring individuals to consider their forward-looking expectation regarding the anticipated utility pay-off from the consumption of different bundles of goods.

[5] Brian R. Binger and Elizabeth Hoffman, *Microeconomics with Calculus*, 2nd ed., (Boston: Addison Wesley Longman, 1998), p. 109.

an individual's utility account by summing his or her current utility offset by the person's stock of sources of *disutility*, that is, pain or discomfort arising from, in financial terms, an added expense. However, due to the unique nature of individuals, it is not practically possible to universally quantify utility. The phenomenon of pain and pleasure will be experienced by each individual differently, even under similar circumstances, owing to the fact that each person will have unique sensitivities to both pain and pleasure. This fact limits the ability of utility to be generalized across individuals, in other words, there is no common metric that can be applied to all individuals to measure their utility. The following quote exemplifies this concept:

> *Since Utility is not observable, however, there is an extremely difficult measurement problem in constructing a set of cardinal utility indices for individuals. Each person* ***might*** *be able to construct an index reflecting personal preferences. However since person A cannot observe the utils person B enjoys and vice versa, there is no way to verify whether person A's utils have the same enjoyment value as person B's.*[6]

The uniqueness of the experience of utility eliminates the possibility of quantifying utility in an aggregated population. It does not, though, preclude the ranking of bundles of goods (including bundles made up of objects that reduce disutility); it only limits the ability to discuss, in a meaningful way, the magnitude of the utility impact of owning a particular bundle. The comparison of utility among individuals would be similar to measuring the length of an object in inches and comparing to another individual's measure in centimeters. No meaningful comparison can be made without the conversion to a common metric. Unfortunately, utility is experienced completely subjectively and lacks a verifiable objective measure.

Notwithstanding this limitation, the behavior of individuals can be analyzed within the framework of *utility* and *utility maximization*. It is not possible to precisely quantify the utility impact of the consumption of a particular bundle of goods or services, but judgments are still possible as to the relative preference of one bundle over another. An individual faced with a choice between two different *bundles of goods* and services will be able to *rank* the bundles which they find preferable (or they may also be *indifferent* between the two, that is, each bundle has an *equal impact on utility* and the individual would be *equally happy with either*).

[6] Ibid., p. 108.

Utility

An abstract concept that encompasses not only the satisfaction that an individual enjoys from the ownership or use of a good, but also the satisfaction received from a reduction in pain or discomfort.

7.1.2.1 The Principle of Substitution The fact that individuals are capable of comparing bundles of goods leads to the economic *Principle of Substitution*. The *Principle of Substitution* posits that what normally sets the limit of what would be paid for property is the cost of an *equally desirable substitute*, or one of *equal utility*. This principle is the basis for the decision as to whether to "*buy or build*" a product or a service.

> *Thus, the Principle of Substitution, a general prediction of economic exchange behavior, is valid because the behavior it predicts is based on at least implicit reasoning about the economic process. It is based on knowledge of economic causes and effect. It presupposes, then, another economic principle, that is, another general prediction, namely, that at a certain point, additional units of value expended will not create additional units of satisfaction. A unit of satisfaction created by an additional unit invested is a unit of marginal utility.*[7]

Often *utility* is confused with *wealth or income*. In fact, the *value of income or wealth* exists only insofar as it can be *quickly and easily converted* to *goods or services*, which ultimately provide *utility*. Increasing an individual's income may increase his or her *overall utility*, but only because in the future it can be exchanged for *goods or services* that will provide the

PRINCIPLE OF SUBSTITUTION

The price of a desired substitute, or one of equal utility, sets the ceiling of value for a particular good or service

[7]Richard Rickert, *Appraisal and Valuation: An Interdisciplinary Approach*, American Society of Appraisers (Washington, DC: International Valuation Sciences Institute, 1987), pp. 9–10.

PRINCIPLE OF MARGINAL UTILITY

Additional units of satisfaction achieved from possession, use, or consumption of additional units of goods or property result finally in decreasing rates of satisfaction.

Appraisal and Valuation: An Interdisciplinary Approach, *Richard Rickert, American Society of Appraisers (Washington, DC: International Valuation Sciences Institute, 1987), p. 13.*

individual with utility. A utility-maximizing individual will seek to select from the universe of possible bundles of goods and services that allocation that generates the greatest possible utility for the individual. For an individual with *perfect information*, the process of utility maximization would simply entail comparing the possible combinations of goods and selecting the one that is most preferred.

7.1.2.2 Principle of Diminishing Returns As noted above, it is generally assumed that economic actors, *all things being equal*, will always prefer *more of a good to less*, meaning that for each additional unit of a good that is consumed, the individual's *total utility is increased*. The concept can be stated succinctly as *more is better.* Economists add one *corollary* to the previous statement, namely that while *utility increases* with each additional unit of a good consumed (referred to as *marginal utility*), it increases at a *decreasing rate*.

> *In contrast to total utility, marginal utility decreases as consumption increases. This is the key notion here. After a certain point, total and marginal utility are negatively correlated. This refers to the fact that additional units of satisfaction achieved from possession, use or consumption of additional units of goods or property result finally in decreasing rates of satisfaction.*[8]

Individuals have a desire for variety in the types of goods for consumption. If an individual were to have an abundance of a certain good, the addition of one more unit of that good would certainly increase his or her *overall utility*, but possibly to a lesser extent than if the individual were to receive

[8]Ibid., p. 13.

an additional unit of a good for which the individual had a lesser supply. The truth of this fact is evidenced by the *heterogeneity of the goods consumed* in the economy. With the narrow exception of certain goods (that is, those that are addictive), all goods will have the general concept of decreasing marginal utility, as stated in Bonbright, below:

> *Human wants for any one kind of commodity, they pointed out, are subject to a law of diminishing importance. Some wants for a particular commodity are urgent, other wants less so, and others still less. Therefore, when our supply of a commodity is limited, we assign the units of the supply to the satisfaction of the more important wants. The utility implied in the least important want, which we are in a position to satisfy with the given supply, is the marginal utility for that supply. It measures the importance of any one unit, since, if one unit of the supply were destroyed, only the least important want would go unsatisfied."*[9]

7.1.3 Expected Utility

The *utility maximization process* is complicated by the fact that *information is rarely if ever perfect*, decisions are *conditioned* on the *information set* that is available to the individual at the time the decision is made. The ability of the individual to *optimize* his or her *utility* will be limited by the person's access to *pertinent information*. The greater the similarity between the *information set available to the individual* and *complete information*, the more likely the individual will be to draw the *correct* (i.e., *utility maximizing*) conclusion. The fact is that *perfect forethought* is impossible; even after considering all deterministic factors, there would still exist random unpredictable events that may *materially alter the actual outcome*, as compared with the *expected outcome*.

7.1.3.1 Principle of Anticipation *Economic actors* thus make their decisions based on their *future expectations*. These *forward-looking expectations* form the foundation of value. As was noted earlier, the *source of value* for *money* (i.e., *income or wealth*) comes from its ability to be easily converted into a good in the future that provides the individual with *utility*. Therefore, the consideration of the purchase of a good is in actuality a comparison of the expected utility to be derived from the ownership of the good or

[9] James C. Bonbright, *The Valuation of Property: A Treatise on the Appraisal of Property for Different Legal Purposes*, vol. 1 (New York: McGraw-Hill, 1937), p. 94.

PRINCIPLE OF ANTICIPATION

A concept stating that the economic benefits of ownership of, or the contractual rights to control, the subject services to be performed under the contractual agreement are created from the expectation of those benefits or rights to be derived in the future; therefore, all economic value is forward looking.

Appraisal and Valuation: An Interdisciplinary Approach, *Richard Rickert, American Society of Appraisers (Washington, DC: International Valuation Sciences Institute, 1987).*

the service with the expected utility that could be derived from the conversion of the money to a good or a service in the future, that is, purchasing power. In addition, if the individual is faced with the dilemma of considering between the purchase of any number of goods and services, the forward expectations of utility to be derived from each good must be analyzed and the individual should select that bundle of goods and services that generates the greatest anticipated utility (including the choice not to purchase a bundle and to maintain the individual's purchasing power in the future). This analysis applies equally to the reverse situation, where an individual is considering disposing of a good currently owned, that is, converting a physical good into future purchasing power. It is the *differential in expected utility outcomes* that creates all *opportunities for trade* and the price at which a transaction occurs is commensurate with the expectations of both the purchaser and the seller's.

7.1.4 Forward-Looking Value and Discounting

It can be concluded, then, that all value is the *forward-looking expectation of utility* by the individual. This is often referred to as the *Principle of Anticipation*, which posits that the economic benefits of *ownership of*, or the *contractual rights to control*, the *bundle of goods* are created from the expectation of those benefits or rights to be derived in the *future*. Therefore, *all economic value is forward looking*.[10]

[10]Richard Rickert, *Appraisal and Valuation: An Interdisciplinary Approach*, American Society of Appraisers, Washington, DC: International Valuation Sciences Institute, 1987).

Specifically, an *economic value* analysis should be focused on the economic benefits reasonably expected to be derived from the *use* or *utility* of the subject property *in the future,* bounded by the cost of an equally *desirable substitute*, or one of *equal utility,* for each of the elements of *economic benefit* (or *utility*) to be derived from the right to own or control the bundle of goods. It follows that a detailed examination of the attributes of the subject property must be undertaken, with each element of the attributes of the bundle of goods first *identified* as to their existence and then *classified* as to the specific factors and traits of each attribute that would exhibit the means by which they would reasonably be expected to provide *utility* to the owner of the bundle of goods going forward. It should be noted that this identification and classification of the subject property may be accomplished by considering the analogy of holding a bundle of twigs in your hand, where each twig represents a distinct element in the legal bundle of rights of ownership. This concept of a *legal bundle of rights* is important, due to the fact that control must be manifested in its ability to be enforced. In established societies, *legal protections, police powers, and the due process of law enforce the rights of ownership.* In societies where the due process of law does not exist, the establishment of utility arising from the ownership of a good may be *constrained* by the owner's ability to individually assert those *rights* at the point of a gun. For example, the assigning of *economic value* under circumstances of a *war-stricken environment* or in the presence of *civil strife*, the question arises, what is the value of the most *highly desirable source of utility*, where the *medium of exchange* is opium seeds or machine gun–wielding militants.

In the instance where an individual determines that the sum total of his or her *expected utility* arising from the *ownership of the good* is *less than* the expected *loss of utility* caused by the *reduction in his or her wealth*, the transaction would be foregone, and the individual would maintain his or her current level of wealth. If the reverse were true, and the individual anticipated that the sum of the expected future utility that would arise from the ownership of the good would *exceed* the reduction in utility from the loss of wealth, then the individual would proceed with the transaction and, on net, realize an overall *increase in utility.* As noted by Alfred Marshall,

> *We have already seen that the price which a person pays for a thing can never exceed, and seldom comes up to that which he would be willing to pay rather than go without it: so that the satisfaction which he gets from its purchase generally exceeds that which he give up in paying away its price; and thus derives from the purchase a surplus of satisfaction."*[11]

[11] Alfred Marshall, *Principles of Economics*, 8th ed. (New York: Cosimo, 2009), p. 103.

The *forward-looking nature of an individual's expectations* regarding the utility to be derived from the ownership of a good provides the environment that allows for the rise of *uncertainty* regarding the *ultimate outcome* of the utility transaction. As mentioned earlier, *random*, *unpredictable events* may intercede to alter the amount of utility actually realized by the individual, as compared with his or her expectations prior to the occurrence of the *random event*. When assessing the *future expected utility* from the ownership of a good, the individual will account for this *uncertainty* by *reducing the level of expected utility.*

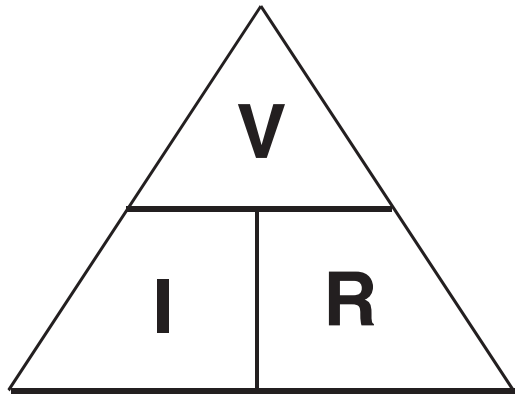
As an example, consider two goods that will generate an *equal level of utility*, one year in the future: (A) one with *complete certainty* (100 percent) of providing the anticipated benefit, and (B) one with a *50 percent probability* of providing the *anticipated benefit*. All other things being equal, the *probability-weighted expected utility* pay-off from derived from (A) would be greater than the probability-weighted expected pay-off attributable to (B). A *rational individual* would therefore be willing to convert a lesser amount of his or her current *purchasing power* (i.e., wealth) into the good with the *uncertain pay-off* (B), as compared to the good with the more certain pay-off (A), in other words, the value of the good at the date of the transaction would be *reduced*, due to the *uncertainty* of the *future expected utility.* This fact can be generalized into *the riskier the expected pay-off from a good, the lower the value of that good.*

7.1.4.1 Discounting The reduction in value caused by uncertainty is known as *discounting*. Future expected benefits are discounted to reflect the *relative uncertainty of actually receiving the benefit*. The following "*Value Pyramid*," illustrated in Exhibit 7.1, presents the process related to the valuation of goods, which can generally be discussed within the context of two distinct determinants: "*I*," the determination of the appropriate *Economic Income/Earnings/Net Benefit Stream* (expected utility) for the good, and "*R*," the development and selection of the appropriate *Risk Adjusted Required Rate of Return* (typically expressed as a discount rate, a capitalization rate, or a multiple), to apply to the net benefit stream selected.

The development of an applicable rate of discount is considered, in depth, in Chapter 9, "Costs and Sources of Capital."

Discounting

The reduction in value caused by uncertainty.



I = **Economic Benefit Stream, e.g., Income, Earnings, Cash Flow As defined by appraiser and appropriate to assignment**

R = **Risk Adjusted Required Rate of Return applicable to selected benefit stream, e.g., Discount Rate, Cap Rate, Multiple Valuation**

V = **Economic Value of the Enterprise**

EXHIBIT 7.1 The Value Pyramid

7.1.5 Summary

Scarcity of resources leads economic actors to make decisions that consider the *trade-off* between consumption of *various bundles of goods*. *Utility theory* is the *formalized economic foundation* for analyzing an individual's consumption patterns. *Utility theory* requires individuals to consider their *forward-looking expectation* regarding the *anticipated utility pay-off* from different *bundles of goods*. The *forward-looking expected utility pay-off* from ownership forms the *basis of value*. The economic concepts found in the *Principle of Substitution* and the *Principle of Utility* apply in the performance of a valuation analysis.

The *fundamental economic facts* or *economic behavior* that will occur under certain conditions form the basis of the *economic laws* of what will happen objectively in *economic situations*. Within this concept, it can be said that the dynamics as to how *economic value* is created may be understood within the context of the additional basic principles of the *Principle of Anticipation*, the *Principle of Substitution*, and the *Principle of Utility* as they relate to the economic benefits to be derived from the right to own or control the subject property under the contractual arrangement.[12] Both the

[12]Richard Rickert, *Appraisal and Valuation: An Interdisciplinary Approach,* American Society of Appraisers (Washington, DC: International Valuation Sciences Institute, 1987).

Principle of Substitution and the *Principle of Anticipation* are premised on the existence of the *Principle of Utility*, accordingly the *Principle of Utility* is the primal concept of valuation. Thus, it has been said that this *Principle of Utility* may be stated as, *"An object can have no value unless it has utility."*[13] The interplay between scarcity and utility in the value proposition is addressed in Bonbright; to wit:

> *In short, the modern economist's distinction between utility and value is that the former term refers to the mere* capacity *of a thing to perform a useful service, whereas value refers to its importance* in view of that capacity. *The same idea has been put in other words by economic textbook writers who say that a thing, in order to have value, must have both utility and scarcity. If the article is deemed to be useless, people will not ordinarily value it at more than the cost of securing a duplicate—a cost which is negligible when the supply is plentiful.*[14] *[Emphasis added]*

Forward-looking expectations are subject to uncertainty, which individuals will mitigate through the process of discounting. The school of economists coming into prominence in the second half of the nineteenth century associated *value* with *utility*, that is, "The thing that gives value to a commodity they found, not in its costliness, but rather in its capability of satisfying a want—in other words, in its utility."[15]

7.2 FINANCIAL VALUATION CONCEPTS

Within the context of the *economic principles* described earlier, there are also several *financial valuation concepts* that should be understood at the outset of each valuation project. These concepts, within the context of the *economic principles* underlying the valuation process, form the foundation of a well-reasoned and defensible analysis.

7.2.1 Standard of Value

At the outset of each valuation engagement, it is critical to define appropriately (and have all parties agree to) the *standard of value* to be employed in

---

[13] F. W. Taussig, *Principles of Economics* (New York: MacMillan, 1918), p. 120.

[14] James C. Bonbright, *The Valuation of Property: A Treatise on the Appraisal of Property for Different Legal Purposes*, vol. 1 (New York: McGraw-Hill, 1937), p. 18.

[15] Ibid., p. 94.

STANDARDS OF VALUE

Various methods used to answer the question "*Value to whom?*" and outline the type of value to be determined, including Fair Market Value, Fair Value, Investment Value (Synergies), or Fundamental (Intrinsic) Value.

developing the valuation opinion. The *Standard of Value* defines the type of value to be determined and answers the question "*Value to whom*?" Several *Standards of Value* may be sought by the analyst, including (1) Fair Market Value, (2) Fair Value, (3) Investment Value (Synergies), and/or (4) Fundamental (Intrinsic) Value.

7.2.1.1 Fair Market Value The standard of *Fair Market Value* is defined as the *most probable price* that the *subject interest* should bring if *exposed for sale* on the *open market*, as of the *valuation date*, but exclusive of *any element of value arising from the accomplishment or expectation of the sale*. This standard of value assumes an anticipated *hypothetical transaction*, in which the buyer and the seller are each acting *prudently with a reasonable equivalence of knowledge, and that the price is not affected by any undue stimulus or coercion*.

Implicit in this definition are the following further assumptions:

1. The hypothetical transaction considered contemplates a *universe* of typical potential purchasers for the subject property and not a *specific* purchaser or a specific class of purchaser;
2. Buyer and seller are typically motivated;
3. Both parties are well informed and acting in their respective rational economic self-interests;
4. Both parties are professionally advised, and the hypothetical transaction is assumed to be closed with the typical legal protections in place,

Fair Market Value

The most probable price that the subject interest should bring if exposed for sale on the open market, as of the valuation date, but exclusive of any element of value arising from the accomplishment or expectation of the sale.

to safeguard the transfer of ownership of the legal bundle of rights that define and encompass the transacted property or interest;

5. A sufficiently reasonable amount of time is allowed for exposure in the open market;
6. A reasonable availability of transactional capital in the marketplace; and
7. Payment is made in cash or its equivalent.

As described by Dr. Shannon Pratt, *Fair Market Value* is:

> *the amount at which property would change hands between a willing seller and a willing buyer when neither is acting under compulsion and when both have reasonable knowledge of the relevant facts. . . . In most interpretations of fair market value, the willing buyer and willing seller are hypothetical persons dealing at arm's length, rather than any particular buyer or seller. In other words, a price would not be considered representative of fair market value if influenced by special motivations not characteristic of a typical buyer or seller. There is also general agreement that the definition implies that the parties have the ability as well as the willingness to buy or sell.* The market in this definition can be thought of as all the potential buyers and sellers of like businesses or practices."[16] *[Emphasis added]*

Inherent in each of the previous definitions of *Fair Market Value* is the concept, as stated by Justice Byron R. White, of "*The willing buyer—willing seller test of fair market value . . . nearly as old as the federal income, estate, and gifts taxes themselves*."[17]

Valuing of a healthcare-related enterprise, asset, or service requires additional assumption as to be considered in relation to the federal Stark Laws, anti-kickback statutes, and regulations related to tax-exempt organizations. For example,

1. The anticipated hypothetical transaction would be conducted in compliance with "*Stark I & II*" legislation, prohibiting physicians from making referrals for "*designated health services*" reimbursable under

[16] Shannon Pratt, *Valuing a Business: The Analysis and Appraisal of Closely Held Companies*, 5th ed. (New York: McGraw-Hill, 2008), pp. 41–42, citing the American Society of Appraisers, *Business Valuation Standards*, "Definitions."

[17] *United States v. Cartwright*, 411 U.S. 546, 551 (1973).

Factoid

A price would not be considered representative of fair market value if influenced by special motivations not characteristic of a typical buyer or seller.

Valuing a Business: The Analysis and Appraisal of Closely Held Companies, *5th ed., by Shannon Pratt (New York: McGraw-Hill, 2008), pp. 41–42, citing The American Society of Appraisers,* Business Valuation Standards, *"Definitions."*

Medicare to an enterprise with which the referring physician has a financial relationship.[18] "*Stark II*" defines "*fair market value*" as "*the value in arm's length transactions, consistent with the general market value. . . .*"[19] It is further assumed that the transaction falls within Stark II's specific exception for "*isolated financial transaction[s]*" when "*the amount of the remuneration under the employment . . . [(1)] is consistent with . . . fair market value of the services, . . . [(2)] is not determined in a manner that takes into account (directly or indirectly) the volume or value of any referrals by the referring physician, [(3)] . . . is provided pursuant to an agreement which would be commercially reasonable even if no referrals were made to the employer, . . . and [(4)] the transaction meets such other requirements as the Secretary [of HHS] may impose by regulation as needed to protect against program or patient abuse[;]*"[20]

2. The anticipated hypothetical transaction would be conducted in compliance with the federal Anti-Kickback Statute, making it illegal to knowingly pay or receive any remuneration in return for referrals.[21] The federal Anti-Kickback Statute requires the payment of "fair market value in arm's-length transactions and . . . [*that any compensation] is not determined in a manner that takes into account the volume or value of any referrals or business otherwise generated between the parties for which payment may be made in whole or in part under Medicare, Medicaid or other Federal health care programs*"[22] [emphasis added]; and

[18] 42 U.S.C.A. § 1395nn(a) (2006); Social Security Act § 1877(a) (2006).

[19] 42 U.S.C.A. § 1395nn(h)(3) (2006); Social Security Act § 1877(h)(3) (2006).

[20] 42 U.S.C.A. § 1395nn(e)(2)(B), (C), (6) (2006); Social Security Act § 1877(e)(2)(B), (C), (6) (2006).

[21] 42 U.S.C.A. § 1320a-7b(b) (2004).

[22] 42 CFR 1001.952(d)(5) (2004).

3. Related to the previous, the following definitions of terms apply: "*In an excess benefit transaction, the general rule for the valuation of property, including the right to use property, is fair market value.*"[23] "*A disqualified person [regarding any transaction,] is any person who was in a position to exercise substantial influence over the affairs of the applicable tax-exempt organization at any time during [a five-year period ending on the date of the transaction].*"[24] "*An excess benefit transaction is a transaction in which an economic benefit is provided by an applicable tax-exempt organization, directly or indirectly, to or for the use of a disqualified person, and the value of the economic benefit provided by the organization exceeds the value of the consideration received by the organization.*"[25]

7.2.1.1.1 Requirement for Fair Market Value in the Healthcare Industry The *increasing government scrutiny* of the *business activities* of healthcare providers over the last quarter century has led to tightened restrictions and increased regulatory enforcement, with both *civil and criminal penalties*, related to such areas as *Fraud and Abuse*, *anti-kickback*, *self-referral*, and *tax-exempt status*. It should be noted that many types of *business arrangements*, which would be regarded as *typical motivations* inherent in *commercial relationships* between parties in *other industries*, are perceived as exhibiting the potential for a *significant risk of fraud* in the *healthcare industry.* For example, *referral relationships* that would be both *lawful and expected* in other *financial industries* may violate both federal and state *anti-kickback and/or self-referral laws* when they are found to exist between healthcare providers. Changes in the scope and nature of *Medicare Fraud and Abuse enforcement*, as it relates to *physician self-referral laws*, has turned the *transactional market* for provider entities that provide "*designated health services*" (DHS) into an area of *significant uncertainty*, thereby resulting in a *greater perception of risk* of the valuation of these enterprises.

---

[23] "Intermediate Sanctions—Excess Benefit Transactions," Internal Revenue Service, United States Department of the Treasury, http://www.irs.gov/charities/charitable/article/0,,id=123303,00.html (accessed September 2, 2008).

[24] "Disqualified Person," Internal Revenue Service, IRS.gov, http://www.irs.gov/charities/charitable/article/0,,id=154667,00.html (accessed September 2, 2008); "Lookback Period," Internal Revenue Service, IRS.gov, http://www.irs.gov/charities/charitable/article/0,,id=154670,00.html (accessed September 2, 2008).

[25] "Intermediate Sanctions—Excess Benefit Transactions," Internal Revenue Service, United States Department of the Treasury, http://www.irs.gov/charities/charitable/article/0,,id=123303,00.html (accessed September 2, 2008).

This current heightened regulatory environment for the healthcare industry affects the type of data required, the methodology employed, and the entire process of developing and reporting a valuation opinion related to healthcare entities, for example, enhanced diligence in maintaining appraiser work files, and clearly defining the important relationship between the appraiser and healthcare legal counsel. See Chapter 3, "Regulatory Environment," for an in-depth discussion of the healthcare industry's regulatory environment.

7.2.1.2 Fair Value Distinct from the valuation standard of *Fair Market Value* is the standard of *Fair Value* for financial reporting purposes, as well as from the context of *Fair Value* in the state statutes and case law. *Fair Value* for financial reporting, as required by generally accepted accounting principles and the Securities Exchange Commission, has been defined by the *Financial Accounting Standards Board* (FASB) Statement No. 157 (ASC 820 as of 2009), as "the price that would be received to sell an asset or paid to transfer a liability (an exit price) in an orderly transaction between market participants at the measurement date."[26]

Fair Value

The price that would be received to sell an asset or paid to transfer a liability (an exit price) in an orderly transaction between market participants at the measurement date.

"Statement of Financial Accounting No, 157: Fair Value Measurements," Financial Accounting Standards Board, September 2006, p. 2.

According to Dr. Pratt, FASB Statement No. 157 also expands the distinction between *Fair Value* and *Fair Market Value:*

> *The Board agreed that the measurement objective encompassed in the definition of fair value used for financial reporting purposes is generally*

[26] Statement No. 157 was issued by FASB on September 15, 2006, and is effective for financial statements issued for fiscal years beginning after November 15, 2007. Financial Accounting Standards Board, "News Release: 09/15/06," September 15, 2006, http://www.fasb.org/news/nr091506.shtml&pf=true (accessed May 11, 2012); Shannon Pratt, *Valuing a Business: The Analysis and Appraisal of Closely Held Companies*, 5th ed. (New York: McGraw-Hill, 2008), p. 46; PricewaterhouseCoopers, *FASB Accounting Standards Codification Quick Reference Guide*, 2009; Financial Accounting Standards Board, "Statement of Financial Accounting No. 157: Fair Value Measurements," September 2006, p. 2.

> *consistent with similar definitions of fair value used for valuation purposes. For example, the definition of fair market value in Internal Revenue Service Ruling 59–60 (the legal standard of value in many valuation situations) refers to "the price at which property would change hands between a willing buyer and a willing seller when the former is not under any compulsion to buy and the latter is not under any compulsion to sell, both parties having reasonable knowledge of relevant facts." However, their Board observed that the definition of fair market value relates principally interpretive case law, developed in the context of tax regulation. Because such interpretive case law, in the context of financial reporting, may not be relevant,* the Board chose not to adopt the definition of fair market value, *and its interpretive case law,* for financial reporting purposes.[27] *[Emphasis added]*

Also, note that the term "*price,*" as mentioned in both the FASB definition and Pratt's discussion is referring to the *exit* price, not the *entry* price ("*the price that would be paid to acquire the asset or to assume the liability*").[28] The definition implies a transaction in an ideal market, as the "'*market' referred to in this definition is 'the market in which the reporting entity would transact for the asset or liability, that is, the principal or most advantageous market for the asset or liability.*'"[29] If an active market exists on the date of valuation, the ***market price*** may be at *Fair Value*.[30] To quantify *Fair Value*, FASB has identified three hierarchies of measurement (the highest level of which is to be used in the accounting exercise) as follows:

> *Level 1 (highest-priority) inputs are quoted prices in active markets for identical assets or liabilities.*
>
> *Level 2 inputs are those other than quoted prices included within Level 1 that are directly or indirectly observable.*
>
> *Level 3 inputs are unobservable inputs that reflect assumptions about what market participants would use in their pricing analyses."*[31]

---

[27] Shannon Pratt, *Valuing a Business: The Analysis and Appraisal of Closely Held Companies*, 5th ed. (New York: McGraw-Hill, 2008), p. 46, citing "SFAS No. 157—Fair Value Measurements," paragraph 5.

[28] Ibid., p. 1006.

[29] Ibid.

[30] Ibid.

[31] Ibid., pp. 1006–1007; Financial Accounting Standards Board, "Statement of Financial Accounting No. 157: Fair Value Measurements," September 2006, pp. 9–12.

THREE HIERARCHIES OF MEASUREMENT TO QUANTIFY FAIR VALUE

Level 1 (highest-priority) inputs are quoted prices in active markets for identical assets or liabilities, Level 2 inputs are those other than quoted prices included within Level 1 that are directly or indirectly observable, and Level 3 inputs are unobservable inputs that reflect assumptions about what market participants would use in their pricing analyses.

Valuing a Business: The Analysis and Appraisal of Closely Held Companies, *5th ed., by Shannon Pratt (New York: McGraw-Hill, 2008), pp. 1006–1007; "Statement of Financial Accounting No, 157: Fair Value Measurements", Financial Accounting Standards Board, September 2006, pp. 9–12.*

Many states have adopted the *Universal Business Corporation Act*, which defines *Fair Value* as "*the value of the shares immediately before the effectuation of the corporate action to which the dissenter objects, excluding any appreciation or depreciation in anticipation of the corporate action unless exclusion would be inequitable.*"[32] The definition of *Fair Value*, under these state laws, is also applicable to situations of dissenting stockholders' appraisal rights, whereby a minority stockholder has the right to have his or her shares appraised and receive *Fair Value* in cash during a corporation merger, a sellout, or another major action.[33] The corporate state law definition of *Fair Value* is distinct from the accounting contrivance of *Fair Value* set forth earlier in this section, as well as from the standard of *Fair Market Value*.

7.2.1.3 Investment Value (Synergies) In contrast to the standard of *Fair Market Value*, the standard of *Investment Value* may be defined as "the specific value of an investment to a particular investor or class of investors based on individual investment requirements; distinguished from *market value*, which is impersonal and detached"[34] [emphasis added]. There may

[32]Shannon Pratt, *Valuing a Business: The Analysis and Appraisal of Closely Held Companies*, 5th ed. (New York: McGraw-Hill, 2008), p. 45, citing Oregon Revised Statues, Section 60.551(4), 2009.

[33]Ibid.

[34]Ibid., p. 43, citing *The Dictionary of Real Estate Appraisal*, 4th ed. (Chicago: Chicago Appraisal Institute, 2002), p. 152.

Investment Value

The specific value of an investment to a particular investor or class of investors based on individual investment requirements, distinguished from market value, which is impersonal and detached.

Valuing a Business: The Analysis and Appraisal of Closely Held Companies, *5th ed., by Shannon Pratt (New York: McGraw-Hill, 2008), p. 43, citing,* The Dictionary of Real Estate Appraisal, *4th ed. (Chicago: Chicago Appraisal Institute, 2002), p. 152.*

be many valid reasons for the *Investment Value* of the subject interest to a given owner or prospective owner to differ from the *Fair Market Value* of that same subject interest, including such reasons as "(1) Differences in estimates of future earning power, (2) Differences in perception of the degree of risk and the required rate of return, (3) Differences in financing costs and tax status, and (4) Synergies with other operations owned or controlled."[35]

7.2.1.4 Fundamental (Intrinsic) Value The valuation standards of *Fair Market Value*, *Fair Value*, and *Investment Value*, are distinct from the concept of *Fundamental (or Intrinsic) Value*, in that it "represents an analytical judgment of value based on the perceived characteristics inherent in the investment, not tempered by characteristics peculiar to any one investor, but rather tempered by how these perceived characteristics are interpreted by one analyst versus another."[36] In describing the distinctions between the various standards of value, Dr. Pratt has noted that the "concept of intrinsic value cannot be entirely divorced from the concept of fair market value, since the actions of buyers and sellers based on their specific perceptions of intrinsic value eventually lead to the general consensus market value and to the constant and dynamic changes in market value over time."[37]

[35] Shannon Pratt, *Valuing a Business: The Analysis and Appraisal of Closely Held Companies*, 5th ed. (New York: McGraw-Hill, 2008), p. 43.

[36] Ibid., p. 44.

[37] Ibid., p. 45.

Factoid

The concept of intrinsic value cannot be entirely divorced from the concept of fair market value, since the actions of buyers and sellers, based on their specific perceptions of intrinsic value, eventually lead to the general consensus market value and to the constant and dynamic changes in market value over time.

Valuing a Business: The Analysis and Appraisal of Closely Held Companies, *5th ed., by Shannon Pratt (New York: McGraw-Hill, 2008), p. 45.*

Fundamental (Intrinsic) Value

A representation of an analytical judgment of value based on the perceived characteristics inherent in the investment, not tempered by characteristics peculiar to any one investor, but rather tempered by how these perceived characteristics are interpreted by one analyst versus another.

Valuing a Business: The Analysis and Appraisal of Closely Held Companies, *5th ed., by Shannon Pratt (New York: McGraw-Hill, 2008), p. 44.*

7.2.2 Premise of Value

In addition to identifying the standard of value to be used in the valuation engagement, it is imperative that the premise of value, in other words, an assumption further defining the standard of value to be used and under which a valuation is conducted, also be determined at the outset of the valuation engagement. The premise of value defines the hypothetical terms of the sale, that is, "the most likely set of transactional circumstances that may be applicable to the subject valuation; e.g., going concern, liquidation," and answers the question—value under what further defining circumstances?[38] The selection of the premise of value can have a significant effect on its application in the valuation process. Two general concepts relate to the consideration and selection of the premise of value: "*Value in Use*" and "*Value in Exchange*."

[38] Richard Rickert, "The Principles and Concepts of Valuation: Theory of Utility and Value, Value Influences, and Value Concepts," in *Appraisal and Valuation: An Interdisciplinary Approach*, vol. 1 (Washington, DC: American Society of Appraisers, 1987), pp. 6–7.

PREMISE OF VALUE

The Premise of Value defines the hypothetical terms of the sale, that is, "the most likely set of transactional circumstances that may be applicable to the subject valuation; for example, going concern, liquidation," and answers the question—Value under what further defining circumstances?

Appraisal and Valuation: An Interdisciplinary Approach, *by Richard Rickert, American Society of Appraisers (Washington, DC: International Valuation Sciences Institute, 1987), pp. 6–7.*

7.2.2.1 Value in Use *Value in use* is the premise of value that assumes that the assets will continue to be used as part of an ongoing business enterprise, producing profits as a benefit of ownership *of a going concern.* As defined by Pratt: "Value as a going concern" is "value in continued use, as a mass assemblage of income-producing assets, and as a going-concern business enterprise."[39] It should be noted that to support a valuation premise of *value in use as a going concern*, that premise would require a reasonable likelihood that the subject enterprise would produce, in the reasonably foreseeable future, sufficient net margin to generate an economic cash flow to support the value of the investment represented by the tangible assets used to generate the revenue stream of the provider enterprise.

It should be noted that the basic concept of *Value in Use* is that all economic values are derived from some form of economic *usefulness*, also termed *utility*, as discussed in Section 7.1.2, "Utility Theory." The interplay of concepts, as they relate to the consideration and selection of either *Value in Use* or *Value in Exchange* as the premise of value lies in the fact that "*All economic values*

VALUE IN USE

The premise of value that assumes that the assets will continue to be used as part of an ongoing business enterprise, producing profits as a benefit of ownership of a going concern.

[39] Shannon Pratt, *Valuing a Business: The Analysis and Appraisal of Closely Held Companies*, 5th ed. (New York: McGraw-Hill, 2008), p. 47.

VALUE AS A GOING CONCERN

Value in continued use, as a mass assemblage of income-producing assets, and as a going-concern business enterprise.

Valuing a Business: The Analysis and Appraisal of Closely Held Companies, *5th ed., by Shannon Pratt (New York: McGraw-Hill, 2008), p. 47.*

are variations of value-in-use; in some cases, the *use* is for *exchange of properties* or the rights to properties.... A person who owns or has *control of a property but does not use or consume it* can use it *to exchange for something else. Value created by exchange is thus ultimately a form of use value*"[40] [emphasis added]. Therefore, all *economic values* are variations of *Value in Use*.[41]

7.2.2.2 Highest and Best Use As discussed earlier, in the event that a business enterprise fails to produce sufficient evidence to indicate a reasonable likelihood that it would, as a going concern enterprise, in the reasonably foreseeable future, be able to generate *sufficient economic benefit* to support the *invested capital* used to generate the *revenue stream* of the enterprise, the valuation premise of *Value-in-Use as a Going Concern* cannot be supported, and the adoption of the *Value in Exchange* premise of value is indicated.

PRINCIPLE OF HIGHEST AND BEST USE

That use among possible alternatives which is legally permissible, socially acceptable, physically possible, and financially feasible, resulting in the highest economic return.

"The Principles and Concepts of Valuation: Theory of Utility and Value, Value Influences, and Value Concepts," by Richard Rickert, Appraisal and Valuation: An Interdisciplinary Approach *(Washington, DC: American Society of Appraisers, 1987), p. 55.*

[40] Richard Rickert, "The Principles and Concepts of Valuation: Theory of Utility and Value, Value Influences, and Value Concepts," in *Appraisal and Valuation: An Interdisciplinary Approach* (Washington, DC: American Society of Appraisers, 1987), p. 7.

[41] Ibid., pp. 6–7.

It should be emphasized that the decision to use the *Value in Exchange* premise of value, instead of the *Value in Use as a Going Concern* premise of value, does not preclude the existence of economic *Fair Market Value* attributable to intangible assets. Intangible assets may well exist and hold significant economic *Fair Market Value* under the *Value in Exchange* premise, based on the principle of *Highest and Best Use*, which "holds that this use is that use among possible alternatives which is legally permissible, socially acceptable, physically possible, and financially feasible, resulting in the highest economic return."[42]

Pratt points out that the concept of *Highest and Best Use* drives a selection of the valuation premise, which may apply under *Fair Market Value*:

> *Each of these alternative premises of value may apply under the same standard, or definition, of value. For example, the fair market value standard calls for a "willing buyer" and a "willing seller." Yet, these willing buyers and sellers have to make an informed economic decision as to how they will transact with each other with regard to the subject business. In other words, is the subject business worth more to the buyer and the seller as a going concern that will continue to operate as such, or as a collection of individual assets to be put to separate uses? In either case, the buyer and seller are still "willing." And, in both cases,* they have concluded a set of transactional circumstances that will maximize the value of the collective assets of the subject business enterprise.[43] *[Emphasis added]*

Dr. Pratt goes on to explain that

> *[t]ypically, in a controlling interest valuation, the selection of the appropriate premise of value is a function of the* highest and best use *of the collective assets of the subject business enterprise. The decision regarding the appropriate premise of value is usually made by the appraiser, based upon experience, judgment and analysis.*"[44]

Reilly and Schweihs echo Dr. Pratt's comments in reference to intangible assets, stating that

> *"[t]he selection of the appropriate premise of value may be dictated by the* highest and best use *of the subject intangible asset. The*

[42] Ibid., p. 55.

[43] Shannon Pratt, *Valuing a Business: The Analysis and Appraisal of Closely Held Companies*, 5th ed. (New York: McGraw-Hill, 2008), p. 48.

[44] Ibid.

highest and best use of an intangible asset is typically defined as the reasonably probable and legal use of the intangible asset that is physically possible, appropriately supported, financially feasible, and results in the highest use."[45] *[Emphasis added]*

7.2.2.3 Value in Exchange It should be noted that in the absence of a reasonable expectancy of sufficient economic cash flow to support the value of the investment represented by the tangible assets used to generate the revenue stream of the enterprise, the highest and best use, as discussed above, of the assets may be, and the valuator must select a premise of value of "Value-in-exchange as an orderly disposition of a mass assemblage of assets, in place." This premise of value does not include current use in the production of net economic cash flow and will not include consideration of the assets as a going-concern business enterprise. As stated in Zukin:

The underlying asset approach can be done on either a net liquidation basis or by using the value of the underlying assets in continued use. *The former basis is normally applicable when there is a distinct possibility that the business is worth more "dead" than "alive." . . . Value in use is the appropriate starting point for an analysis of a going business enterprise's fixed assets. However, the values reported on this basis must be tested to show that the income stream justifies the values reported. When that situation exists, value in use on an unadjusted basis is appropriate. When the net profits are not sufficient to justify the values reported, a downward adjustment to these values in use must be made. Ultimately, the underlying asset approach must consider the net profits or cash flow of a business when expressing an opinion of value other than liquidation value.* It is important that the income or benefit stream justify the values of the fixed assets in order to properly employ this approach."[46] *[Emphasis added]*

The three levels of *value in exchange*, as noted by Dr. Pratt, are:

1. "**Value as an assemblage of assets.** *Value in place, as part of a mass assemblage of assets, but not in current use in the production of income, and not as a going-concern business enterprise."* *[Emphasis added]*

[45] Robert Reilly and Robert Schweihs, *Valuing Intangible Assets* (New York: McGraw Hill, 1999), p. 62.

[46] James H. Zukin, ed., *Financial Valuation: Businesses and Business Interests* (New York: Maxwell MacMillan, 1990), pp. 42–44.

VALUE IN EXCHANGE

An orderly disposition of a mass assemblage of assets, in place, which does not include current use in the production of net economic cash flow and will not include consideration of the assets as a going-concern business enterprise.

2. "**Value as an orderly disposition.** *Value in exchange, on a piecemeal basis (not part of a mass assemblage of assets), as part of an orderly disposition; this premise contemplates that all of the assets of the business enterprise will be sold individually, and that they will enjoy normal exposure to their appropriate secondary market.*" *[Emphasis added]*
3. "**Value as a forced liquidation.** *Value in exchange, on a piecemeal basis (not part of a mass assemblage of assets), as part of a forced liquidation; this premise contemplates that the assets of the business enterprise will be sold individually and that they will experience less than normal exposure to their appropriate secondary market.*"[47] *[Emphasis added]*

The level of value selected will have an impact on the results of the value calculations. For example, the costs of liquidation should be considered in the value estimate when using the *value as a forced liquidation* premise of value. Shortening the investment time horizon may have a deleterious effect on the valuation of the subject enterprise, as it presents a restriction on the available pool of buyers and investors and the level of ownership, as required under the standard of Fair Market Value.

7.2.3 Level of Interest

Of further importance in the development of a valuation model related to a specified asset or bundle of assets is to consider the *level of interest* to be acquired. The *level of interest* indicates the amount of control that a purchaser in the transaction is acquiring. As such, the *level of interest* can be divided into three general classifications: (1) Minority Interest, (2) Control Interest, and (3) Neither a Minority nor a Control Interest.

[47] Shannon Pratt, "Defining the Assignment," in *Valuing a Business: The Analysis and Appraisal of Closely Held Companies*, 5th ed. (New York: McGraw-Hill, 2008), pp. 47–48.

THREE GENERAL CLASSIFICATIONS OF LEVEL OF INTEREST

(1) Minority interest, (2) control interest, and (3) neither a minority nor a control interest.

The selection of a particular *level of interest* and the associated *level of value* will have an impact on the determination of the adjustment that must be made to the calculation results of the valuation analyst.

7.2.3.1 Minority Interest A *minority interest* reflects an ownership interest that lacks the aspects of control necessary to direct the economic and financial strategies employed by the firm. Typically, anything less than a 50 percent interest in a firm would be considered a *minority position*, although more complicated organizational structures (i.e., multiple owners with variable interests) or organizational agreements that confer significant authority on owners with less than a majority position may deviate from the general 50 percent interest rule. A thorough review of the structure of the organization is warranted to ensure that the most appropriate *level of interest* is applied to the transaction.

Minority Interest

An ownership interest that lacks the aspects of control necessary to direct the economic and financial strategies employed by the firm, that is, anything less than a majority interest in a firm.

7.2.3.2 Control Interest The converse of the *minority interest* is a *control interest*. According to Christopher Mercer in *The Integrated Theory of Business Valuation*, the control level of value can be further subdivided as follows:

> *There is a growing understanding that there are at least two conceptual levels of value above the marketable minority level:*
>
> ***Financial Control.*** *The first level describes what a financial buyer is able (and perhaps willing) to pay for control of a business. Financial buyers acquire companies based on their ability to*

extract reasonable (to them) rates of return through the acquisition of companies, often on a leveraged basis.

Strategic Control. *The second control level is referred to as the strategic, or synergistic, level of value. Strategic buyers can (and do) pay more for companies than financial buyers do because they expect to realize synergies from acquisitions (e.g., perhaps through eliminating duplicate expenses or achieving cross-selling benefits) that increase future cash flows.*[48]

Control Interest

An ownership interest with the authority to alter the strategic financial and economic operations and goals of the firm.

Due to the nature of the regulatory environment within which healthcare entities operate, which requires valuations to be conducted under the valuation standard of *fair market value*, a standard that requires the indicated value to be exclusive of any element of value arising from the accomplishment or expectation of the sale (i.e., *synergistic gains*). Therefore the valuation analyst seeking to determine the *fair market value* of an enterprise under a *control level of interest* must consider only *financial buyers* when determining the appropriate premium/discount related to control to apply. Premiums and discounts are discussed in depth in Chapter 8, "Valuation Approaches and Methods."

7.2.3.3 Neither a Minority nor a Control Interest The third possible interest that may be transacted is an *equal proportion* of the equity ownership. In this ownership structure, the *level of interest* being transferred is neither a minority nor a control position. This position falls into a category between pure control and pure minority. The owners of this level of interest will, by virtue of their equality position, maintain some measure of control, above and beyond that of a simple minority holder, if only insofar as the equity holder can force negotiations by withholding their support. This *level of interest* is identifiable and can be valued using industry standard techniques.

In summary, it is imperative that the valuation consultant consider the *level of interest* under consideration before embarking on the valuation

[48] Z. Christopher Mercer, *The Integrated Theory of Business Valuation* (Memphis: Peabody Publishing, 2004), p. 92.

process. As suggested by the empirical evidence, the typical investor in a healthcare enterprise would be willing to pay more for the expanded bundle of legal rights that accompany a *control position*, as compared to a *minority position*. It is also important for the valuation consultant to understand the *level of interest* indicated by the particular methodology used in determining the value of the subject firm. For example, an indication of value derived from publicly traded equity shares would indicate a *minority interest*, as a single share of a publicly traded firm typically affords the owner minimal influence over the operation of the firm. If the valuation analyst was attempting to determine a *control level of value*, the indication of value would need to be adjusted to reflect the *premium* that would be paid over a *minority interest* for a *control position*. See Chapter 8, "Valuation Approaches and Methods," for a detailed discussion of discounts and premiums typically used in valuations.

7.2.4 Marketability Basis

In addition to the *premise of value* and the *level of interest*, a valuation analyst should also consider the relative marketability of the interest being transferred. Marketability, also known as *liquidity*, refers to the ability to convert the interest in the firm into cash or its equivalent. Typically, the more *liquid* an asset, that is, the more easily it is converted to cash, the greater the indication of value. Assets that are *less marketable* will require a *greater amount of time and effort*, as well as, direct outlays of cash to consummate a transaction (i.e. *transaction costs*). If the purchaser anticipates the difficultly in transacting the assets at the end of his or her investment horizon, then the buyer will demand a lower price for the assets in question to compensate him or her for the extra expense that will be realized to exit the investment. Therefore, *less marketable* assets will transact at a *lower price* than more readily *marketable assets*. This price differential is referred to in the valuation literature as a *discount for lack of marketability* (*DLOM*).

This discount is similar to the *control premium*, in that it is only required to convert an indication of value into the desired *marketability basis*. A valuation analyst using *publicly traded equity shares* (i.e., *highly liquid*) to value a closely held enterprise would apply the *DLOM* to arrive at

Discount for Lack of Marketability

The reduction in price demanded by investors as compensation for the perceived difficulty in converting an asset into cash or its equivalents, relative to a similar, more easily converted asset.

TWO CLASSIFICATIONS OF MARKETABILITY BASIS

(1) Freely traded, and (2) closely held.

the desired indication of value. Conversely, if a valuation analyst were using transactions in *closely held equity* to determine a *freely traded level of value*, the valuation analyst would be warranted in applying a *premium* to the indicated value to reflect the extra *liquidity* present in the interest actually being transferred. It is important that the valuation analyst understand the *marketability basis* on which the indication of value is to be based and the *marketability basis* arrived at from the methodology selected. The DLOM is discussed, in depth, in Chapter 8, "Valuation Approaches and Methods."

7.2.5 Valuation Date

Another parameter used in the development of a valuation model that can have a significant impact on the indication of value and that should be settled on early in the process of developing a valuation model is the *valuation date*. A valuation is a snapshot of a moment in the history of a firm. It expresses the *forward-looking expectations* related to the future performance of the firm based up the *information set* available "*as of*" the *valuation date*. Information that was not *known or knowable* as of the *valuation date* should not be considered in developing the indication of value. For example, changes in the competitive environment in which an enterprise operates, while known at the time the valuation model is being developed, but completely unanticipated as of the agreed-on *valuation date*, should not be considered in developing a valuation model. The goal of the *valuation date* is to identify specifically the value of a firm on a particular day. Value is a moving target, and indications of value can vary significantly with the arrival of new information. By restricting the information set to the information that was available as of a specific date, the valuation analyst can report the indication of value that would most probably be reported on the given *valuation date*.

Valuation Date

The date specified for when an indication of value will be reported. The valuation date limits the information available to the analyst to that which would have been available prior to the valuation date.

The selection of the *valuation date* will reflect the particular use of the report, as well as the preference of the client. The selection of a *valuation date* is oftentimes driven by the availability of the data necessary to support the indication of value. After consideration of the above, the valuation analyst should select an appropriate *valuation date* and clearly convey that date to the client to ensure there is no misunderstanding as to the indication of value that will be delivered.

7.3 CONCLUSION

A firm foundation in the *basic valuation tenets* will assist the valuation analyst in the development of the valuation model requisite for the assignment. The more complicated the *valuation assignment,* the more essential it is that the valuation analyst has a solid understanding of the *economic principles* that underlie *valuation theory.* All valuation projects will be unique exercises in the application of these *economic principles.* Complex valuation challenges can often be addressed by analyzing each of the discrete constituent elements, with reference to the *applicable theoretical concepts* derived from established economic principles, which are identical to the value pyramid (see Section 7.1.5, "Summary").

Regardless of whether the analyst is attempting to value an *exotic imbedded real option in a multistage transaction* or trying to determine the value of a simple enterprise, asset, or service, the foundational theory is identical: (1) identify the expected economic benefit that will accrue to the owner of the property; and (2) apply a risk-adjusted required rate of return to discount those anticipated economic benefits at an *appropriately adjusted discount rate*, which accounts for the *perceived risk* associated with the *uncertainty* of actually attaining the *economic benefit*. By using this method, the valuation analyst should be able to reduce even the most complex valuation engagements to a *tractable analytical exercise.*

Excess Capacity

The actual output of a firm, industry, or economy is below the rate at which all resources are fully employed.

The American Dictionary of Economics, *by Douglas A. L. Auld, Graham Bannock, R. E. Baxter, and Ray Rees (New York: Facts on File, 1983).*

Factoid

Alfred Marshall, considered one of the founders of economics, was born in England in 1842. In *Principles of Economics,* first published in 1980, he emphasized that the price and output of a good are dependent on its supply and demand. Marshall died in 1924.

"Alfred Marshall," in The Concise Encyclopedia of Economics, *Library of Economics and Liberty, http://www.econlib.org/library/Enc/bios/Marshall.html (accessed December 4, 2012).*

7.4 KEY SOURCES

The American Dictionary of Economics

A comprehensive reference supplying definitions all aspects of economic theory.

The American Dictionary of Economics, by Douglas A. L. Auld, *Graham* Bannock, R. E. Baxter and Ray Rees (New York: Facts on File, 1983)

Valuing a Business: The Analysis and Appraisal of Closely Held Companies

A comprehensive reference for active business appraisers covering theoretical principles and practice techniques for effective business valuation.

Valuing a Business: The Analysis and Appraisal of Closely Held Companies, 5th ed, by Shannon Pratt (New York: McGraw-Hill, 2008), pp. 1006–1007; "Statement of Financial Accounting No, 157: Fair Value Measurements," Financial Accounting Standards Board, September 2006

Appraisal and Valuation: An Interdisciplinary Approach

A two-volume treatise discussing the principles and concepts of valuation, the theory of utility and value, value influences, and value concepts.

Appraisal and Valuation: An Interdisciplinary Approach, Richard Rickert, American Society of Appraisers (Washington, DC: International Valuation Sciences Institute, 1987)

The Valuation of Property: A Treatise on the Appraisal of Property for Different Legal Purposes

A treatise examining the concepts of property and value, and how the two relate to and affect one another.

The Valuation of Property: A Treatise on the Appraisal of Property for Different Legal Purposes, vol. 1, by James C. Bonbright (New York: McGraw-Hill, 1937)

7.5 ACRONYMS

Acronym	Full Title
DLOM	Discount for Lack of Marketability
FASB	Financial Accounting Standards Board
HHS	U.S. Department of Health and Human Services
DHS	Designated Health Services

CHAPTER 8

Valuation Approaches and Methods

At the outset, it should be noted that financial appraisal, and healthcare valuation in particular, is not a Zen exercise—*the journey is not the destination*. The explicit, specific definition of the *twigs in the legal bundle of rights* that make up the property interest(s) to be appraised is a sine qua non requirement. This first step and the subsequent steps in the *appraisal assignment planning* and *development process* are addressed in Chapter 10, "Planning and Process for Healthcare Valuation Engagements."

However, even the most carefully planned and flawlessly executed valuation engagement process will fail in the absence of the appropriate selection and application of valuation methodology that is in conformance with professional standards and, generally, has been (1) accepted in the valuation profession, (2) set forth in the canon of authoritative professional literature, and (3) accepted in the courts.

In subsequent chapters, the financial appraisal of specific categories of healthcare enterprises, assets, and services will be discussed in some detail. This chapter addresses the *methodology* of healthcare valuation as it applies to those respective property interests, as well as two other related assignments often performed by healthcare valuation professionals, that is, *commercial reasonableness opinions* and *purchase price allocations*.

8.1 VALUATION METHODOLOGY

There are numerous generally accepted valuation approaches, methods, and techniques (*methodology*) for the financial appraisal of healthcare enterprises, assets, and services. The choice of *methodology* depends primarily on the purpose of the valuation report and the specific characteristics of the type of property interest being appraised and the interest in that property. The objective and purpose of the valuation engagement, the standard of value, the premise of value, and the availability and reliability of data must all be considered by the valuator in the selection of applicable approaches and methods. The three (3) general classifications of valuation approaches are the "*Income Approach*," the "*Market Approach*," and the "*Asset/Cost Approach*," within each of which are several methods and techniques available for consideration, as discussed further on.

8.1.1 Income Approach

Income approach–based methods measure the present value of anticipated future economic benefits that will accrue to the owner of the subject entity. Economic benefits of ownership have several potential measures: cash flow, net income, net operating income, or dividend payouts. In addition to estimating the future economic benefits of ownership of the subject entity, an appropriate discount rate (as discussed next), risk-adjusted for the subject entity, by which the benefits are discounted, must also be developed.

There are several methods that may be considered under the income approach, which are discussed in the next sections.

Discount

The percentage or dollar amount below the net asset value at which an entity is sold.

Dictionary of Health Economics and Finance, *edited by David Edward Marcinko and Hope Rachel Hetico (New York: Springer, 2007), p. 113.*

8.1.1.1 Total Invested Capital vs. Equity Valuation At the outset, the valuation analyst should determine whether the desired indication of value to be determined is the value of the *Total Invested Capital* of the enterprise (i.e., *debt free*) or the value of the equity of the enterprise (i.e., *net of debt*). As discussed later, cash flow is frequently used as the measure of net economic benefit flowing to the owners of the subject enterprise. The calculation of the net economic benefit stream (i.e., cash flow) to be capitalized using the income approaches will be defined by which value indication is selected. To arrive at the value of total invested capital, the valuation analyst should use the *free cash flow to the firm*, which includes cash flow to both the equity and the debt holders of the subject enterprise. Equity valuation, conversely, is determined by using the *free cash flow to equity*, which (as implied by *net of debt*) considers only that cash flow that would flow to the equity holders of the enterprise and excludes that cash flow accruing to the debt holders of the enterprise (names debt).

8.1.1.2 Discounted Net Cash Flow Method The *discounted net cash flow method* estimates the present value of the "*normalized*" expected cash flow distributable to the owners of the subject entity for a determined projection period, with a residual or "*terminal*" value ascribed to all expected cash flow beyond the projection period. While the calculation of the terminal period value, which is identical to the *single period capitalization method* (discussed later), remains sensitive to the stability of future cash flow, at least for the projection period this methodology allows for greater flexibility in the expectations related to the economic benefit flowing to the owners within the projection period, permitting the valuation analyst to tailor his or her expectations to future trends for the short and medium terms.

The valuation analyst, in applying the *discounted net cash flow methodology*, must project the most probable revenue stream to be generated by the subject property, as well as the economic operational and capital expense burdens necessary to generate that revenue. The net economic benefit flowing to the owners of the subject property is then calculated as the revenue

SINGLE PERIOD CAPITALIZATION METHOD

A method that estimates the present value of the subject entity by capitalizing, at a rate appropriate to the subject entity, into perpetuity the expected economic benefit of a single year.

less both of the economic expense burdens. The net economic benefit will be forecasted for each of the distinct postacquisition periods, as well as for the terminal period, and these forecasted benefits will then be discounted and aggregated to arrive at an indication of value as of a specified valuation date.

8.1.1.2.1 Normalizing Adjustments Often, the financial statements of a healthcare enterprise are prepared to reflect the specific circumstances of its operations, as well as the enterprise's tax posture. One purpose of making *normalizing* adjustments is to recast the historical *accounting* statements of the healthcare entity to reflect the true economic status of the healthcare enterprise, in regard to the monetary and financial benefits of ownership, by adjusting certain revenues and/or expenses. The resulting recast statements should reflect an *economic*, rather than a *tax-driven* or operational, perspective of the healthcare entity. Further, nonrecurring or extraordinary expenses should be adjusted to reflect the most probable expectation of normalized expenses required to support the revenue stream of the subject entity. These adjusted statements form the underlying income/earnings basis for calculations used in the several income approach–based methods, including the *Discounted Net Cash Flow Method*.

Among other possible normalizing adjustments that the valuation analyst should consider are:

1. Adjustment of the subject entity's owner compensation;
2. Adjustment of amounts to be paid under contracts between the subject entity and any related parties;
3. The conversion of operating leases to capital leases, as required by IRS regulations.

8.1.1.2.1.1 Owner's Compensation It is often the case that compensation to be paid to the physician owners of a healthcare entity reflects an optimized tax strategy, in contrast to strictly economic considerations. In an

effort to minimize their exposure to federal, state, and local taxes, owner physicians may alter their salaries. The total amount that might be distributed to the subject enterprise's owner physicians may consist of two elements: (1) the compensation to be paid to the owner physicians for their provision of clinical and nonclinical services, and (2) their compensation for the investment in the subject enterprise.

The regulatory environment in which the healthcare industry operates requires the valuation analyst to seek the *fair market value* of the subject enterprise by considering the most probable price at which the subject enterprise would transact, given a *universe of typical purchasers/investors*, which would not be restricted only to owner physicians. The typical investor instead would not necessarily consider the historical stated physician owner compensation for his or her clinical and nonclinical services as indicative of the *fair market value* for those services and would not reflect the anticipated compensation that would have to be paid by the typical investor to attain those same services from other nonowner physicians, because the compensation may be:

1. Below *fair market value*, because of the owner's decision to retain earnings within the enterprise to fund strategic growth or to distribute as profits; or
2. Above *fair market value*, because they include the profit from sources other than the clinical and nonclinical services provided by the owner physicians.

Therefore, the residual income calculated using the historical compensation amounts may *not* reflect the expected net economic benefit that would

Fair Market Value

The value in arm's-length transactions, consistent with general market value, without taking into account any ability between parties to refer business to one another.

"Fair Market Value," in "Medicare and Medicaid Programs; Physicians' Referrals to Health Care Entities with Which They Have Financial Relationships: Final Rule with Comment Period," Federal Register *66, no. 3 (January 4, 2001): 944; "Fair Market Value," in "Medicare Program; Physicians' Referrals to Health Care Entities with Which They Have Financial Relationships (Phase II): Interim Final Rule with Comment Period,"* Federal Register *69, no. 59 (March 26, 2004): 16107.*

accrue to the universe of typical buyers/investors in the subject enterprise. The valuation analyst should review the historical compensation paid to the owner physicians (by comparison to industry-indicated benchmarks, as discussed later) and adjust the compensation (if necessary) to reflect the anticipated economic cost burden that would be necessary to support the revenue of the subject enterprise, and exclusive of any of the profits that might accrue to the owners of the subject enterprise.

8.1.1.2.1.2 Related Party Contracts Payments made between the subject enterprise and any other enterprise with common ownership to the subject enterprise should be reviewed to ensure they are at *fair market value*, that is, they represent an *arm's length bona-fide transaction.* An example would be a group of physician owners of a medical practice also owning a real estate holding company that leases medical office space to the medical practice. The payments made between these two commonly owned enterprises may be selected so as to minimize the tax exposure of the enterprises. The *typical investor* in the medical practice, therefore, would not anticipate that those historical (*tax optimized*) payments would continue or would not, in any event, pay more than the *fair market value* for the services to be provided under the contract. The *typical investor* would, in contrast, anticipate his or her expense burden to reflect the economic *fair market value* of the services to be provided under the related party contract. Therefore, the valuation analyst should carefully review all contracts between the subject enterprise and any other enterprises with common ownership to ensure that the payments are reflective of the *fair market value* of the provided services.

8.1.1.2.1.3 Operating versus Capital Leases Another adjustment that the valuation analyst should consider is the treatment of leases. In response to the increased use of *off balance sheet* financing by various enterprises, the accounting profession (as well as the IRS) has heightened its *scrutiny* of these practices. One type of *off balance sheet* financing seen within the healthcare enterprise is the use of *operating leases* (also referred to as "*true*" leases) to finance equipment purchases. *Operating leases* can be used as an alternative to *traditional financ*ing of purchased equipment. The *operating lease* expense is reflected in the *income statement* of the subject enterprise. *Purchased equipment*, in contrast, is reflected on the *balance sheet* of the subject enterprise (included in the fixed assets owned by the enterprise) and is *depreciated* over its *economic useful life* (which is reflected in the periodic income statement). The benefit to the enterprise of using an *operating lease* (as opposed to purchasing the equipment outright) is that the purchase price can be allocated across multiple periods, and any liability (such as an equipment loan) that would be associated with an equipment purchase will not appear on the enterprises balance sheet, thus the reference to *off*

balance sheet financing. The enterprise's ability to "*hide*" liabilities by not reporting these liabilities on its balance sheet prompted both the *Financial Accounting Standards Board* (FASB) and the IRS to issue new regulations regarding the appropriate use of operating leases, as opposed to using a *capital* lease, which treats the leased assets in a similar manner to purchased assets (i.e., included on the balance sheet both as an asset and a liability).

Very briefly, *Accounting Standard Codification* (ASC) 840 states that a lease will be considered an *operating lease* (usage agreement) unless *one or more* of the following four criteria are met. If any of the following applies, the lease is then treated as a capital *lease* (purchase/sale agreement):

1. The lease automatically transfers ownership of the property to the lessee by the end of the lease.
2. The lease contains a bargain purchase option.
3. The lease term equals 75 percent or more of the *estimated economic life* of the property. (Note: *Economic life* is defined as the period of actual usefulness of an asset. Economic life refers to the period beyond which it is cheaper to replace or scrap an asset than to continue maintaining it—not to be confused with depreciable life.)
4. The present value of the minimum lease payments at the beginning of the lease term equals or *exceeds* 90 percent of the *fair market value* of the property.[1]

The leading IRS pronouncement on what constitutes a "*true*" lease in the equipment leasing context is Revenue Ruling 55 540, 1955–2 C.B. 39, which, although issued in 1955, still represents the position of the IRS. In this ruling, the IRS states that whether an agreement, which in form is a lease, is in substance a conditional sales contract depends on the intent of the parties as evidenced by the provisions of the agreement, read in light of the facts and circumstances existing at the time the agreement was executed.[2] In ascertaining such intent, no single test, or any special combination of texts, is absolutely determinative.

Section 3.02 of the ruling provides that in making the determination of the intent of the parties under the facts and circumstances, "it is necessary to determine whether by virtue of the agreement, the lessee has acquired, or will acquire, title to any equity in the property."[3]

---

[1] "Recognition," Financial Accounting Standards Board, Accounting Standard Code 840-10-25, 2010, formerly codified as FASB 13.

[2] Rev. Rul. 55-540 (IRS RRU), 1955-2 C.B. 39, 1955.

[3] Ibid.

Section 4.01 lists a number of conditions that tend to show the existence of a sale, rather than a lease. The ruling states that a lease will be treated as a conditional sale for federal income tax purposes if "*one or more of the following conditions are present:*

a. Portions of the periodic payments are made specifically applicable to an equity to be acquired by the lessee. . . [.[4]]
b. The lessee will acquire title upon the payment of a stated amount of 'rentals' which under the contract he is required to make. . . [.[5]]
c. The total amount which the lessee is required to pay for a relatively short period of use constitutes an inordinately large proportion of the total sum required to be paid to secure the transfer of the title. . . [.[6]]
d. The agreed 'rental' payments materially exceed the current fair rental value. This may be indicative that the payment includes an element other than compensation for the use of property. . . [.[7]]
e. The property may be acquired under a purchase option at a price which is nominal in relation to the value of the property at the time when the option may be exercised, as determined at the time of entering into the original agreement, or which is a relatively small amount when compared with the total payments which are required to be made. . . [.[8]]
f. Some portion of the periodic payments is specifically designated as interest or is otherwise readily recognizable as the equivalent of interest."[9]

Revenue Ruling 55–541, 1955–2 C.B. 19, a companion ruling to Revenue Ruling 55–540, discusses a situation where an asset was leased for substantially its entire useful life. The ruling states that the absence of an agreement to pass title is not indicative that the agreement was a lease and, in that situation, equitable ownership had passed. Therefore, it is essential that the lease is for a period that is not substantially the entire useful life of the asset.[10]

---

[4] *Truman Bowen v. Commissioner*, 12 T.C. 466 (1949), acquiescence, C.B. 1951-2, 1.

[5] *Hervey v. Rhode Island Locomotive Works*, 93 U.S. 664 (1876); *Robert A. Taft v. Commissioner*, 27 B.T.A. 808 (1933); *Truman Bowen v. Commissioner*, 12 T.C. 466 (1949), acquiescence, C.B. 1951-2, 1.

[6] *Truman Bowen v. Commissioner*, 12 T.C. 466 (1949), acquiescence, C.B. 1951-2, 1

[7] *William A. McWaters, et al. v. Commissioner*, 9 T.C.M. 507 (1950); *Truman Bowen v. Commissioner*, 12 T.C. 466 (1949), acquiescence, C.B. 1951-2, 1.

[8] *Burroughs Adding Machine Co. v. Bogdon*, 9 F.2d 54 (1925); *Holeproof Hosiery Co. v. Commissioner*, 11 B.T.A. 547 (1928).

[9] *Judson Mills v. Commissioner*, 11 T.C. 25 (1948), acquiescence, C.B. 1949-1, 2.

[10] Rev. Rul. 55-541 (IRS RRU), 1955-2 C.B. 19, 1955, in accordance with Rev. Rul. 60-122 (IRS RRU), 1960-1 C.B. 56, 1960.

In Revenue Ruling 68–590, 1968–2 C.B. 66, the IRS set forth the terms of a *financing lease* between a political subdivision and a user for a project constructed through the issuance of industrial development bonds. Under this lease, the political subdivision agreed to "*lease*" the project to the corporation for an initial term of 20 years, which was substantially shorter than the useful life of the project. The corporation assumed an unconditional obligation to make *periodic payments*, called "*basic rental*," during the *initial term* in amounts sufficient to cover the payment of the *interest on and principal of the bonds*. The *basic rental* was adjustable to take into consideration any excess of net proceeds from the sale of the bonds over the cost of the project and certain other contingencies. The corporation was given *options* to renew for terms, which, when added to the initial term, aggregated *99 years*. The *basic rent* during the renewal periods was *nominal*. The corporation was also given an option to purchase the project for a *nominal amount* at the *end of the lease term*, or earlier on *prepayment of basic rental*. The corporation also agreed to pay, as *additional rent*, all fees and expenses of a trustee incurred under a "*Trust Indenture*"; all utility charges, taxes, assessments, and casualty and liability insurance premiums; and any other expenses or charges related to the use, operation, maintenance, occupancy, and upkeep of the project. The IRS held that the corporation had all of the burdens and benefits of ownership under this arrangement, and, in effect, the corporation was treated as the owner of the project for federal income tax purposes.[11]

In Revenue Proceedings 2001–28, 2001–19 I.R.B. 1156, 2001–1 C.B. 1156, 2001, and 2001–29, 2001–19 I.R.B. 1160, 2001–1 C.B. 1160, 2001, the IRS has published guidelines that must be satisfied in order to receive an advanced private ruling on the determination of whether a "*leveraged lease*" is a "*true lease*" for federal income tax purposes.[12] Generally, a leveraged lease occurs

[11] Rev. Rul. 68-590 (IRS RRU), 1968-2 C.B. 66, 1968.

[12] Rev. Proc. 2001-28 (IRS RPR), 2001-19 I.R.B. 1156, 2001-1 C.B. 1156, 2001, superseded Rev. Proc. 75-21 (IRS RPR), 1975-1 C.B. 715, 1975 and Rev. Proc. 76-30 (IRS RPR), 1976-2 C.B. 647, while Rev. Proc. 2001-29 (IRS RPR), 2001-19 I.R.B. 1160, 2001-1 C.B. 1160, 2001, superseded Rev. Proc. 79-48 (IRS RPR), 1979-2 C.B. 529, 1979 and Rev. Proc. 75-28 (IRS RPR), 1975-1 C.B. 752, 1975. Both in 2001. A leveraged lease involves three parties—a lessor, a lessee, and a lender to the lessor. In general, these leases are net leases, the lease term covers a substantial part of the useful life of the leased property, and the lessee's payments to the lessor are sufficient to discharge the lessor's payments to the lender. Depending on the facts and circumstances, such a transaction might be treated as a lease or a sale for tax purposes. "News on the Tax Front," Small Business Taxes & Management, June 15, 2011, http://www.smbiz.com/sbw2061.html (accessed January 18, 2013).

when the lessor-owner has borrowed the funds to purchase the equipment. Presumably, if the contemplated leasing company will not be borrowing the funds in order to purchase the property it will lease, these requirements need not be met. Nevertheless, if such requirements can be met, strong evidence would exist that the "*lease*" is a "*true lease*." These revenue procedures require the lessor to have, incur, and maintain a minimum investment of 20 percent of the cost of the property. In addition, the revenue procedures provide for a further requirement that at least 20 percent of the original price of the property be equal to the fair market value of the property at the end of the lease term.[13] In effect, the revenue procedures quantify, in an analogous situation, the requirement of the minimum residual value at the end of the lease term that is required in Revenue Ruling 55–540.

Also, these revenue procedures require (i) that any renewal options should be at *fair rental value* and that any purchase options should be at fair market value, (ii) that the equipment be capable of removal from the lessee's premises, and (iii) that any maintenance and repairs performed by the lessee not be such that they constitute an improvement or addition to the property. Further, no part of the cost of the property should be furnished by the lessee. If the lessor-leasing company borrows the funds to acquire the property, the lessee may not guarantee any such indebtedness. Also, the lessor should be able to demonstrate, through a formula set forth in the revenue procedures, what it expects to receive as a profit, apart from the value of the tax benefits obtained from the transaction.[14]

In summary, Revenue Ruling 55–540 contains the IRS's most complete statement on whether a lease of equipment will be treated as a "true" lease or a conditional sales agreement. In the ruling it was stated that the IRS will look at the intent of the parties at the time the agreement was executed to determine the proper characterization of the transaction. Generally, an intent to enter into a conditional sale agreement will be found to be present if (a) portions of the rental payments are made specifically applicable to an equity acquired by the lessee, (b) the lessee will acquire a title automatically after certain payments have been made, (c) the rental payments are a disproportionately large amount in relation to the sum necessary to complete the sale, (d) the rental payments are above fair rental value, (e) the title can

[13] "Rulings, Leveraged Leasing Transactions, Rev. Proc. 2001-28 (IRS RPR), 2001-19 I.R.B. 1156, 2001-1 C.B. 1156, 2001, p. 2; further explained in "Rulings; Leveraged Leasing Transactions Information and Representations," Rev. Proc. 2001-29 (IRS RPR), 2001-19 I.R.B. 1160, 2001-1 C.B. 1160, 2001, pp. 2–5.

[14] "Rulings, Leveraged Leasing Transactions, Rev. Proc. 2001-28 (IRS RPR), 2001-19 I.R.B. 1156, 2001-1 C.B. 1156, 2001, pp. 3–5.

be acquired at a nominal option price, or (f) some portion of the rental payments are identifiable as interest.[15]

In addition to Revenue Ruling 55–540, the IRS has announced, in a series of revenue procedures starting with Revenue Proceedings 75–21, more specific guidelines under which it would answer ruling requests in an analogous context, leverage leasing transactions. In general, "*[u]nless other facts and circumstances indicate a contrary intent*," the IRS will not rule that a lessor in a leveraged lease transaction is to be treated as the owner of the property in question unless (a) the lessor has incurred and maintains a minimal investment equal to 20 percent of the cost of the property, (b) the lessee has no right to purchase except at fair market value, (c) no part of the cost of the property is furnished by the lessee, (d) the lessee has not lent to the lessor or guaranteed any indebtedness of the lessor, and (e) the lessor must demonstrate that it expects to receive a profit on the transaction, other than the benefits received solely from the tax treatment.[16]

The valuation analyst should review the leases of the subject enterprise to determine if any lease currently treated as a "*true*" or operating lease should instead be converted to a capital lease. Interpretations of various IRS rulings and accounting standards (summarized from the above) suggest that a lease transaction should meet the following criteria to qualify as a "*true (operating) lease*":

1. At the beginning of the lease term, the leased asset must have a projected fair market value at the expiration of the lease term of an amount greater than or equal to 20 percent of the value of the leased asset at the inception of the lease, excluding from consideration the effect of inflation and/or deflation and any cost to the lessor for removal.
2. The leased asset is projected to have the longer of (1) at least 20 percent of its expected normal useful life (the life projected at the inception of the lease) remaining at the end of the base term, or (2) a remaining normal useful life of at least one year at the end of the base lease term.

---

[15] Rev. Rul. 55-540 (IRS RRU), 1955-2 C.B. 39, 1955; Rev. Rul. 60-122 (IRS RRU), 1960-1 C.B. 56, 1960; Rev. Rul. 72-543 (IRS RRU), 1972-2 C.B. 87, 1972.

[16] Rev. Proc. 75-21 (IRS RPR), 1975-1 C.B. 715, 1975 Superseded by "Rulings, Leveraged Leasing Transactions, Rev. Proc. 2001-28 (IRS RPR), 2001-19 I.R.B. 1156, 2001-1 C.B. 1156, 2001, p. 2. (Quote still remains in 2001 guidance). "Bond Practice: Requirements for a 'Trust Lease' for Exclusion from Treatment as a Capital Expenditure," James P. Monacell, February 19, 2002, http://www.sgrlaw.com/resources/briefings/bond_practice/453/ (accessed January 18, 2013).

3. The lessee cannot have a right to purchase or renew the leased asset for a price that is less than its fair market value.
4. The lessor cannot have a right to force the lessee to purchase the leased asset at a fixed price.
5. The lessor must have a minimum unconditional equity "*at risk*" investment equal to at least 20 percent of the value of the leased asset at all times during the lease term. This can be done in a number of ways: with cash, with other consideration, or by personally assuming the obligation to buy the equipment.
6. The lessee must not furnish any part of the purchase price of the leased asset or have loaned or guaranteed any indebtedness created in connection with the acquisition of the leased asset by the lessor.
7. The lessor must show that the lease transaction was entered into for profit, apart from any tax benefits resulting from the transaction. Total lease payments that the lessee is obligated to pay over the lease term, when added to the equipment's estimated residual value, have to be greater than the amount of money that the lessor is obligated to pay out for the equipment, such as debt service and equity investment, including any related direct equity financing costs.
8. The present value of the lease payments cannot exceed 90 percent of the *Fair Market Value* (purchase price) of the equipment.[17]

The international convergence of accounting standards, as expressed by the *International Accounting Standards Board* (IASB) and FASB, are driving changes in the method of accounting for leases. In a June 13, 2012, press release, Hans Hoogervorst, chairman of the IASB, stated, "The boards have reached agreement on a proposed approach to put leases over one year on the balance sheet."[18] As noted in the *Investor Spotlight: Potential Changes to Lessee Accounting* (published by the IASB on December 14, 2012), under the proposed method, the accounting for finance (capital) leases would remain unchanged; however, operating leases over 12 months would be required to be recognized as an asset and a liability on a discounted basis.[19]

---

[17] Rev. Rul. 55-540 (IRS RRU), 1955-2 C.B. 39, 1955; Rev. Rul. 55-541 (IRS RRU), 1955-2 C.B. 19, 1955; "Rulings, Leveraged Leasing Transactions, Rev. Proc. 2001-28 (IRS RPR), 2001-19 I.R.B. 1156, 2001-1 C.B. 1156, 2001; "Rulings; Leveraged Leasing Transactions Information and Representations," Rev. Proc. 2001-29 (IRS RPR), 2001-19 I.R.B. 1160, 2001-1 C.B. 1160, 2001.

[18] IFRS, "IASB and FASB Agree on Lease Accounting Approach," press release, June 13, 2012.

[19] IASB, "Investor Spotlight: Potential Changes to Lessee Accounting," December 14, 2012.

This change in the accounting standards will eliminate a large portion of operating leases requiring adjustment to capital leases.

8.1.1.2.2 Controlling Adjustments Similar to, but distinct from, the normalizing adjustments noted above are controlling adjustments. As discussed in Chapter 7, "Basic Valuation Tenets," depending on the particular facts and circumstances related to the valuation, the valuation analyst may be seeking either a *minority* or a *control* interest in the subject enterprise. In the event that the valuation analyst determines that the indication of value sought by the analyst is on a control basis, then adjustment should be made in the application of the *income-based approaches*.

Typically, the valuation analyst seeking an indication of value of an enterprise on a control basis will adjust the anticipated cash flow generated by the subject enterprise to reflect the net economic benefit arising from the aspects of control enjoyed by the prospective purchaser. For example, the valuation analyst may adjust the historical subject enterprise expense structure to reflect the industry-indicated average expense structure to reflect the ability of a control purchaser to direct the operation of the subject enterprise and the expectation that the indicated industry expense structure would represent the most probable level of operational efficiency that would be expected of a similar enterprise. Another economic variable commonly adjusted by a valuation analyst seeking a value indication on a control basis is the capital structure. A control purchaser would be capable of altering the mix of equity and debt finance within the enterprise. The typical adjustment to the capital structure assumes that the typical universe of purchasers/investors in the subject enterprise would use a capital structure similar to the industry, that is, the industry-indicated benchmark capital structure would be the most likely capital structure employed going forward.

For the valuation analyst seeking an indication of value on a minority (noncontrol) basis, these adjustments would not be necessary, the assumption being that a minority ownership interest would not include the authority to alter the strategic operation of the subject enterprise. Therefore, the cash flow used in an *income-based approach* should be matched to the level of interest being sought by the valuation, that is, a control level of interest will be reflected in cash flow adjusted to represent the benefits of control.

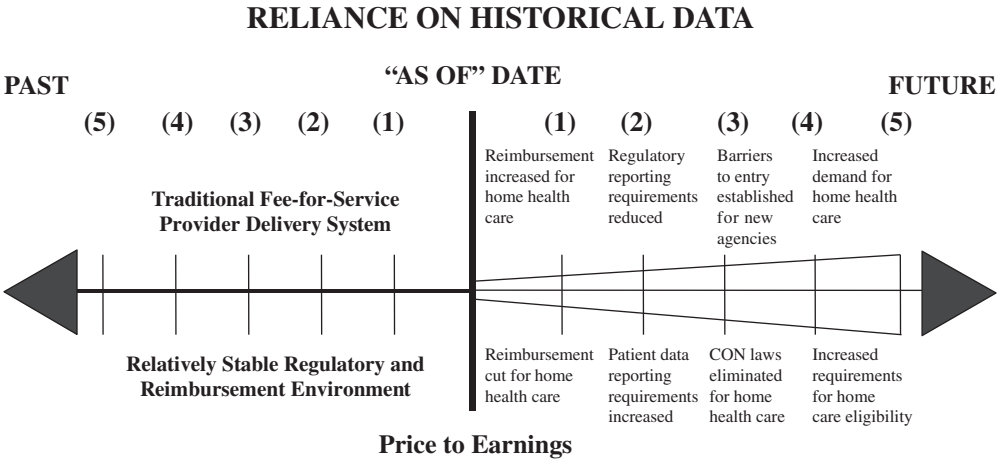
8.1.1.2.3 Forecasting Among the tasks that must be accomplished to apply the *discounted net cash flow* methodology is the forecasting of the revenue generated by the subject property, as well as the economic operating and capital expense burden necessary to generate the anticipated revenue. As described in the discussion of the *Principle of Anticipation* (see Chapter 7, "Basic Valuation Tenets") the valuation analyst should always be

cognizant of the basic valuation tenet that "*All value is forward looking*." The "*forward-looking*" analyst necessarily performs a predictive function. As the "*future*," at the time of the valuation, cannot be known with absolute certainty, the valuation consultant must make predictions regarding the future financial performance of the enterprise, asset, or service being appraised. Income-based methods, particularly, require the analyst to predict variables (such as revenue, operational costs, and capital costs) to project the anticipated economic benefit that will accrue to the owners of the asset.

The goal of the analyst should be to select the most appropriate forecasting technique (i.e., the technique that minimizes the variance of the predicted value from what is eventually the actually measured value of the metric), given the information that is available at the time that the prediction is made. Several techniques are available to assist the consultant in his or her forecasting function, including an analysis of the historical trends of the entity under consideration, as well as more sophisticated statistical techniques (e.g., the analytical techniques used in determining the conditional mean) aimed at quantifying the tendencies of the subject entity. While complex statistical analyses can inform an analyst's opinion regarding the future performance of an entity, these analyses should always be tempered with a "*real world*" assessment of the plausibility of the results. It is the role of the valuation analyst to interpret the results of any mathematical analysis, including describing and reporting those results in a meaningful way for the end users of the information.

8.1.1.2.3.1 Historical and Industry Trend Analysis Forecasting is vital to the income approach. Many forecasting techniques are available to the valuation analyst in determining the most probable economic benefit accruing to the owners of a particular asset. The available techniques vary significantly with regard to complexity and applicability. Forecasting in the social sciences is a continuously evolving subject, with new techniques developing at a steady pace. A brief synopsis of some of the often-used techniques employed throughout the social sciences to derive projections is set forth below. The selection of any one technique will rely on the nature of the projection being made, the ability of the analyst developing the projection, and the availability of data related to the process being projected. The valuation analyst should consider using as many techniques as possible when developing his or her projections for the valuation model.

Traditional healthcare valuation methodologies have relied on the analysis of historical accounting (after applying normalizing adjustments) and other data as predictive of future performance and value. The turbulent status of the healthcare industry during the last three decades has introduced intervening events and circumstances that may have a dramatic effect on the



Q: HOW USEFUL IS THE PAST IN DETERMINING VALUE?

EXHIBIT 8.1 Roadmap of Historical Performance

revenue or benefit stream of the subject entity. In that event, the "*road map of historical performance*" becomes less predictive of future performance. An example of how events may change the prediction of future performance is set forth in Exhibit 8.1.

The extent to which historical trends may be relied on is an important decision within the boundaries of the concept of the *principle of induction*, which posits that

> *The broad, underlying central principle in forecasting is the PRINCIPAL OF INDUCTION. Stated simply, this is the assumption that the future will be like the past. Existing statistical data on a subject are presumed to show trends—patterns from the past—that will continue in the future. We assume that the various factors recorded and analyzed statistically acted collectively, that is together. We also assume that the pattern of their interactions is not going to change unpredictably; thus, past trends as seen will continue in the future.*[20]

In addition to reviewing the historical performance of the subject entity, the valuation analyst should consider the *historical trends* within

[20] Richard Rickert, *Appraisal and Valuation: An Interdisciplinary Approach*, American Society of Appraisers (Washington, DC: International Valuation Sciences Institute, 1987), p. 26.

the healthcare industry as a whole, as well as within the industry sector, the specialty and subspecialty of the enterprise being appraised, to provide a foundation to support predictions based on either the subject entity–specific historical trends or otherwise. For example, it would be difficult to project a specific entity's revenue growth in excess of the industry and/or specialty norms for an extended period of time. These kinds of divergent growth patterns are rarely observed empirically and most likely represent a misspecification of the prediction model. However, if the predicted value is based on *sound reasoning* and a *well-articulated logic*, it may be appropriate to use a projection that is not in conformance with the industry benchmarks. These compelling reasons may be subject entity-specific and rely on the reasoned judgment of the valuation analyst. An example would be in the instance where a particular specialty has experienced a change in anticipated reimbursement due to the impact of *bundled payments*. Using past historical growth, without consideration of the structural change in the revenue generation process, may be inappropriate. Because the past is not a perfect predictor, the analyst may choose to diverge from the historical subject entity or industry trends. It is incumbent on the valuation consultant to readily identify the reasons and to clearly articulate the logic that leads the analyst to consider either the historical or industry trends as poor predictors of future performance for the subject entity.

8.1.1.2.3.2 Historical Average (Unconditional Mean) Much time has been spent, in both an academic as well as an applied context, on determining the best way to forecast financial performance. Economics, finance, and mathematics have all been concerned with developing a model to express the *most probable* expected value for a random variable. Research in the field of statistics has long held that given a population of random variables, with a given distribution, the most probable value for any single instance of the random variable will be expressed by some measure of central tendency.

In determining the expected path for certain types of random input in a valuation model, a valuation consultant will often use the historical average as the best prediction of future performance. It is important here to note the differences between *measures of level*, *measure of change*, and *measure*

Factoid

Typically, historical data available to a consultant extends back only two to three years prior to the valuation. Such small sample sizes create difficulties in identifying outliers, and the consultant should seek to conserve as much information as possible.

MEASURES OF LEVEL

An indicator of the stock measure of a variable.

of relative change. The characteristic of each of the measures may have an impact on the projection of that quantity. Levels indicate the stock measure of a variable, for example, fourth quarter 2011 Gross Domestic Product (GDP) was estimated at a level of $15,321 billion.[21] A measure of change, conversely, would reflect a flow, for example, the level of unemployment in November 2008, increased (changed) by 461,000 (from a level 10,083,000 in October 2008 to a level of 10,544,000 in November 2008).[22] And the *relative measure of change* includes percentage change (i.e., the change in level divided by the magnitude of the level), for example, the level of unemployment increased by approximately 4.5 percent from October 2008 to November 2008 (461,000 divided by 10,083,000 equals approximately 4.5 percent). Each measure has its use, and the valuation consultant should be aware of the measure being used to correctly interpret the historical trend and to correctly project the financial variable under consideration.

MEASURE OF CHANGE

A reflection of a flow.

MEASURE OF RELATIVE CHANGE

An indication in the change in level divided by the magnitude of the level.

[21] Bureau of Economic Analysis, "Table 1.1.5 Gross Domestic Product," November 29, 2012, http://www.bea.gov/iTable/iTable.cfm?ReqID=9&step=1 (accessed December 12, 2012). It should be noted that GDP figures are subject to revision and may be changed at a later date.

[22] Bureau of Labor Statistics, "Labor Force Statistics from the Current Population Survey," December 13, 2012, www.bls.gov/cgi-bin/surveymost (accessed December 14, 2012).

One measure of central tendency that can be used in the projection of a random variable is the *arithmetic mean*, that is, the average value, calculated using the following equation:[23]

$$\frac{1}{n}\sum_{i=1}^{n} X_i$$

where: X_i = the ith data point
n = the sample size

Arithmetic Mean

The average value of historical data used as a measure of central tendency.

Given a sample from a random population, the arithmetic mean can often be the best estimate of the value of a new iteration drawn from the population. The valuation analyst seeking a measure of central tendency for a variable that reflects a level measure or a measure of change should consider using the arithmetic mean of the data set as an indication of the most probable value for any single member of the data set.

Alternatively, the valuation analyst may choose to use the *geometric mean* as the selected measure of central tendency, which may be more appropriate when calculating the average rate of change (such as growth rates). Geometric means can be calculated using the following equation:[24]

$$G = (X_1 \times X_2 \times \cdots \times X_n)^{1/n}$$

where: G = the geometric mean
n = the sample size

The geometric mean of an annual growth rate is often referred to as the *compound annual growth rate* (*CAGR*) and is commonly used to calculate

[23] Mark L. Berenson, David M. Levine, and Timothy C. Krehbiel, *Business Statistics: Concepts and Applications* (Upper Saddle River, NJ: Pearson Prentice Hall, 2003), p. 88.

[24] Thomas Hill and Pawel Lewicki, *Statistics: Methods and Applications* (Tulsa, OK: StatSoft, 2006), p. 626; Sidney Siegel, *Nonparametric Statistics: For the Behavioral Sciences* (New York: McGraw-Hill, 1956), p. 30.

annual returns for various financial and economic variables. A valuation analyst seeking to find a measure of central tendency for a measure of relative change (such as a growth rate) should select the geometric mean of the data set as the expected value for a random draw from the population of data.

Another measure of central tendency available to the valuation analyst is the *harmonic mean*, which is calculated using the following equation:[25]

$$H = n \times \frac{1}{\sum_{i=1}^{n} \frac{1}{X_i}}$$

where: H = the harmonic mean
n = the sample size

And the harmonic mean can be characterized as:

> *a special type of weighted mean in which an observation's weight is inversely proportional to its magnitude. The harmonic mean is a relatively specialized concept of the mean that is appropriate when averaging ratios ("amount per unit").*[26]

While the harmonic mean is less widely applied than the arithmetic and geometric means, it tends to limit the impact of very large values (i.e., *outliers*) contained in the data set. Outliers are data points within the data set that appear to be significantly different from the rest of constituent data points and can sometimes be attributed to measurement errors in the reported data or to specific aspects of the individual member of the population that tend to be unique to that member. It is important to identify those data points that may be outliers and to determine the nature of the outliers. Outliers, either those resulting from reporting errors or those resulting from a unique member of the data, may have limited predictive value. By using the harmonic mean, the valuation analyst can restrict the impact of outliers on his or her measure of central tendency.

---

[25] Thomas Hill and Pawel Lewicki, *Statistics: Methods and Applications* (Tulsa, OK: StatSoft, 2006), p. 623; Sidney Siegel, *Nonparametric Statistics: For the Behavioral Sciences* (New York: McGraw-Hill, 1956), p. 30.

[26] Richard A. DeFusco, Dennis W. McLeavey, Jerald E. Pinto, and David E. Runkle, *Quantitative Methods for Investment Analysis*, 2nd ed. (Baltimore: United Book Press, 2004), p. 120.

Median of the Historical Data

A measure of central tendency that establishes the value of a data set with an equal number of greater and lesser values within the data set and that is resistant to the effects of outliers.

An alternative to the mean (arithmetic, geometric, or harmonic) that valuation consultants may consider using is the *median* of the historical data set. To calculate the median, the valuation analyst must first order the set by magnitude (either increasing or decreasing in value). Once the set has been ordered, then the analyst can determine the median by:

> *When the **n** [the sample size] is odd, the median is the value of the item that is in the middle.*
> *When **n** is even, the median is the mean of the two items that are nearest to the middle.*[27]

The median, which seeks the balance point between the upper and lower ends of the distribution of a variable, will be resistant to the impact of outliers, as the magnitude of the upper (and lower) end of the distribution is not used in determining the median value. The arithmetic mean, conversely, may be significantly biased by the presence of an outlier.

The problem of outliers can be dealt with in yet another manner. The valuation analyst may consider using a *trimmed mean* as the measure of central tendency for the data set. The trimmed mean is calculated in the same manner as the arithmetic mean, except that certain extreme values are eliminated from the data set prior to calculation. For example, the analyst may identify several individual data points as possible outliers. The valuator would then calculate the arithmetic mean of the data set, excluding those possible outliers. Or the valuator may restrict, from the start, the data set by removing the top 5 percent of values and the lowest 5 percent of values within the data set and recalculating the arithmetic average over the remaining values. The valuation analyst should be cautious in trimming a data set. Under certain circumstances, such as a nonsymmetric distribution for the sample set, the trimmed mean will likely be biased and not represent a true measure of central tendency.

---

[27] John E. Freund and Richard Manning Smith, *Statistics: A First Course* (Englewood Cliffs, NJ: Prentice-Hall, 1986), p. 49.

Outliers

Data points included within the data set that appear to be significantly different from the other members.

A valuation analyst who suspects that there may be outliers in the data may opt to use the harmonic mean, the median, or the trimmed mean, as opposed to the arithmetic or geometric means. Several statistical tests (e.g., Grubb's test) have been developed to assist in the identification of outliers, but none have sufficient statistical power to definitively identify outliers.[28] It is therefore left to the subjective consideration of the valuation consultant to appropriately identify outliers within the data and develop forecasts that adjust for the outlier effects. It should only be after careful consideration that any data points are restricted from an analysis. Typically, in the valuation arena, historical data extends for only two to three years prior to the valuation. With such small sample sizes, identifying outliers will be difficult, and the consultant should seek to conserve as much information as possible.

The arithmetic mean, the trimmed mean, and the median are all considered unconditional measures of central tendency, that is, the future expected value is determined without consideration of any other outside variables or the historical path of the variable of concern. The expected value does not change in response to changes in other correlated outside variables (sometimes referred to as *state variables* or *exogenous variables*) or in the time trend of the variable of concern (also called the *endogenous* variable).

The analysis of trends, which involve random variables that evolve over time (also known as *time series analysis*), can be more complicated than the relatively simple calculation of the arithmetic, geometric, and harmonic means. Trends, which change over time, are subject to random shocks in any single measurement period, that is, any single *innovation* of the time series may have nonsystematic factors (unanticipated) that divert the data series from its otherwise stable long-term growth path. If these shocks are truly

Trimmed Mean

An arithmetic mean with certain extreme values eliminated from the data set prior to calculation.

[28] Frank E. Grubbs, "Procedures for Detecting Outlying Observations in Samples," *Technometrics* 11, no. 1 (February 1969): 1–21.

Factoid

The law of large numbers is a probability theorem that states that the variability in sample proportion decreases as the size of the sample increases.

Statistics: A New Approach, *by W. Allen Wallis and Harry V. Roberts (Glencoe, IL: The Free Press, 1956), p. 121.*

random, then by averaging several past values of the variable and applying the "*law of large numbers*," these random effects should cancel out, resulting in an average value that accurately reflects the most probable expected value for the variable under consideration.

8.1.1.2.3.3 Conditional Mean Predictive models that "*condition*" their expected value based on the time path of the endogenous variable and/or the level (or changes) in certain exogenous variables are called *condition mean models*. They rely on the relatively more complex statistical technique of time series regression analysis. This technique seeks to identify the mathematical equation that "*best fits*" the historical data. A time series regression model seeks the functional form that minimizes the deviations of the actual historical data from the value predicted by the equation. Many statistical software packages, including Microsoft Excel, have the capability of performing regression analysis. It is left to the valuation analyst to select the appropriate software package to use in performing the time series regression analysis. Caution should be taken, as inferences drawn from incorrectly specified, or otherwise erroneously conceived, time series regression models may lead the valuator to incorrect conclusions. It is recommended that a valuator have a clear understanding of time series regression techniques before including these methods in a valuation.

Conditional Mean

Predictive models that condition their expected value based on the time path of the endogenous variable and/or the level (or changes) in certain exogenous variables.

8.1.1.2.3.4 Coincident Indicators The first methodology for analyzing time series data is a "C*oincident Indicators"* model, which functionalizes a relationship between the particular innovations of a dependent variable with

Revenue

The product of price and quantity.

the measurements of a set of independent exogenous variables that occur simultaneously with the innovations of the dependent variable.[29] A model defined in this manner posits a correlation between the independent exogenous variables and the dependent variable of interest. Using standard regression techniques, coefficient estimates for each of the included exogenous variables can be estimated. The dependent variable can then be forecasted using projected values for the exogenous variables. For example, a model could be estimated with the level of operating expenses for a hospital enterprise expressed as a function of the level of revenue. To project operating expenses, in this example, the valuation analyst would input the projected revenue for the enterprise into the estimated function, and the resulting value would be an estimate of the expected level of operating expense for the enterprise *conditioned* on the projected level of revenue. Because considerations of these variables are coincident, there is a need for readily available expectations related to the independent exogenous variables (revenue from the example), which may impose a significant restriction on which variable can be used. Relying on revenue as the *independent* variable makes the fundamental accuracy of the forecasted operational cost dependent on the efficacy of the revenue forecast. In addition, the use of anticipated values for the explanatory variables introduces an increased uncertainty regarding the forecasts that is difficult, if not impossible, to measure.

8.1.1.2.3.5 Leading Indicators To address the shortcomings of using a *coincident indicator model*, the valuation analyst may consider using a *leading indicator model*. This model is similar to the coincident indicator model, except that the independent exogenous variables are *lagged* one or more time periods behind the most recent *innovation* of the *dependent variable*. The theoretical relationship advanced by this model is that the dependent variable varies in response to changes in the values of the set of included exogenous variables, that is, these independent exogenous variables *lead* the dependent variable. Once the regression coefficients for the model have been estimated,

[29] Both coincident and leading indicator models are seen predominantly in the business cycle economic literature, although they may be applied to any time series data that includes contemporaneous exogenous independent variables. See James H. Stock and Mark W. Watson, "New Indexes of Coincident and Leading Economic Indicators," *NBER Macroeconomics Annual 1989* (Boston: MIT Press, 1989), pp. 351–409.

the valuation analyst can project the value in the next period based on the currently measured levels of the independent exogenous variables. A model of this type conditions its projection based on the set of information available at the lagged one period time, as opposed to the coincident model, which conditions expectations on all information available up to the most recent time period. Restricting the information set to the lagged time period will necessarily limit the predictive power of these types of models. The estimated statistical relationships identified in these models will, often times, be less clear than with coincident models. The choice between coincident and leading indicator models should be based upon a consideration of the strength of the relationship in the leading indicator model in comparison to the availability and reliability of the forecasts for the independent exogenous variables.

8.1.1.2.3.6 Autoregressive Models A second class of time series models that can be utilized for forecasting purposes **consists of** *autoregressive models*.[30] *Auto regression* (AR) is a more sophisticated form of extrapolation that uses historical trends in a time series data set to project the expected path that the variable will follow in the future. The significant difference from the indicator models (coincident and leading) discussed earlier is that the explanatory variables used in the time series analysis include (and may be restricted to) the historical values of the dependent variable. The generalized form of the AR model is:

$$Y_t = \alpha + \beta_1 \times Y_{t-1} + \beta_2 \times Y_{t-2} + \cdots + \beta_i \times Y_{t-i}$$

where: t = the time period of the innovation
i = the number of periods lagged
β = the coefficient (or *weighting*) for the lagged innovation
α = the long run average value for the time series

AUTOREGRESSIVE MODEL

A sophisticated form of extrapolation that uses historical trends in a time series data set to project the expected path that the variable will follow in the future.

[30] For a more in-depth discussion of techniques used in performing time series analysis, please see Walter Enders, *Applied Econometrics Time Series* (Hoboken, NJ: John Wiley & Sons, 2004).

For example, it would be fair for a valuation analyst to assume that physician productivity follows a *mean reverting process*, that is, the productivity varies around a long-term average level of output. Based on this assumption and with a sufficient amount of data, the valuation analyst could *fit* an AR model that reflects this assumed *data generating process*. This *fitted* model could then be used to *extrapolate forward* the anticipated *dynamics* of physician productivity.

8.1.1.2.3.6.1 Simple Autoregression A simple autoregression model analyzes the relationship between a time series variable and the lagged values (possibly lagged multiple time periods) of itself (i.e., the same time series), including an error term that is assumed to be random.[31] It is based on the belief that the past behavior of a variable is indicative of the future expected value of that variable. This technique is similar to, but distinct from, the concept of the *Principle of Induction*, as described earlier by Rickert. A key assumption for autoregressive models is that the process generating the time series variable is constant through time. Were there to be a significant shift in an exogenous factor (often referred to as a *structural* or *regime change*), the future path of the variable may not follow from the historical fluctuations of the variable. Stated another way, as a result of a *structural shift*, the assumed random error term may no longer be truly random, that is, there may be some further information encoded in the error term that can be manipulated to produce more accurate forecasts. In this sense, autoregressive models are a momentum model; the variable will continue along is historical path (following its momentum, except for unpredictable random shocks), unless acted on by an outside force. It is important for the valuation analyst to consider the possible impact of structural changes on the forecasts generated by simple auto regressive models.

SIMPLE AUTOREGRESSION

An analysis of the relationship between a time series variable and the lagged values (possibly lagged multiple time periods) of the variable.

[31]The *error term* refers to the random unanticipated and nonsystematic shocks that drive the variability in the dependent variable, also referred to as "white noise," as borrowed from communications theory; it reflects the interference of the information contained in the "signal" caused by the error term.

8.1.1.2.3.6.2 Autoregression with Exogenous Variables One technique that can be used to avoid forecast errors due to exogenous factors is to include not only lags of the dependent variable in the forecast model, but also lagged (or possibly coincident) values of the exogenous factors believed to be significant in the determination of the path of the dependent variable. This provides the flexibility in the model to reflect the changing environment in which the dependent variable operates. This added flexibility comes at a cost, though, requiring additional time to determine which exogenous factors to include, and then the collection of the data related to those exogenous factors, as well as the greater computational power required to calculate the dependent variable's sensitivity to changes in the exogenous variables. The generalized AR with exogenous variables model is:

$$Y_t = \alpha + \beta_{y-1} \times Y_{t-1} + \beta_{y-2} \times Y_{t-2} + \cdots + \beta_{y-i} \times Y_{t-1} + \beta_{z-1} \times X_{t-1} + \beta_{z-2} \times X_{t-2} + \cdots + \beta_{x-I} \times Y_{t-i}$$

where: t = the time period of the innovation
i = the number of periods lagged
X = the time series of the exogenous variable(s)
β = the coefficient (or *weighting*) for the lagged innovation
α = the long run average value for the time series

Forecasting the growth rate in operating expenses for a healthcare enterprise by using the historical trend in operating expenses, along with the historical growth rate of the consumer price index (i.e., inflation), would be an example of a model using the AR with exogenous variables framework.

Forecasting is an import ingredient in the financial analysis of healthcare enterprises. The range of potential methodologies extends from simple averaging to complicated autoregressive models. The preceding sections represent only an introduction to the complex discipline of statistical forecasting. The valuation analyst is encouraged to explore, in detail, the intricacies of statistical forecasting before selecting any one method to project values. In addition, the valuation analyst should consider whether the possible improvement resulting from using a complex forecast method is outweighed by the cost of extended time required to estimate the more complicated forecast model and to interpret the model's results for the end user. This cost/benefit analysis may be key in determining the most appropriate forecasting technique to be used. For example, for a small physician practice or outpatient clinic, these techniques may not be necessary, but for a large healthcare system with multiple specialties and service lines, these more complex

techniques may be appropriate, in reference to both the cost/benefit analysis and a consideration of the nature of the engagement.

8.1.1.3 Revenue Forecasts The natural starting point for forecasting the net economic benefit that will accrue to the owners of an asset under an income approach is to project the expected revenue that will be generated by the asset in the future. Forecasting of revenue begins by understanding the underlying factors that make up the revenue stream of the asset, that is, revenue is the product of *price* and *quantity*. The forecasting of revenue should therefore proceed by projecting the (1) quantity of the product or service that will be sold in the future, and (2) the most probable price at which that product or service will transact. A reasonable revenue forecast can be obtained through a careful consideration of both of these constituent factors and through the application of the forecasting techniques described earlier.

The foundation of revenue generation lies with the constituent types of input (i.e., *capital*, *labor*, *technology,* and *natural resources*) that underlie the productive process. The expectation of future revenue should be tempered with an understanding of the enterprise's current stock of capital, labor, technology, and natural resources that can be used in the production of revenue. The combination of these economic inputs circumscribes the available *capacity* for the enterprise. A valuation analyst's projection should always be mindful of the limits that are placed on the output levels attainable by the subject enterprise owing to the available capacity of the enterprise. Should a valuation analyst wish to project revenue that outstrips current capacity, a further economic expense burden must also be forecast, to account for the investment in the necessary economic input to support that growth, that is, the extra labor, capital, technology, and/or natural resources required to support the extra capacity needed to generate the projected revenue. For example, patient throughput in an ambulatory surgery center is restricted by the availability of the operating room and the capacity of the preoperative and postoperative facilities. The projection of procedure volumes that exceed this capacity would not be feasible, without also simultaneously projecting an increase in the economic cost burdens (i.e., an increased use of *capital, labor, technology*, and/or *natural resources*).

The volatility underlying the structural changes in the healthcare industry (within the context of the *Four Pillars*, as described in Chapters 2 through 5) requires the analyst to also consider the fundamental factors affecting the subject entity's future operation, rather than solely relying on historical trends.

Regulatory, technological, reimbursement, and competitive changes in the healthcare industry indicate a likelihood that the *past trends* may be less influenced by the *Principle of Induction* (as noted previously by Rickert) and therefore less informative as to the future performance of the subject entity

than would be the case in a more stable industry. While these concerns may be mitigated by using the advanced statistical analysis techniques described in this chapter, such as an *auto regressive with exogenous variables model*, the availability of data for any given assignment may limit these options for the valuation analyst. The fundamental analysis of the underlying value drivers (i.e., the *four pillars*), in addition to applying the *Principle of Induction*, is therefore necessary in formulating sound economic and financial forecasts for the subject entity. An example of the application of the revenue forecasts method can be found online at http://www.wiley.com/go/healthcarevaluation.

8.1.1.3.1 Economic Trends Historically, the healthcare services market has exhibited a supply/demand profile contrary to that of the general economy; that is, healthcare has been characterized as having *supply-driven demand* with inelastic pricing attributes, in other words, demand is unaffected by changes in consumer income or healthcare pricing (see Section 4.3, "Supply and Demand in Healthcare," in Chapter 4, "Competition"). The healthcare market has been characterized as *supply driven* with *inelastic demand*, that is, demand is unaffected by changes in consumer income or healthcare *pricing*. The ability of the market to provide *controls on price and quality* is inhibited by factors that can be expressed in three general categories: (1) the nature of health, which creates an *unpredictable*, *urgent*, and "*infinite*" level of demand for healthcare services; (2) the ubiquitous involvement of insurance, private and governmental, as an intermediary in the purchase of healthcare interferes with consumer motivations and consequently their choice of providers and services; and (3) the difficulties in measuring healthcare quality and beneficial outcomes (both of quantifying and qualifying) and the lack of information on the relative costs of healthcare providers and services also inhibits consumer selection, further removing incentives to providers to improve quality and lower costs. A market with demand of this type creates the circumstance where only supply and the ability to pay limit the use of health services.[32]

In addition to these three general categories, there are numerous other factors that should be considered by the valuation analyst, including the following:

1. Patients don't purchase services directly from providers;
2. Patients don't compare prices between providers;
3. The government is the largest purchaser of healthcare;

[32] Robert James Cimasi, "But for the Purported Wrongful Act: The Analysis & Valuation of Healthcare Commercial Damages in a Changing Reimbursement & Regulatory Environment," National Association for Forensic Economics, Eastern Economic Association, Annual Conference 2003, New York, February 22, 2003, p. 49.

4. Private purchasers often lack market power;
5. Patients, purchasers, and providers lack information;
6. Many providers have monopoly or near monopoly power (yet antitrust laws prevent some potentially beneficial integration);
7. Providers are rewarded for increasing costs;
8. Capital investments are overly subsidized;
9. Certificate of need, regulation, and licensing laws are an entry barrier to competing and substitute providers and services; and
10. Exit barriers protect low-quality providers.[33]

However, as a result of more recent trends toward *consumer-driven healthcare* (see Chapter 4, "Competition") and *value-based reimbursement initiatives* (see Chapter 2, "Reimbursement Environment"), the demand for healthcare services has become increasingly elastic, for example, as a consequence of tightened family budgets and higher out-of-pocket expenses. As stated by Stanford University economics professor Alan Enthoven,

> *A seller faces inelastic demand if the seller can increase revenue by raising price, and elastic demand if the seller increases revenue by reducing price. For there to be an incentive for health plans to cut price, demand must be so elastic that the additional revenue gained exceeds the additional cost of serving more subscribers. Managed competition is about creating such price elasticity.*[34]

This trend toward greater elasticity results in reimbursement for healthcare services being reactive to the broader trends experienced throughout the economy.

> *The effects of economic shifts include changes in the demand for (or access to) health care, but also organizations' and practitioners' own financial status. Reports from markets across the United States are describing a sort of perfect storm: falling revenues due to decreased demand for less non-urgent or elective care, more patients unable to pay their medical bills, significant losses in investment income,*

---

[33] Robert James Cimasi, "Lessons from Market Competition in Healthcare," American College of Healthcare Executives, 2000 Congress on Healthcare Management, Chicago, March 29, 2000, p. 3.

[34] Alan C. Enthoven, "The History and Principles of Managed Competition," *Health Affairs* 12, Supp. no. 1 (1993): 32, citing Alan C. Enthoven, "Why 'Competition' in Health Care Has Failed: What Would It Take to Make It Work?" The 1992 Clemens Lecture, St. John's University, Collegeville, MN, September 17, 1992.

less charitable giving, and cuts in health care funding by states and localities.[35]

Accordingly, in considering the projection of future reimbursement for a healthcare enterprise, the valuation analyst should be increasingly aware of movements in the wider economy. The trends in supply and demand for healthcare services, described earlier, are increasingly related to the trends in the economy as a whole. A valuation analyst considering the projection of revenue should be aware of the movements in the wider economy. Supply and demand for the services provided by the subject enterprise may have an effect on its level of revenue. Increasing unemployment rates and decreasing national income amounts have been manifested into an adverse impact on both the demand and the consumer's ability to pay for healthcare services. Individuals who find themselves unexpectedly unemployed and whose health insurance coverage was tied to their employment will either decrease their demand for healthcare services or delay their payments for healthcare services, which, if part of a broader economic trend, could exhibit a significant impact on the healthcare industry as a whole.[36]

Economic trends may also have an impact on the supply of healthcare services. For example, the evaporation of liquidity within the capital markets, along with the reduction in charitable giving associated with the *Great Recession*, placed significant restraints on healthcare entities' ability to gain access to the capital necessary to maintain their current facilities and to acquire the technology necessary to maintain their competitive advantage within the marketplace. The impact of this restraint may lead to decreased revenue, which may require *down-sizing* to accommodate constrained budgets. This reduction in services (either through down-sizing or bankruptcy) may result in a limitation on the supply of healthcare services available in a given market service area.

In light of these considerations, the valuation analyst should establish a solid understanding of the economic environment in which the subject entity operates, as well as an understanding of the expected trends within the general economy. Several metrics are available, from private and public sources, to assist the valuation analyst in determining the economic environment, including:

1. The growth rate in Gross Domestic Product (GDP);
2. Consumer spending and inflation;

[35] Jill Bernstein, "Impact of the Economy on Health Care," Robert Woods Johnson Foundation, Issue Brief, August 2009, p. 4.

[36] Ibid., p. 3.

3. Business and manufacturing activity;
4. Industrial production and capacity utilization;
5. Trends in the financial markets;
6. Housing starts and building permits;
7. Unemployment; and
8. Interest rates.

These economic variables (and others) should be explicitly referenced and the relationship between them and the anticipated revenue carefully analyzed in the development of the valuation analyst's forecast of revenue. Macroeconomic trends may not be specifically quantifiable in the assessment of revenue trends. They do, however, provide a context through which the analyst can consider the microeconomic trends specific to the healthcare industry and the specific subject enterprise being considered. The analyst should attempt to justify any incongruence between the macroeconomic trends suggested earlier and the microeconomic trends being considered for the specific subject enterprise being up for consideration.

8.1.1.3.2 Medicare and Third-Party Payor Trends In addition to performing an economic trend analysis, the valuation analyst should also consider the third-party payors who will be responsible for making the projected payments that make up the forecasted revenue stream. Reimbursement yield trends for third-party payors will directly affect the revenue received by the healthcare entity. While currently increasing, the amount of healthcare cost in the United States that is paid for *out of pocket* by the individual receiving the service is still significantly less than that paid by third-party payors. Healthcare reimbursement is, to the greatest degree, a combination of payments from governmental agencies (e.g., Medicare and Medicaid) and commercial payors (e.g., private insurance companies). The key to forecasting the future expected level of revenue for a healthcare entity is to understand the contracting and payment methodologies employed and anticipated for the third-party payors. Methods and trends related to private and governmental reimbursement for healthcare services are discussed in depth in Chapter 2, "Reimbursement Environment."

8.1.1.3.3 Healthcare Industry Trends A robust understanding of the trends within the healthcare industry will be useful in determining the expected growth rate in revenues. These trends may be considered within the context of the concept of the *four pillars of healthcare enterprises,* as discussed in the Introduction, as well as *Reimbursement* (Chapter 2), *Regulatory* (Chapter 3), *Competition* (Chapter 4), and *Technology* (Chapter 5). These *four pillars* of the healthcare market serve as a conceptual construct through which to view

and by which to analyze the forces and stakeholders of the healthcare industry and to provide a framework for analyzing the viability, efficiency, and productivity of healthcare enterprises, assets, and services. The valuation analyst should be informed by the *four pillars* in developing their forecasts of revenue and revenue growth. These fundamental analyses of the underlying economic drivers underpinning development within the healthcare industry provide the theoretical foundation that supports the quantitative assessments, as described later, used in the analyst's projections.

8.1.1.3.4 Specialty Trends The next step in the analysis required in performing the revenue projections necessary to develop a valuation is to review and assess the trends within the specific industry sector, specialty, and sub specialty of the subject entity. The valuation analyst should be aware of the specialty trends for the subject enterprise and make projections that are informed by their expectations in reference to the *four pillars*.

8.1.1.3.5 Procedure Volume

8.1.1.3.5.1 Individual Units of Productivity There are several pertinent measures of productivity in the health care industry from which the valuation analyst can select when projecting the future quantity of goods and services to be provided, as one of the elemental bases of forecasting revenue, including:

1. The volume of procedures to be performed;
2. The amount of total *relative value units* (RVU) generated;
3. The total *work relative value units* (wRVU) produced by a provider or a group of providers;
4. *ASA units* for anesthesiology procedures; or
5. *Patient Bed Days* for skilled nursing facilities.

In addition, these procedural volume measures are further classified by reference to the type of procedure performed. These classifications will be specific to specific type of enterprise being valued and include the following:

1. *Current Procedural Terminology* (CPT) codes for physician services;
2. *Ambulatory Procedure Codes* (APC) for Ambulatory Surgery Centers; and
3. *Diagnosis Related Group* (DRG) for inpatient hospital procedures.

The particular measure selected will be determined by (1) the availability of the data, and (2) the type of entity or service being appraised (see Chapters 11, "Inpatient Enterprises," and 12, "The Valuation of Outpatient Enterprises," for measures of productivity applicable to the various types of healthcare enterprises).

The valuation analyst should be familiar with the source of (e.g., the *Federal Register* or CPT Schedule), the foundation of, and the application of each of the productivity measures, as well as their idiosyncrasies and historical evolution, in assessing the impact on the valuation process. In the years following the passage of the legislation creating both Medicare and Medicaid in the 1960s, procedure volume alone was used for reimbursement on the basis of the "*customary, prevailing, and reasonable*" rate. While this may have provided a viable measure of productivity/output, its inability to differentiate between complex procedures (i.e., those requiring greater quantities of economic input) and simple procedures (i.e., those requiring fewer types of economic input) led to the development of the *resource based relative value system* (as discussed in Chapter 2, "Reimbursement Environment") as the basis of the Medicare fee schedule implemented between 1992 and 1996. The aggregated RVU measure of output, in contrast, reflects not only the volume of the output produced, but also the intensity of the resource demands required to produce that output. Large government payors, such as Medicare and Medicaid, calculate reimbursement for physician services based on the RVU productivity of the enterprise. RVU measures of output have the further advantage of being comparable across specialties. The development of the RVU measures has been evolving over time and is a hotly contested ongoing process. This may make the *intertemporal* comparison of RVU productivity less informative than if it were a time invariant measure, but it is still a superior metric to the simple comparison procedure volumes. The superiority of this metric arises from the RVU output measure encoding additional information regarding the resources required across a mixture of complex and simple procedures, and ultimately the corresponding economic operating and capital expense burden that needs to be determined and then applied against revenue to arrive at the net economic benefit.

Depending on the particular circumstances of the valuation assignment, for example, the absence of RVU metric data, it may be more feasible to collect information related to a particular enterprise's output using several alternative productivity measures that may be available. It is important that the valuation analyst clearly understand the application of the specific measure selected to avoid errors during the projection process. It is of further importance that the valuation analyst endeavor to identify and classify the sources of output for the subject enterprise and match the revenue to a particular source of productivity, for example, diagnostic imaging, pharmacy services, or physical therapy services, which may be included in the enterprise's aggregate revenue but would require separate and distinct forecasting—as to volume, reimbursement yield, and the corresponding operating and capital expense levels.

8.1.1.3.5.2 Market Demand/Utilization Growth The next step in the revenue projection process is to determine the most probable level of output that can be expected for the subject enterprise. Increases in output may be attributable to either an increase in the size of the market service area in which the goods or services are transacted or an increase in the enterprise's market share, that is, increased output can be the result of the "*pie*" getting bigger for everyone or it can be the result of the individual firm's "*slice of pie*" getting larger relative to the other enterprises within the market service area.

Projected increases in output volume due to growth in market share (i.e., *a larger slice of the pie*) should be based on an analysis of the enterprise's ability to compete within the market service area. For healthcare entities, growth in market share is typically achieved through either more successful use of the excess capacity (e.g., operating rooms or patient bedrooms) of the enterprise or through the expansion (either organically or through mergers and acquisitions) of the equipment/facilities and/or physician workforce used in the provision of medical services. A healthcare enterprise may also realize increased output volume if it is able to take advantage of a reduction in the level or types of services offered by a competitor. If the valuation analyst determines that as of the agreed-on valuation date for the valuation, it was *known or knowable* that the subject enterprise had the resource (both financial and managerial) and that the utilization demand for its services is sustainable, then the valuation analyst should consider including an appropriate increase in the anticipated production for the subject enterprise to reflect the expected increase in market share. This projection should be supportable by market research and should not be speculative. For example, the estimation of procedure volume for newly hired physicians may be less certain because of the lack of historical productivity patterns, in which case, the valuation analyst should consider benchmarking to industry norms. There are several sources of information available to the valuation analyst

BENCHMARKING TO INDUSTRY NORMS

A benchmarking technique that compares data from the entity to survey data from other entities within the same industry sector and subsector.

"Benchmarking: A General Reading for Management Practitioners," by Sik Wah Fong, Eddie W. L. Cheng, and Danny C. K. Ho, Management Decision *36, no. 6 (1998): 410.*

in determining the most likely output for a new physician, including the industry-indicated average output for physicians within the same specialty, the historical productivity of the existing physicians within the practice, the ratio of physicians to population for the new physician's specialty in the market service area, as compared with the ratio of physicians to population for the new physician's specialty nationally, and the economic, demographic, and physician specialty trends within the market service area.

As was noted earlier, increases in output growth can also be the result of increases in the size of the market service area. Changes, or anticipated changes, in the market service area population are the most useful metrics in determining the most probable growth rate of patients within the market service area. The valuation analyst should review the population trends within the market service area, as well as any anticipated demographic trends, to determine the most probable growth in procedure volume attributable to the increase in the size of the market service area. In addition, the analyst should consider only the particular demographic segment that is served by the specific enterprise or asset being valued. For example, the growth rate in the over-65 population within the market service area would not provide useful information relative to the anticipated growth in the market service area for pediatric services. Instead, the analyst should be more concerned with the expected growth in population under the age of 17, that is, the likely population to be served by pediatricians.

Several external factors may also impact the valuation analyst's expectations for growth in the market service area for a particular healthcare enterprise. Technological advancements may render some enterprises obsolete (or may compete directly with more traditional services), reducing the anticipated growth rate in output volume for the enterprise, regardless of the changes in the population. Also, the incidence and prevalence of the disorders served by the subject entity will affect the expected output volume for an enterprise. Changes in the demographic mix within the market service area may impact the incidence and prevalence of certain diseases, indicating a change to the expected output volume for the subject enterprise beyond simply population growth. The valuation analyst should carefully consider all factors that may affect his or her output volume projections. Simply relying on statistical measures, without a nuanced understanding of the local environment, will lead to erroneous projections and an inaccurate assessment of value.

A further consideration for the valuation analyst is the difference between long-term and short-term projections. Recent fluctuations in economic and demographic variables may indicate a short-term disequilibrium that will return to the long-run trend over time, or they may indicate a structural shift in the relationship, foreshadowing a long-term change in the

historical pattern. The valuation analyst should investigate the recent trends in population dynamics for the market service area to ensure that the output volume forecasts are sustainable, both in the short term and in the long term. Income-based methods project the economic benefits of ownership of a healthcare enterprise into perpetuity; output volume growth expectations that conform to short-term trends may be less tenable when considered over longer time frames, and adjustments to the selected long-term output volume growth rate may be warranted.

To review the methodology described earlier, the projection of output volume for a healthcare enterprise begins with determining the appropriate output measure to be used, given the specific interest being appraised and the availability of data and information. Once the valuation analyst has selected the output measure to be used, the next step is to analyze the two sources of changes in output volume: (1) changes in the size of the market service area, and (2) changes in the subject entity's market share. Growth in output volume will result from the combination of these two factors. The valuation consultant should include the explicit assumptions related to both of these factors underlying his or her output volume growth projections. A thorough review of external factors that may lead to deviations between the expected population growth rates and output volume growth rates should also be conducted, as well as a consideration of the likelihood of the persistence of the recent trends in comparison with the longer-term trends.

8.1.1.3.6 Reimbursement Output volume growth is only half of the revenue growth story. Reimbursement for the goods and services provided also impacts the revenue projections. As was noted previously, revenue is the product of quantity sold (*output volume*) and price (*reimbursement*). An analysis of the trends in reimbursement is therefore necessary to appropriately project revenue. Reimbursement trends will be sensitive to the specific procedure being performed or service being provided. It is advisable for the valuation analyst to consider reimbursement based on the particular procedure type appropriate to the particular interest being appraised and the available information (e.g., CPT coded procedures in a physician practice setting or DRG coded procedures for an inpatient hospital setting), to account for variations in the trends for each procedure type. For example, the reimbursement trends for a multispecialty physician practice might be disaggregated to the individual specialty level, and reimbursement trends by specialty may be projected.

Each reimbursement projection should be based on the valuation analyst's review of (1) the historical trends in reimbursement for the subject entity, (2) the economic trends within the market service area for the subject

entity, (3) the Medicare and third-party payor trends, and (4) the trends specific to the medical specialties provided by the subject enterprise.

8.1.1.3.6.1 Historical Trends A natural starting place for analyzing a particular healthcare enterprise or service's reimbursement trends is its recent historical performance. In the previous section, the first step in projecting output volume growth was the determination of an appropriate measure of output. This selected metric should then be used as the basis for projecting reimbursement, that is, the historical revenue for the subject enterprise should be scaled to the level of historical output. For example, historical revenue for a freestanding diagnostic imaging center could be reviewed on a per-procedure (or whichever output measure was selected) basis. As was stated earlier, revenue is the product of price and quantity; therefore, revenue divided by quantity equals price. This methodology provides the valuation analyst with information related to the historical reimbursement that is actually realized by the subject enterprise, for each procedure type. The valuation analyst can observe the historical trend in reimbursement for the subject enterprise by reviewing data from several years. The valuation analyst should consider the historical changes (e.g., the *percentage of change*) in reimbursement for the subject entity over as long a period as is practicable, given the data available. A three- to five-year look-back is generally considered desirable but may not be feasible, depending on the specific subject enterprise being considered.

8.1.1.3.6.2 Industry and Specialty Trends As was noted earlier, the forecasting of revenue should be grounded in the economic trends within the industry and specialty of the subject entity. The agency of the federal government tasked with managing federal expenditures on healthcare is the Centers for Medicare and Medicaid Services (CMS). CMS, as well as the many stakeholders in the healthcare industry, expend significant effort in determining the appropriate reimbursement rate to be paid to providers of medical services. The complexity of the reimbursement structure used by CMS is discussed in detail in Chapter 2, "Reimbursement Environment." The trend historically has been that private insurers' reimbursement rate changes will tend to correlate with changes in CMS reimbursement rates. Oftentimes, managed care contracts between providers and insurance companies will specifically indicate that reimbursement for procedures will be based on a stipulated percentage above the Medicare reimbursement rate for the same procedure. Therefore, the growth rates in reimbursement for both Medicare and private insurers will be similar, and the analyst can reasonably project the changes in reimbursement for *all payors* by projecting the expected growth in Medicare reimbursement. This greatly simplifies the task of reimbursement projection, as government agencies such as

CMS are held to a higher standard of transparency than traditional third-party payors, and therefore routinely make updated cost and reimbursement data available publicly. By analyzing this data, the valuation analyst can, at least for the short run, project revenue growth. If possible, the analyst should attempt to obtain specific information regarding the details of the managed care contracts that are in effect for the subject enterprise, to assess the likelihood that non-Medicare reimbursement trends might diverge significantly from the anticipated Medicare trends and to assess the probable magnitude of that divergence. The analyst should also be careful to include only data and information that would have been available "*as of*" the agreed-on analysis's valuation date. Data and information that would not have been available "*as of*" the valuation date should be strictly ignored to arrive at an expectation of value specific to the selected valuation date.

The valuation analyst can rely on the percentage of change in Medicare reimbursement for the specific mix of procedures performed by the subject entity as the basis for his or her short-run expectation regarding the growth in reimbursement from all payors. Long-run projections should instead be based on an assessment of the long-term historical trend in Medicare reimbursement (to the extent that the subject enterprise's reimbursement tracks Medicare reimbursement) for the mix of procedures performed by the subject entity. Short-run fluctuations in reimbursement should not be projected into the long term. It is likely that reimbursement growth rates tend to exhibit mean reverting behavior in the long run, that is, short-run shifts gradually dissipate, returning to their long-run trend rate. A smoothed historical trend provides the best indication of the expected path of future reimbursement for the subject entity beyond the first postacquisition year. The valuation analyst should project growth in reimbursement for the first postacquisition year at the anticipated change in Medicare reimbursement for the year following the valuation date, and for the postacquisition years beyond the first year the analyst should project reimbursement growth to gradually approach the long-term historical trend.

To summarize, the revenue projections are the result of two factors: procedure volumes and reimbursement. Revenue projection should proceed by independently assessing the analyst's expectations regarding each of these factors. Both procedure volume and reimbursement forecasts should be based on a fundamental analysis of the economic drivers affecting the subject entity. This analysis should include national, state, and local economic and demographic trends, industry-specific trends, and specialty-specific trends. All projections should be grounded in these economic fundamentals to avoid overly optimistic/pessimistic projections and to provide a reality check on the strictly quantitative methods.

8.1.1.4 Forecasting the Economic Cost Burden As stated above, the foundation of revenue generation lies with the economic input that underlies the productive process. While forecasting the changes in revenue, as described earlier, it is equally important to project the expenses related to the economic input necessary to generate the revenue, including both the (1) economic operating expenses and (2) economic capital costs. An example of the application of the economic operating cost burden method can be found online at http://www.wiley.com/go/healthcarevaluation.

8.1.1.4.1 Economic Operating Cost Burden There are two general types of operating expenses: (1) fixed expenses and (2) variable expenses. Fixed expenses are those expenses that do not vary with the productivity of the subject enterprise. These expenses are a fixed amount, regardless of the level of revenue the subject enterprise has produced. Variable expenses, conversely, are those expenses that will vary with the output of the subject enterprise. For example, a nuclear imaging procedure requires the use of a radioisotope. Therefore, the use of the radioisotope (or the expense related to the use of the isotope) is directly correlated with the number of nuclear imaging procedures performed (the revenue generated by the procedure), in other words, an increase in the volume of procedures performed will lead to an increase in the expected expense. A third type of expense would be a hybrid expense; these expenses have elements of both a fixed expense and a variable expense. An example might be rent expense, which would be fixed for a given level of output but may need to be increased to facilitate a greater level of output. The term of the projection period should be considered in determining whether an expense is a fixed expense or a variable expense. Over a long enough projection period, all expenses will become variable expenses.

8.1.1.4.1.1 Historical Expenses Often, the most accurate predictor of future performance is the performance in the immediate past. It is in the immediate past that the projection of the economic operating expense burden begins. Each expense of the subject enterprise needs to be properly identified and quantified (and possibly normalized) before being classified as either fixed or variable.

8.1.1.4.1.2 Fixed Expenses There can be many types of fixed expenses, but the most common are expenses that are contractually agreed on, such as a real estate or equipment lease agreement. Expenses such as these may be projected forward by simply assuming that the contract will be enforced and that the subject enterprise will pay the specific expense as outlined in the contract. The term of the contract must be a consideration, in that if the contract related to the fixed expense terminates prior to the end of the projection period, then the fixed expense will need to be projected separately for (1) the term of the contract, and (2) the projection period beyond the

term of the contract. This second period of the expense projection may be a simple continuation of the contract projection, or it may remain a fixed expense but incorporate an escalator such as expected inflation. It may also need to be normalized (i.e., the contracted expense was not needed or was above/below market value, etc.) and may even need to be reclassified as a variable expense during the latter period.

8.1.1.4.1.3 Variable Expenses Variable expenses are those expenses that are incurred during the productive process and can include such expenses as cost of goods sold and supplies. The greater the production (i.e., output) that the subject enterprise generates, the greater variable expenses that are incurred. There are two general methods of projecting these variable expenses forward:

1. Indexed directly to the growth in revenue; and
2. Indexed directly to the growth in procedure volume, with an additional inflation escalator included.

When indexed directly to revenue, it is implied that the inflation rate for the variable expense is exactly equal to the growth in reimbursement for the revenue of the subject enterprise. As was noted earlier, growth in reimbursement consists of (1) growth in procedure volume, and (2) growth in reimbursement yield. Since variable expenses, by definition, grow at the same growth rate as procedure volume, the difference between the revenue growth rate and the procedure volume growth rate must be the growth rate in reimbursement yield; therefore, using the revenue growth rate as the growth rate for variable expenses implicitly includes expected changes in reimbursement yield as the inflation factor for the expenses. It has the further impact of forcing the variable expense to remain at a constant percentage of revenue, which may or may not be desirable. In contrast, changes in variable expenses can be grown at the same rate as procedure volume and subsequently increases by a generalized inflation rate, to reflect the expected nominal price changes in the given expense. This method may be used to reflect the expectation that growth in reimbursement yield may not accurately reflect the expected growth in expenses. Depending on the projected growth rate in revenue, as compared with the expected growth rate in the expense, this technique may lead to a deterioration or an improvement in the projected margin for the subject enterprise.

8.1.1.4.1.4 Hybrid Expenses There are also expenses that exhibit characteristics of both fixed expenses and variable expenses. Expense related to employment is one example. There is not a one-to-one relationship between growth in revenue and growth in staff expenses. Employees can become more productive but earn the same salary. Similarly, their productivity may

remain the same, but they receive a cost of living increase to their salary. This would imply a fixed expense profile to staff expenses. However, growth in procedure volume may, in time, exceed the capacity of the current staff. At this point, additional staff will have to be added as the revenue grows. Similarly, some employees may be 1099 contractors who are paid on a per unit basis. This would imply a variable expense to staff expenses. A determination must be made as to the relative weighting of fixed versus variable for many expenses. Once made, the expenses may be projected forward using the combination of the growth profiles of fixed expenses and variable expenses based on these weightings.

8.1.1.4.2 Industry Benchmarks As has been noted previously, all analyst projections should be grounded in a basis of reality. The valuation analyst should compare the expense projections for the subject property to established industry benchmarks to ensure that the projections are conceivable for the subject property. For example, a valuation analyst should carefully consider projections that include operating margins that are significantly greater than those realized by suitable comparison companies and reported in industry expense surveys. While expectations of relatively large margins can be justified over the short run, the projection into perpetuity (as required by the *Discounted Net Cash Flow Methodology*) may be unreasonable. A valuation analyst should be skeptical of long-term divergences from industry norms. Benchmarking is discussed at more length in Section 8.3, "Risk Assessment."

8.1.1.4.3 Economic Capital Cost Projections In addition to the operating expenses necessary for the generation of the projected revenue, the valuation analyst must also project the *capital expense burden* that will be required to support the projected revenue stream of the subject enterprise. Capital includes the economic input used in the generation of the subject enterprise's revenue, but which is not consumed in the productive process. Examples include tangible personal property, equipment, and real property *owned* by the subject enterprise. The capital expense burden for *leased* property and equipment would be reflected in the lease expense related to these types of input and would be projected as part of the operational expenses.

8.1.1.4.3.1 Capital Expenditures All healthcare enterprises require some investment in physical capital to maintain their operation. This *investment* in physical capital represents the *economic capital expense burden* for the entity and is commonly referred to as *capital expenditures*. Capital expenditures represent cash outflow from the operations of the subject property and would otherwise be available to the owners of the subject property,

that is, before paying out profits to the owners, the entity may invest in new physical capital. As such, it represents a decrement, albeit necessary, to the economic benefit accruing to the owners of the subject property and must therefore be accounted for in the calculation of an indicated value, which, as noted in Chapter 7, "Basic Valuation Tenets," is based on the anticipated future benefits accruing to the owners of the subject enterprise. An example of the application of the economic capital cost projections can be found online at http://www.wiley.com/go/healthcarevaluation.

8.1.1.4.3.2 Sustainable Growth: Capital Expenditures and Depreciation[37] Depreciation, as it is commonly understood, is an accounting convention. Accounting depreciation of physical capital provides a tax shield benefit to the owners of the subject property, that is, taxable income is reduced according to the amount of accounting depreciation realized by the enterprise. Underlying this accounting convention is an important economic principle related to the physical depreciation of capital.

Physical capital, such as equipment and machinery, is consumed slowly during the productive process. Over time, physical capital will wear down and require maintenance or become obsolete and require replacement. The economic concept of depreciation includes that portion of an entity's physical capital that is consumed during a given period in the production of output (and thereby revenue). A portion of the capital expenditures of an enterprise therefore is the replacement and maintenance of the existing stock of physical capital. In the absence of efficiency gains from technological advancement, the subject entity will require an equivalent level of physical capital to produce revenue in the future as was used in the past. Therefore, the rate of economic depreciation of the physical capital will set a floor on the capital expenditures of the subject entity. The subject entity will need to, at the very least, replace that portion of the physical capital that has economically depreciated during a given period. This minimum level of capital expenditures can be called the *steady state* rate of capital expenditures (or investment), as it is the amount of investment necessary to maintain the *current* level of physical capital necessary to support the *current* level of revenue. No level of capital expenditures below the *steady state* rate can be sustained without a corresponding decline in revenue (or increase in the technical efficiency of the capital employed). If the valuation analyst is projecting revenue growth in the future, a rate in excess of the *steady state* rate

[37]The analysis in this section is adapted from macroeconomic growth theory, as expressed in Robert Solow's endogenous growth theory. See Robert M. Solow, "A Contribution to the Theory of Economic Growth," *The Quarterly Journal of Economics* 70, no. 1 (February 1956): 65–94.

would be necessary to *build up* the stock of physical capital to the level necessary to support those new, higher revenues.

The projection of capital expenditures in a valuation is often correlated with the growth in revenue without consideration of the effect on the stock of physical capital. The valuation analyst should compare the rate of economic depreciation (which may be approximated by accounting depreciation) to the rate of capital expenditures. If the rate of depreciation outpaces the rate of capital expenditures, then the stock of physical capital will be declining throughout the projection period. This can only be the case if (1) there exist increases in efficiency from technological advancement, or (2) the valuation analyst projects decreases in revenue. The random arrival of technological advancement defies prediction, and any claims to the nature and magnitude of efficiency gains from an unproven technology should be viewed skeptically by the valuation analyst. Otherwise, a decreasing stock of physical capital is only possible for an enterprising contracting in the type and/or amount of services provided (and therefore revenue).

If the valuation analyst (as often occurs) projects *real* growth in revenue, as opposed to *nominal* growth attributable to *inflationary factors*, then the projected rate of capital expenditures must exceed the anticipated rate of economic depreciation to provide the excess stock of physical capital to support the new revenue. The valuation analyst should be aware of the balancing act that is necessary to project a logically consistent rate of capital expenditures, in light of the anticipated economic depreciation of the subject enterprise's physical capital.

8.1.1.5 Pro-Forma Income Statements After the valuation analyst has completed the forecasting of the economic benefits and economic costs anticipated for the given enterprise, the next step in the valuation process is to apply these projections in the production of a pro-forma income statement for the enterprise, including distinct projections of revenue and operating expenses for each discrete period within the projection period, as well as a final projection for the terminal period. The revenue and operating expense projections calculated, as shown earlier, will be displayed along with the calculated *net income* (i.e., the difference between the revenue projection and the projected expenses) from which the subject enterprise's anticipated *cash flow* will be calculated.

8.1.1.5.1 Tax Affecting Income When valuing a pass-through entity, such as a partnership or an S-corporation, using an income approach–based method, valuation experts have asserted and recent academic research has supported that any variance in the tax benefit between C-corporations and

pass-through entities is reduced or eliminated.[38] Accordingly, under these circumstances, the income stream of the subject entity *should* be tax-affected using the corporate federal and state tax rates.

As set forth by tax court judge David Laro, within the text of *Business Valuation and Federal Taxes*:

a. *Some empirical studies of C and S corporation transactions in the marketplace* do not support the notion that S corporations are worth more than C corporations*; in fact, they point to the opposite conclusion. However, given the complexity of the corporate transaction structuring, not everyone agrees that this evidence is conclusive. [Emphasis added]*
b. *A 100 percent ownership interest in an S corporation* does not necessarily come with a bundle of rights and obligations attached to it any more than does a 100 percent ownership interest in a C corporation. *This is distinctly different than a minority interest in an S corporation or a C corporation. [Emphasis added]*
c. The controlling shareholder can mimic the favorable tax characteristics of an S corporation *(i.e., avoid the double-taxation disadvantage of C corporation dividends by paying additional salary). [Emphasis added]*
d. Buyers will not pay for an election that they can make themselves for free*, unless it has some value to them. Grabowski points out that in some instances, buyers will pay a premium for the possible benefits that come with an old-and-cold S corporation.*[39]

[38]The findings of the Mattson, Shannon, and Upton study indicate that the size of the transaction makes a difference in the deal structure, and, at the very least, it indicates that the enjoyment of the benefits of a §338(h)(10) election is not universal. Michael Mattson, Donald Shannon, and David Upton, "Empirical Research Concludes S Corporation Values the Same as C Corporations," *Business Valuation Library*, BVUpdate (November/December 2002). A study conducted by Vinso concluded that it becomes apparent that the appraiser should consider that C-corporation transactional data may produce the same or different results than S-corporation transaction data, but for wholly different reasons than the avoidance of the dividend tax. Joseph D. Vinso, "Distributions and Entity Form: Do They Make Any Difference in Value?" *Valuation Strategies* 7, no. 1 (2003): 12. A study by Phillips found that stock sales of S-corporations and C-corporations were priced similarly, and asset sales of S-corporations and C-corporations were priced similarly. John R. Phillips, "S-Corp or C-Corp? M&A Deal Prices Look Alike," *Business Valuation Library Update*, BVUpdate (March 2004).

[39]David Laro and Shannon P. Pratt, *Business Valuations and Federal Taxes*, 2nd ed. (Hoboken, NJ: John Wiley & Sons, 2011), pp. 109–110.

An old-and-cold S corporation is not subject to the built-in gains tax, as would be a C corporation for which a new S corporation election is made. If there is any chance that a sale of the business could occur during the next ten years, that difference is important. Further, no buyer of less-than-absolute controlling interest in a C corporation can make an S corporation election unilaterally; any such election requires unanimous election of all shareholders. If an investor buys controlling interest (albeit not 100 percent) of a C corporation, that investor cannot force an S corporation election upon the other shareholders. [Emphasis added]

e. S corporations logically make distributions of funds necessary to support taxes on corporate earnings. This is no different from a C corporation*; in either case, the money is gone and no longer available for corporate investment and growth. [Emphasis added]*
f. *If valuing a controlling interest, the experts generally agree that there may be* no difference in value between S corporations and C corporations. *Logically, the experts' consensus is* that C corporation valuation methods may be used for valuing controlling ownership interests in S corporations.[40] *[Emphasis added]*

However, in recent tax court opinions, the court has ruled that S corporation earnings should *not* be tax affected under certain facts and circumstances. The majority of these cases involved transactions of minority interests.[41] However, in one case, *Estate of William G. Adams, Jr. v. Commissioner*, the valuation was of a 61.59 percent *controlling interest*. Tax court judge David Laro, within the text of "*Business Valuation and Federal Taxes,*" summarizes the case as follows:

In Adams, involving a 61.59 percent controlling interest, the court followed the analysis in Gross, and emphasized the importance of matching the tax characteristics of the net cash flow and capitalization rates, either "before corporate tax or after corporate tax.[42] *[Emphasis added]*

---

[40] David Laro and Shannon P. Pratt, *Business Valuations and Federal Taxes*, 2nd ed. (Hoboken, NJ: John Wiley & Sons, 2011), pp. 108–109.

[41] For example: *Walter L. Gross, Jr. v. Commissioner*, T.C. Memo. 1999-254, aff'd. 272 F.3d333 (6th Cir. 2001); *Estate of John E. Wall v. Commissioner*, T.C. Memo. 2001-75; *Estate of Heck v. Commissioner*, T.C. Memo. 2002-34; *Dallas V. Commissioner*, T.C. Memo. 2006-212.

[42] David Laro and Shannon P. Pratt, *Business Valuations and Federal Taxes*, 2nd ed. (Hoboken, NJ: John Wiley & Sons, 2011), p. 103. Laro and Pratt cite *Estate of William G. Adams, Jr. v. Commissioner*, T.C. Memo. 2002-80 at 86.

> *It should be noted that the pool of likely willing buyers for the controlling interest in the S corporation would most likely have been individuals who would be able to continue the S corporation election.* If the pool of likely willing buyers had been large corporations who could not continue the S corporation election and would not pay for its benefits, that fact should have been developed in the case.[43] *[Emphasis added]*

Under the standard of *Fair Market Value*, the valuation analyst must consider the most probable universe of hypothetical purchasers for the subject property. If this pool of likely investors is significantly composed of taxable entities or, in the alternative, exempt entities that, in lieu of taxes, have a regulatory mandate to provide charitable services, then it would be reasonable for the valuation analyst to conclude that the earnings forecasted for the subject property would be subject to federal and state income taxes. In the event that the valuation analyst concludes that the subject entity's income should be tax affected, the analyst should ensure that the given tax rate for the particular geographic location within which the asset is located is used. In addition, the analyst should include any tax shield benefits (such as the deduction of depreciation expense) available to the subject property. An example of the application of pro-forma income statements can be found online at http://www.wiley.com/go/healthcarevaluation.

8.1.1.6 Projected Cash Flow After taxes affecting the income of the subject property, the valuation analyst should construct a projected statement of cash flow showing the projected net income (after taxes, if necessary) of the subject entity, as calculated earlier in this chapter, for each of the distinct projection periods, as well as the terminal period. This projected statement of cash flow will represent the expected net economic benefit available to the owners of the subject property in each period. The net income (after taxes, if applicable) will be adjusted to reflect the cash flow impact of (1) working capital requirements, (2) capital expenditures, (3) depreciation, and (4) changes in interest-bearing debt. An example of the application of the projected cash flow can be found online at http://www.wiley.com/go/healthcarevaluation.

8.1.1.6.1 Working Capital Requirements The valuation analyst must consider the working capital requirements for the subject enterprise. Any increases in working capital will be funded out of the entity's cash flow, and, therefore, to calculate the net cash flow available to the owners of the subject property, the valuation analyst must deduct from the subject

[43] David Laro and Shannon P. Pratt, *Business Valuations and Federal Taxes*, 2nd ed. (Hoboken, NJ: John Wiley & Sons, 2011), p. 103.

property's net income (after taxes, if applicable) any anticipated increases in working capital requirements for the subject enterprise. Alternatively, any decreases in working capital requirements will generate cash that will be available to the owners of the subject property, as profits, and should be added to the net income (after taxes, if applicable) of the subject property.

Note that in some instances, the scope of the valuation engagement may call for the *exclusion of certain working capital items*, for example, *cash* and/or *accounts receivable*. In this event, the valuation analyst could either remove its consideration from the calculation of historical working capital of the operations of the subject enterprise, which is used as a base in determining the increase/decrease in working capital investment for cash flow projections when performing a valuation analysis using an *Income Approach*–based valuation method, or the valuation analyst could subtract the economic value of the specified working capital items from the calculated value of the subject enterprise in its entirety, which would have been calculated based on the historical working capital without any exclusions. It should be noted that reducing the historical working capital creates an increase in the amount of working capital investment needed to fund operations of the subject enterprise in the future—resulting in a decrease in cash flow in the period that the increased working capital investment is made.

8.1.1.6.2 Capital Expenditures As discussed earlier, the analyst must project the anticipated capital expenditures necessary to support the projected revenue. These capital expenditures are financed from the existing cash flow of the subject property and would accrue to the owners of the enterprise had they not been expended in the maintenance of the existing capital and the investment in new physical capital. As such, these expected expenditures must be deducted from the net income (after taxes, if applicable) of the subject property to calculate the net economic benefit that is expected to accrue to the owners of the subject property.

8.1.1.6.3 Depreciation As was also noted earlier, based on the level of physical capital anticipated for the subject property, there is a corresponding level of depreciation (i.e., consumption of that physical capital in the production of revenue). This consumption reflects the capital cost burden to produce the revenue. Due to the fact that the capital expenditures already include the expense to maintain and replace the existing physical capital, the inclusion of the depreciation expense (which was deducted from income previously for tax purposes) would amount to double-counting the capital expense. Therefore, any depreciation amounts should be added back to the net income (after taxes, if applicable) of the subject entity in determining the anticipated net economic benefit accruing to the owners of the subject property in each period. An example of the application of economic capital cost projections can be found online at http://www.wiley.com/go/healthcarevaluation.

8.1.1.6.4 Changes in Interest-Bearing Debt For valuations with the aim of deriving the value of the total invested capital of the enterprise, changes (i.e., the addition of new debt and the deduction of repayment of debt principal) should not be considered. The cash flow capitalized to arrive at the value of total invested capital represents the cash flow accruing to all owners (debt and equity) of the enterprise and is therefore not affected by the particular mix of debt and equity within the firm. Alternatively, should the valuation analyst be seeking an indication of the equity value of the enterprise, a consideration of the changes in the level of debt held by the company is warranted. Repayments of principal on the outstanding debt of the enterprise should be deducted from the cash flow of the firm. In addition, the net income should be increased by the amount of any new debt issued during the period.

The schedule of projected cash flow, which will be discounted in calculating the final indication of value, should reflect the level of value the analyst is seeking with regard to the valuation assignment. Should the valuation analyst be seeking an indication of the value of the total invested capital in the subject enterprise (composed of both equity and debt holders), then the cash flow used should include those amounts that will accrue to the holders of both equity and debt (referred to as the "*debt free*" technique). This technique determines the cash flow that would accrue to the owners in the absence of debt, although the calculated weighted average cost of capital will reflect the tax benefits inherent in the utilization of debt. Therefore, the net economic benefit flowing to the owners of the subject asset should include interest expense, which is typically removed from operating income before the application of taxes. Also, because this method attempts to arrive at the cash flow available to *all* owners of the subject enterprise, the cash flow impacts of changes to the level of interest-bearing debt are excluded, because these changes represent only a reformulation of the relative use of debt and equity in the subject enterprise's capital structure and not a change in cash flow. The calculation of the net cash flow to total invested capital is summarized as follows:

Revenue	
Operating Expenses	(–)
Capital Expenditures	(–)
Depreciation	(+)
Changes in Working Capital	(+/–)
Cash Flow (Total Invested Capital)	

If, conversely, the analyst is seeking an indication of value to the equity holders of the subject enterprise, the analyst should adjust the cash flow to

reflect only those that would be available to the subject enterprise's equity holders. The cash flow to equity is calculated similarly to the cash flow to total invested capital, with the exception that the impact of the inclusion of debt in the capital structure, for example, *interest expense*, is included. Interest expense, which was excluded from the expenses in the free cash flow to total invested capital method, is included in the expenses to equity holders. The payments made to debt holders would not be available for distribution to the equity holders. Also, changes to the level of interest-bearing debt are included in the cash flow that could be available for distribution to equity holders or available for the subject enterprise to invest that cash flow in new equipment, in other words, a capital investment. Alternatively, the subject enterprise could finance the equipment purchases with debt capital, thereby increasing the amount of cash flow available for distribution to the equity holders. As the cash flow to equity is calculated by subtracting capital expenditures from operating income, if those capital expenditures were financed by debt, they would not be reflected in the cash flow calculation. Accordingly, the available cash flow to the equity holders should be adjusted to reflect the amount of increase in the level of interest-bearing debt infused into the capital structure. If, conversely, the subject enterprise were to decrease the level of interest-bearing debt in the capital structure, then the amount of the reduction in principle should be subtracted from the cash flow available for distribution to the equity holders of the subject enterprise. The following equation summarizes the calculation of the cash flow available to the equity holders of the subject enterprise:

Revenue	
Operating Expenses	(–)
Capital Expenditures	(–)
Depreciation	(+)
Interest Expense	(–)
Changes in Level of Interest Bearing Debt	(+/–)
Changes in Level of Working Capital	(+/–)
Cash Flow (Equity)	

8.1.1.7 The Discounted Net Cash Flow Method After the analyst has calculated the selected level of cash flow, projected for the discrete periods of the projection period, the analyst then discounts these types of cash flow to arrive at the present value equivalent of the anticipated cash flow as of the valuation date. See Chapter 9, "Costs and Sources of Capital," for a discussion of the calculation of the appropriate rate of discount for the cash flow of the subject property.

An example application of the discounted net cash flow method can be found online at http://www.wiley.com/go/healthcarevaluation.

8.1.1.7.1 The Discrete Projection Period Typically, a valuation analyst will discount future cash flow using the *mid-period discounting convention*. This mid-period discounting convention is applied by assuming that the anticipated cash flow will be received by the owners of the subject property evenly throughout each distinct period. The mid-period convention is applied by assuming that the cash flow arrives at the midpoint of the projection period. For example, a cash flow projected for the next year will be discounted as if the entirety of the cash flow were received in the middle of the year, that is, year 1's cash flow is discounted at 0.5 years, year 2's cash flow at 1.5 years, and so forth.

One exception to the use of the mid-period convention is the case of an enterprise with highly seasonal revenues, that is, revenue generation is concentrated in a specific period. In this case, where the cash flow is not assumed to be evenly disbursed over the course of the year, the cash flow should be discounted relative to its chronological proximity to the valuation date, which may represent any portion of the calendar year. For example, if the valuation date is January 1, and the most significant portion of the anticipated cash flow is anticipated to be received in September, the valuation analyst would discount the first year's cash flow at .75 years (equal to 9 months divided by 12 months in a year), the year 2 cash flow would be discounted at 1.75, and so forth, for each of the discrete projection periods. This selection of discounting periods more accurately reflects the timing, and therefore the value, of the expected cash flow and may have significant and material impact on the indication of value, depending on the magnitude of the cash flow being discounted.

The aggregate value of the discounted (using the mid-period convention, if appropriate) anticipated cash flow from each of the discrete future periods being projected represents the value on the valuation date of the future cash flow that is available for distribution to the owners of the subject property.

8.1.1.7.2 Terminal Period Calculation Assuming that the utility of the property is anticipated to extend beyond the final discrete period of the projection, the net free cash flow available to the owners during a "*terminal*" or "*residual*" period should be developed, representing the *benefits of ownership* that would accrue to the owners of the enterprise being valued beyond the final period of the discrete periods of the projection.

It is important for the valuator to consider various aspects of the enterprise being valued relating to what a *prospective purchaser* (in a hypothetical transaction required by the standard of *fair market value*) would be *willing to pay*, as "*incremental benefit*," for the economic benefit produced by the established, ongoing enterprise during any period subsequent to the

period necessary to create the *hypothetical startup* alternative. The benefit stream produced should be considered in concluding that the continuity of the enterprise as related to the terminal/residual value estimate is reasonable. In addition, such considerations may include (1) the expected sustainability of the revenue stream; (2) the expected increase in utilization demand, as well as market scope; and (3) the competitive environment.

The analyst should determine the appropriate cash flow that is anticipated to continue forward into perpetuity and that will be capitalized to arrive at the value of the most probable residual cash flow for the enterprise. The projection of the terminal period cash flow into perpetuity requires the valuation analyst to make certain adjustments to the final projected cash flow for the discrete projection period. Under the concept of the "*Gordon Growth Model*," the *net cash flow* from the final period of the projection is *"grown"* by a selected long-term growth rate.[44] This terminal cash flow is then *capitalized*, and the resulting indicated value is then *discounted back* to *present value* (using the appropriate risk-adjusted discount rate) at the valuation date to account for the value of all "*residual*" cash flow from the end of the discrete projection period and into perpetuity.

The sum of the various types of *Discounted Net Cash Flow* from the discrete projection period is then summed with the *discounted capitalized value of the terminal/residual period*, to calculate an estimate of the *value* of the enterprise, before application on any discounts and premiums, as discussed later.

Typically, the valuation analyst will make the assumption that capital expenditures will be equal to depreciation (i.e., the *steady state rate*) during the terminal period. If capital expenditure were projected to exceed depreciation throughout the terminal period into perpetuity, the subject property would have unbounded growth and would eventually consume the entire economy. Alternatively, if depreciation were in excess of capital expenditures, the entirety of the enterprise's physical capital would, over time, be consumed, and the enterprise would lack the necessary capital to support the projected cash flow. By equating the level of depreciation and capital expenditures, the size of the enterprise will, throughout the terminal period, remain at a constant level (*steady state*) equal to its size at the end of the projection period.

In addition, it is further assumed that the level of *interest-bearing debt* for the firm will remain constant throughout the projection period, that

[44] Robert Reilly and Robert Schweihs, *The Handbook of Advanced Business Valuation* (New York: McGraw-Hill, 2000), p. 480; the Gordon Growth Model is similar to the single period capitalization method described later.

is, *new debt* is added at a rate that just offsets the amount of *debt repaid* during the period. Therefore, the terminal period cash flow is equal to the net income (after taxes, if applicable) of the subject entity plus/minus the anticipated changes in working capital, as shown in the following equation:

Revenue	
Operating Expenses	(–)
Changes in Working Capital	(+/–)
Cash Flow (CF_n, adjusted)	

The valuation analyst will then subtract the long-term anticipated growth rate for the enterprise from the discount rate selected for the subject property.[45] The result is the *capitalization rate* that will be applied to the *terminal period cash flow* to arrive at the value of all future cash flow for the subject property, as of the *end of the projection period*. This amount must then be further discounted, using the mid-period discounting convention, back to the valuation date to arrive at its present value equivalent as of that date, that is, if the end of the discrete projection period is five years after the valuation date, the calculated terminal period cash flow must be discounted 4.5 years to arrive at the value as of the valuation date. The formula for calculating the terminal period cash flow is described next:

$$\text{TPCF} = \frac{CF_n(1+g)(1+R)^{0.5}}{(R-g)}$$

where: CF_n = the adjusted cash flow in the last discrete projection period
g = the long-term anticipated growth rate for the subject enterprise
R = the risk-adjusted discount rate
n = the number of discrete projection periods
TPCF = Terminal Period Cash Flow (as of the end of the discrete projection period)

An example of the application of a terminal period calculation can be found online at http://www.wiley.com/go/healthcarevaluation.

8.1.1.7.3 Final Indication of Value The valuation analyst's final indication of value (before application of the necessary discounts and premiums, as discussed in Section 8.4, "Discounts and Premiums") will equal the sum of the present value equivalent cash flow from each of the discrete periods of

[45] See Exhibit 7.2 in Chapter 7, "Basic Valuation Tenets," for the algebraic derivation of the capitalization formula.

the projection period added to the present value equivalent of the *terminal period cash flow* (before the application of the necessary discounts and premiums), as shown in the following equation:

$$\text{Final Indication of Value} = \frac{CF_1}{(1+R)^{0.5}} + \frac{CF_2}{(1+R)^{1.5}} + \cdots + \frac{CF_n}{(1+R)^{n-0.5}} + \frac{\text{TPCF}}{(1+R)^{n-0.5}}$$

where: CF_n = the expected cash flow in period n
R = the risk adjusted discount rate
TPCF = the calculated terminal period cash flow
n = the number of discrete projection periods

8.1.1.8 Single Period Capitalization Method The *Single Period Capitalization Method* estimates the value of the future expected economic benefit accruing to the owners of the property based on the economic benefit received from a single, *normalized* period. This method is most readily applied to property where long-term stability in the economic benefit flowing to the owners of the enterprise/asset is anticipated. If it can be assumed that the enterprise will generate the same economic benefit (or an economic benefit with a known stable growth rate) in perpetuity, then the property can be appraised by the application of a single calculation method, using (1) a normalized net economic benefit amount as a proxy for the future anticipated benefit stream into perpetuity, and (2) the risk-adjusted required rate of return, which may be expressed as a single risk-adjusted capitalization rate (see Exhibit 8.2).

The measure of economic benefit to be capitalized in this methodology is typically a cash flow measure, representing the available cash produced by the entity in excess of the operating and capital expenses. In effect, the *Single Period Capitalization Method* is a "shorthand" technique (as shown by the algebraic derivation of the Single Period Income Capitalization Method in Exhibit 8.2), which applies the discounting process to the stream of future economic benefits of ownership of the defined property interest being appraised in a condensed, single calculation, in contrast to the multi-period, multi-calculation process of the Discounted Cash Flow (DCF) method, discussed earlier.

Note that the particular cash flow to be capitalized will be dependent on the value indication the analyst is seeking. Since the single period cash flow method is a restricted form of the *discounted net cash flow method*, the cash flow should be calculated in the same manner as the cash flow for the terminal period of the *discounted net cash flow method*. (See Section 8.1.1.2, "Discounted Net Cash Flow Method," for further discussion on the calculation of cash flow to be discounted.)

EXHIBIT 8.2 Single Period Income Capitalization Method

SINGLE PERIOD INCOME CAPITALIZATION METHOD OF VALUATION
– ALGEBRAIC DERIVATION –

The basic "*Discounting Formula*" states that V_0 is the *Present Value* of the sum of all the earnings (E_n) that can be reasonably expected to be generated in the future, until period n, where n approaches infinity (∞), discounted at the rate of k.

$$V_0 = \sum_{n=1}^{\infty} \frac{E_n}{(1+k)^n} = \sum_{n=1}^{\infty} \frac{E_0(1+g)^n}{(1+k)^n}$$

where: V_0 = Present Value
E_n = Earnings for year n
k = Discount Rate
g = Growth Rate
n = Period n

The "*long-form*" of this expression is (see the following assumptions):

$$V_0 = \frac{E_1}{(1+k)} + \frac{E_2}{(1+k)^2} + \frac{E_3}{(1+k)^3} + \cdots + \frac{E_n}{(1+k)^n} \tag{1}$$

Which can be rewritten as:

$$V_0 = \frac{E_1}{(1+k)} + \frac{E_1(1+g)}{(1+k)^2} + \frac{E_1(1+g)^2}{(1+k)^3} + \cdots + \frac{E_1(1+g)^{n-1}}{(1+k)^n} \tag{2}$$

Multiplying both sides of Equation (2) by $\frac{(1+k)}{(1+g)}$ yields:

$$\frac{(1+k)}{(1+g)}V_0 = \frac{E_1(1+k)}{(1+k)(1+g)} + \frac{E_1(1+g)(1+k)}{(1+k)^2(1+g)} + \frac{E_1(1+k)(1+g)^2}{(1+k)^3(1+g)} + \cdots + \frac{E_1(1+k)(1+g)^{n-1}}{(1+k)^n(1+g)} \tag{3}$$

Simplifying Equation (3) by eliminating like terms, we arrive at:

$$\frac{(1+k)}{(1+g)}V_0 = \frac{E_1}{(1+g)} + \frac{E_1}{(1+k)} + \frac{E_1(1+g)}{(1+k)^2} + \frac{E_1(1+g)^2}{(1+k)^3} + \cdots + \frac{E_1(1+g)^{n-1}}{(1+k)^n} \tag{4}$$

Subtracting Equation (2) from Equation (4) yields:

$$\frac{(1+k)}{(1+g)}V_0 - V_0 = \frac{E_1}{(1+g)} \tag{5}$$

Multiplying both sides of Equation (5) by $(1 + g)$, yields:

$$\begin{aligned}(1+k)V_0 - (1+g)V_0 &= E_1\\ V_0 + kV_0 - V_0 - gV_0 &= E_1\\ kV_0 - gV_0 &= E_1\\ V_0(k-g) &= E_1\\ V_0 &= \frac{E_1}{(k-g)} \qquad (6)\end{aligned}$$

THEREFORE:

$$V_0 = \sum_{n=1}^{\infty} \frac{E_n}{(1+k)^n} = \frac{E_1}{(k-g)} \qquad (7)$$

ASSUMPTIONS:

1. g, k are constant
2. $k > g$ (if $k < g$, the V_0 will be infinitely large)
3. n approaches ∞

CONCLUSION:

The use of a *capitalization rate* (cap rate) within the *single period capitatlization method* (SPCM) of the *income approach* is a derivative of the income based *discounted net cash flow* (*DCF*) *method*. The SPCM places more restrictions on the underlying assumptions than the DCF, including the assumption of a *constant* growth rate in *perpetuity* for the *net economic benefit* accruing to the owners of the property. The *algebraic derivation* of the SPCM demonstrates that an earning stream, less growth at the rate of g, to infinity (∞) is reflected in V_0. This method, while perhaps convenient to employ (requiring only a single calculation) may be subject to challenge based upon its reliance on a single, constant rate of growth in perpetuity—a condition not often found within the healthcare industry given the volatile nature of the *Four Pillars of Health Care Valuation* (i.e., Regulatory, Reimbursement, Competition, and Technology).

To determine the indication of value (either equity or total invested capital) from this method, the analyst should then capitalize the calculated cash flow at an appropriate capitalization rate. The analyst can use the methods described in Chapter 9, "Costs and Sources of Capital," to determine the appropriate *discount rate* for the subject enterprise. This discount rate can then be translated into a capitalization rate by removing the expected long-term growth rate, that is, the *discount rate* less the *long-term growth rate* equals the capitalization rate.

The Single Period Capitalization rate is, in fact, only an application of the inverse Price to Earnings Multiple, as shown in the following proof.

Let: E = Earnings (Income, Cash Flow, etc.)
SPCR = Single Period Capitalization Rate

P = Price (Market Value)

$\frac{E}{P}$ = Price to Earnings Multiple

Proof:

1. $\frac{E}{SPCR} = P$ Single Period Capitalization Formula
2. $\frac{1}{E} \times \frac{E}{SPCR} = P \times \frac{1}{E}$ Multiply Both Sides of the Equation by $\frac{1}{E}$
3. $\frac{1}{SPCR} = \frac{P}{E}$ Cancel Like Terms
4. $SPCR = \frac{E}{P}$

The final indication of value, prior to the application of any discounts or premiums as discussed later, will then be calculated as:

$$\frac{\text{Single Period Cash Flow}}{\text{Capitalization Rate}}$$

It is often useful to explain the relationship between the single period capitalization method, which may be a less known concept to healthcare providers, as the inverse of a market multiple (i.e., price to revenue, as described in the next section, "Market Approaches"), with which they are more familiar. Hospital C-suite executives and physicians are typically aware of and understand the *P/E ratios* for the stock holdings in their personal portfolios and regularly track them from sources such as the *Wall Street Journal*. A *proof* demonstrating that the Single Period Capitalization Method is equivalent to a P/E multiplier with which the executives and physicians are more comfortable is shown in Exhibit 8.2.

As was noted, the *single period capitalization method* is best suited to enterprises with stable long-term cash flow and the expectation of a stable risk-adjusted required rate of return. The volatility experienced with regard to healthcare reimbursement, as well as the rapidly changing competitive markets and technological advances and the continual change in regulatory oversight, would tend to indicate an environment in which the single period capitalization method may not be valid. The valuation analyst should consider that the use of other methodologies may be less restrictive in relation expectations of stability. An example of the application of the single period capitalization method can be found online at http://www.wiley.com/go/healthcarevaluation.

8.1.2 Market Approaches

Market approach–based methods are premised on the foundation that actual transactions of similar entities provide guidance to value. The *efficient market hypothesis* posits that prices derived from well-functioning publicly traded markets are reflective of all pertinent information available to the participants in the market, that is, a price derived from market transactions represents the market consensus present value of the expected future economic benefit to be received from ownership of the asset by a typical investor.

In the absence of properly functioning markets, this becomes less true. For the market price to be indicative of the typical investor, the market participants must be free from coercion or undue pressure to consummate a transaction. Further, markets must have sufficient liquidity (i.e., there are relatively many buyers and sellers active in the market) to allow for the price determination process to unfold; also, a properly functioning market will allow sufficient time for buyers and sellers to locate one another and negotiate an acceptable price. There is also an assumption of a reasonable equivalence of knowledge between the buyer and the seller regarding the asset and the nature of the prospective transaction. To the extent that markets fail to achieve these criteria, the resulting market prices will be less informative and may fail to reflect the actual anticipated economic benefit accruing to the owners of the asset.

Market prices are empirical information, the validity and efficacy of which rely on the manner and quality of its recording, collection, and reporting. As was noted earlier, market efficiency implies that the market prices fairly reflect the consensus expected benefit of the typical purchaser of an asset. If, for a particular purchaser, the price is determined to be *too high*, this indicates that the expected benefit that *purchaser* expects to derive from an asset is less than the benefit expected to be derived by the *typical purchaser*, that is, the average market participant is capable of extracting greater utility from the asset than the particular purchaser in this example.

This price system directs the allocation of scarce assets to those who can produce the greatest amount of expected benefit, as they would be

MARKET APPROACH

A method premised on the foundation that actual transactions of entities similar to the subject entity provide an indication to its value.

willing to pay the greatest price for the asset. Market theory therefore suggests that prices derived from properly functioning markets are reflective of the anticipated economic benefit that would accrue to the typical owner of the asset. When there is a relatively efficient and unrestricted secondary market for comparable properties, and that market accurately represents the activities of a representative number of willing buyers and willing sellers, the market approach valuation methods using data directly from the market may provide the best evidence as to the value of the subject property.

Two commonly used market methods include (1) the Guideline Transaction/Merger and Acquisition Method, and (2) the guideline public company method. Both of these similar methods are described next.

8.1.2.1 Guideline Transaction/Merger and Acquisition Method When there is a relatively efficient and unrestricted secondary market for comparable properties, and that market accurately represents the activities of a representative number of willing buyers and willing sellers (i.e., *efficient markets*, as discussed earlier), the *market* may be most determinative of the value of the subject property. The *Principle of Substitution* (as discussed in Chapter 7, "Basic Valuation Tenets") states that the cost of an equally desirable substitute, or one of equal utility, tends to set the ceiling of value, In other words, it is the maximum that a knowledgeable buyer would be willing to pay for a property. Substitutes, while imperfect, must be used, since there are no two companies/practices that are exactly identical. Homogeneous (*the same in type, size, structure, quality, etc., i.e., similar; uniform*) companies and transactions should be researched to use as guidelines to value for the subject company.

PRINCIPLE OF SUBSTITUTION

The price of a desired substitute, or one of equal utility, sets the ceiling of value for a particular good or service.

The application of the Guideline Transaction/Merger and Acquisition Method is as follows:

1. Select the appropriate look-back period prior to the valuation date from which to select transactions (i.e., select a look-back period in which economic and industry conditions are similar to those at the valuation date);

2. Identify transactions in which the target company is similar to the subject enterprise (e.g., same specialty, services, etc.);
3. Obtain data regarding the transactions (e.g., transaction consideration/price, transaction terms, target practice's financial information, number of physicians, services provided, geographic location, interest in the target company acquired, etc.);
4. Select appropriate transactions to use in the methodology based on similarity to subject practice and sufficiency of data and information related to the transaction;
5. Adjust transaction price for noncash terms of the deal. Implicit in the definition of Fair Market Value is "payment is made in cash or its equivalent." Therefore, if any of the transaction consideration in the guideline transactions was paid in company stock, management or consulting agreements, earnouts and/or notes, the transaction price may require an adjustment to reflect cash value;
6. Calculate appropriate valuation ratios. The valuator must determine whether the ratios derive an equity level of value (e.g., Price/EBT or Price/Earnings) or an invested capital/asset level of value (e.g., MVIC/Revenue or MVIC/EBITDA);
7. Analyze the data for several statistical measures of central tendency, for example, mean, median, high, low, upper quartile, and lower quartile. The valuator may also consider the relationship of the ratios to other characteristics of the target companies (e.g., perform a regression analysis between the MVIC/Revenue ratio and the target companies' profitability);
8. Choose the appropriate ratio to apply to the subject enterprise's proper benefit stream (e.g., multiply the subject practice's net revenue to the chosen MVIC/Revenue ratio);
9. Decide the appropriate weight of consideration to be given to each valuation technique, if multiple techniques are used (e.g., MVIC/Revenue and MVIC/EBITDA). The valuator should consider the nature of the universe of typical purchasers of enterprises similar to the subject enterprise, that is, are potential investors or hypothetical acquirers of the subject practice most likely be "*horizontal consolidators*" (i.e., companies whose motivations are to increase revenue within currently offered product lines and would affect their own expense structure to the acquired revenue stream) or "*vertical integrators*" (i.e., companies whose motivations are to add new product lines that are not currently offered);
10. Adjust for any assets or liabilities included or excluded in the subject practice valuation but included/excluded in the guideline transactions; and

11. Apply any premiums and/or discounts (see below), if appropriate, to reach the level of value as set forth in the valuation engagement.

Gathering data on comparable transactions has historically been problematic, due to the limited reporting of information, inaccuracies, and inconsistencies in the transactional data submitted, and an insufficient level of detail regarding the characteristics of assets in the transactions reported, which limits the ability to test their homogeneity or comparability to the subject enterprise.

However, there are a growing number of resources for transactional data, with several focused on the various sectors of the healthcare industry, including those in Exhibit 8.3. However, the number of recent reported professional practice transactions with specific enough information as to deal terms, that is, price to earnings, price to revenue, payor mix, and so on, presents an ongoing challenge, as there are fewer publicly traded companies involved in these transactions reporting useful information available to the valuation analyst. The following describes the principles and practical details related to the use of market data in market valuation methods.

The process and technique for identifying direct market comparable transactions to consider in applying the Guideline Transaction/Merger and Acquisition Method is displayed in Exhibit 8.3.

8.1.2.1.1 Restrictions of the Guideline Transaction/Merger and Acquisition Method When guideline companies are not fully identical to the subject entity, the appraiser can use a technique of "*abstraction*," that is, adjustments to make the comparison possible. This technique involves identifying the chief features, factors, and amenities of similar companies from the database of completed transactions and then determining the extent to which the differences affect the prices of the guideline transactions. Points of comparison that may be used to make quantitative adjustments to the market transactional data include the:

1. Date of each transaction;
2. Assets tangible/intangible that each company owns/uses;
3. Location and market scope of each company;
4. Age and life cycle (business cycle) of each company;
5. Financial and management condition of the company at the time of sale;
6. Regulatory environment imposed on each company; and
7. Special financing or other terms regarding each transaction.

Once a set of transactions has been identified and their financial ratios calculated, there may appear to be "*outliers*" that have transaction ratios

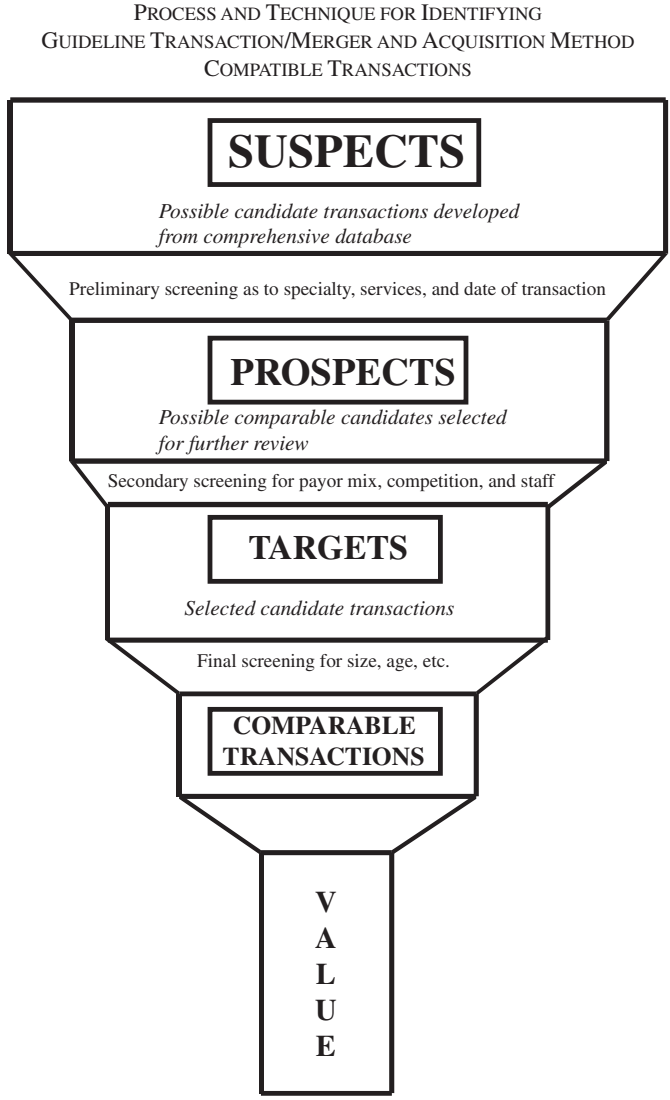


EXHIBIT 8.3 Process Flow Model for Guideline Transaction/Merger and Acquisition Method

(e.g., price to revenue, price to earnings, etc.) varying significantly from the norm, as illustrated in Exhibit 8.4. These outliers are often removed from consideration as potentially misrepresentative transactions. However, transactions should be selected for analysis based on comparability to the subject entity, not on how close their transaction ratios are to the norm.

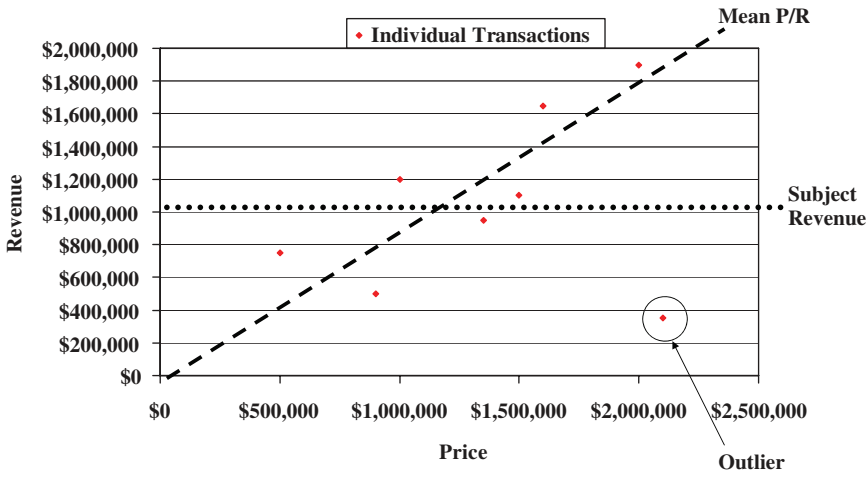


EXHIBIT 8.4 Hypothetical Transaction Scatterplot

Many causes for outliers may warrant exclusion. Characteristics of medical practices that should be examined for comparability include:

1. Payor mix;
2. Staffing depth and quality;
3. Service mix—type of services rendered;
4. Nature and sustainability;
5. Site of service (hospital, nursing home, office, etc.);
6. Geographical location/proximity to hospital;
7. Status of practice with value-based purchasing/episodes of care initiative (e.g., *medical home* and *accountable care organizations*);
8. Competition;
9. Call coverage;
10. Development of new treatment protocols;
11. Covenants not to compete;
12. Office system and management sophistication;
13. Years in practice;
14. Growth trend/potential;
15. Profitability;
16. Patient age mix;
17. Collections/accounts receivable;
18. Doctor to patient ratio for catchment area;

19. Ease of entry (e.g., Certificate of Need restrictions) and local/regional regulatory environment (e.g., corporate practice of medicine and scope of practice); and
20. Extent of technology adoption (e.g., electronic medical records).

Only after a thorough evaluation of the comparability of market transactions should outliers be excluded, and the basis of their exclusion needs to be explained to avoid the appearance that transactions were "*cherry picked*," resulting in bias.

In addition, the use of a limited database of transactions may be misleading if it is not statistically representative of the overall market. The valuation analyst may still perform the analysis, due to the limited sample size of the transactions reported or available to the researcher, but, in general, the smaller the sample size of the included transactions, the less certain the calculated result.

Another potential limitation of the Guideline Transaction/Merger and Acquisition Method is that it may be difficult to determine the degree of comparability necessary to assure that the financial ratios derived from the transactions examined are predictive of value for the subject entity. For example, reported transactions for companies under the same Standard Industrial Classification (SIC) code may not be homogenous for medical practices, which share SIC 8011 with ambulatory surgical centers (ASCs), with which they are certainly not comparable. Primary care practices, specialty surgical practices, and ASCs have all historically traded at different transaction ratios.

The valuation analyst should also be aware that unreported transactions may be driving the perception of value within a specific industry or market. Within a specific industry or market, it is not unusual for buyers and sellers to rely on so-called *rules of thumb*, which arise from their purported knowledge of unreported transactions and which speculative indications of value lie somewhere between a *SWAG* (*Scientific Wild A** Guess*) *Method* and a shot in the dark. In considering the selection and application of the Guideline Transaction/Merger and Acquisition Method, perhaps the most applicable axiom to keep in mind is that "*The plural of anecdote is not data.*"

While market approach–based methods, such as the Guideline Transaction/Merger and Acquisition Method are conceptually desirable, there may be significant impediments to their use in enterprises. As stated by Dr. Shannon Pratt,

> *The opportunities to go awry in the implementation of the market approach are legion. Sometimes the toughest ones to spot are the errors of omission, such as failure to consider the full population of potentially useful guideline companies, failure to make certain adjustments, or failure to use all of the best data available to support*

> *certain adjustments, such as reasonable compensation, or a discount for lack of marketability. Some of the most common errors are:… failure to analyze and adjust guideline company data;…applying multiples to inconsistently defined data;…failure to account for excess or deficient cash;…using an "asset plus" rule when a company's returns are not adequate to support the assets employed;… not applying proper discounts and premiums or not adequately supporting the amounts of the discounts or premiums applied.*[46]

An example of the application of a guideline transaction, the merger and acquisition method, can be found online at http://www.wiley.com/go/healthcarevaluation.

8.1.2.1.2 Guideline Public Company Method The Guideline Public Company Method is based on the theory that an indication of value of the subject entity can be derived through the valuation multiples of the freely traded, minority interest–registered shares of publicly traded companies. This method assumes that pricing relationships, based on past measurements of these selected transactional ratios of comparable minority equity shares in healthcare entities, can provide useful and relevant indications of investor expectations and, accordingly, useful indications of value for the subject entity, even though the subject entity may be privately held.

The application of the guideline public company method is as follows:

1. Identify a set of guidelines for publicly traded companies that is sufficiently similar to the subject entity to be useful in this analysis;
2. Calculate the Market Value of Invested Capital (MVIC) for each of the publicly traded companies (MVIC equals the market value of common and preferred equity outstanding plus the value of short-term and long-term debt outstanding);
3. Calculate the appropriate ratios for each of the publicly traded comparable companies (e.g., "*MVIC/Revenue*" or "*MVIC/EBITDA*");
4. Adjust ratios for differences in transactions and companies involved (see following equation); and
5. Apply ratios to the appropriate measure of benefit of the subject entity.

An example of the application of the guideline public company method can be found online at http://www.wiley.com/go/healthcarevaluation.

Smaller companies often have more business and financial risk than larger companies do and tend to have lower pricing multiples than larger

[46] Shannon Pratt, *The Market Approach to Valuing Businesses*, 2nd ed. (Hoboken, NJ: John Wiley & Sons, 2006), p. 273.

companies.[47] Therefore, using the above equations (i.e., "*MVIC/Revenue*" and "*MVIC/EBITDA*"), as well as data from larger publicly traded companies, to derive pricing multiples can distort the indications of value of smaller companies (if not appropriately adjusted) when these multiples are used (multiplied by the subject enterprise's appropriate economic benefit stream) to develop indications of value of the subject practice. When necessary, the valuation multiples may be adjusted to reflect size disparities that may exist between the subject enterprise and the comparable publicly traded companies.

One of the size adjustment techniques that may be used involves the measurement of differences in the historical equity returns of smaller companies as compared to larger companies (measured by market value of equity) from data compiled and reported by credible sources (for example, the *Stocks, Bonds, Bills and Inflation Yearbook, Valuation Edition* [*SBBI*]). The following equations may be used to adjust both the "*MVIC/Revenue*" and "*MVIC/EBITDA*" multiples to reflect size disparities previously discussed:[48]

$$\text{Adjusted}\frac{\text{MVIC}}{\text{Revenue}}\text{Multiple} = \frac{1}{\frac{1}{\text{UnadjustedMultiple}}}\text{VariantFactor}\left(\%\frac{\text{Equity}}{\text{MVIC}}\right)\times\text{SizePremium}$$

$$\text{Adjusted}\frac{\text{MVIC}}{\text{EBITDA}}\text{Multiple} = \frac{1}{\frac{1}{\text{UnadjustedMultiple}}+\left(\%\frac{\text{Equity}}{\text{MVIC}}\right)\times\text{SizePremium}}$$

where: Unadjusted Multiple = Multiple derived from guideline public company data

$\%\frac{\text{Equity}}{\text{MVIC}}$ = Market Value of Equity of the guideline public company divided by Market Value of Total Invested Capital of the guideline public company

[47] James R. Hitchner, *Financial Valuation, Applications and Models*, 2nd ed. (Hoboken, NJ: John Wiley & Sons, 2006), p. 311.

[48] Ibid., pp. 310–315; and "Adjusting Multiples from Guideline Public Companies," Teleconference Presentation, August 31, 2006, Business Valuation Resources, LLC, 2006, Exhibit 8.

Size Premium = Difference between the arithmetic mean of returns of the guideline public company size decile compared to the subject enterprise size decile as reported by "*Morningstar*"

Variant Factor = Net Revenue of the guideline public company divided by EBITDA of the guideline public company

An example of an application of the guideline public company method can be found online at http://www.wiley.com/go/healthcarevaluation.

Several measures of central tendency, that is, mean, median, high, low, and the upper and lower quartiles, may be calculated and used to analyze the generated adjusted multiples in order to determine the optimal means of comparing the publicly traded market transactions of the guideline companies' shares to a hypothetical transaction involving the subject enterprise. Multiple other considerations may factor into this analysis, such as (1) a comparison of the subject enterprise's operations to those of the guideline public companies; (2) the stability of the physicians and providers of the subject enterprise; (3) the practice infrastructure and dynamic (e.g., as a department within a larger practice or a "*stand-alone*" entity, as well as any other arrangements, affiliations, or contracts); and (4) risk related to the probability of achieving management's projections used by this valuation.

The guideline public company method will also suffer from similar drawbacks as the Guideline Transaction/Merger and Acquisition Method, for example, the lack of a sufficient number of comparable guideline companies and the difficulty in determining the existence of possible outliers within the data set.

Also, there is a growing school of thought within the valuation community that the use of indicators from publicly traded stocks may not be reflective of the market for *closely held enterprises*, such as physician practices, outpatient centers, and other closely held healthcare enterprises, which may have unique drivers underlying their capital markets. Rob Slee, a well-known proponent of this concept and the author of *Private Capital Market*, has stated,

> *Private Companies, particularly those with annual sales of $5 million to $350 million, have unique capital market needs.... The private capital markets are a complex interacting network of discrete exchanges rather than a unified structure. They differ greatly from the unified structure of public markets. For example, institutionalization in the public markets is developed more than in the private markets. In the public market, the players are licenses, highly regulated, and larger in size, and they tend to offer a wide*

> *range of financial services. In the private market, there is a host of smaller transfer players who provide discrete services. While these services are largely unregulated, the Securities and Exchange Commission and various state authorities provide some regulation.*[49]

This evolving attention to distinction between public transactions and private transactions is reflected in the work Professor John K. Paglia at the Center for Applied Research at Pepperdine University's Graziadio School of Business, which provides an Annual Capital Market Report that

> *tracks the private cost of capital and benchmarks, both the current climate and projected outlook, across multiple market segments for lending, investing and acquiring capital.*[50]

In the healthcare industry this concept may not be as large a concern, due to the tendency of companies and the investors who invest in them to traverse back and forth from privately held to publicly traded, such as HCA Healthcare. In selecting which market approach–based methods to employ (if any), the valuation analyst should balance consideration of the sufficiency, validity, and efficacy of the available transactional data reported, as well as the applicability of such indications of value as may be determined to arise out of observations from such distinct sources as historical transactional data of privately held companies and historical transactions of minority equity interests in publicly traded companies.

8.1.3 Asset/Cost Approach-Based Methods

Asset/cost approach–based methods seek an indication of value by determining the cost of reproducing or replacing an asset. This approach is sometimes used in healthcare appraisal when the entity has little or no net economic benefit stream to be valued and/or in a circumstance where the entity is not being considered the basis of a *going concern*. It is often also used for the valuation of healthcare intangible assets, where there may be significant regulatory risk related to anti-kickback and Stark statutes in employing an income approach–based method.

---

[49] Robert T. Slee, *Private Capital Markets: the Valuation, Capitalization, and Transfer of Private Business Interests* (Hoboken, NJ: John Wiley and Sons, 2011), p. xix.

[50] Dr. John K. Paglia, Denney Academic Chair and Associate Professor of Finance, "2013 Capital Markets Report: Pepperdine Private Capital markets Project," Graziadio School of Business and Management, Pepperdine University, 2013.

ASSET/COST-BASED APPROACH

A method seeking an indication of value by determining the cost of reproducing or replacing an asset, commonly used when the entity has little value beyond the tangible assets or in the event that the entity is not a going concern.

There are several methods that may be used under the asset/cost–based approach, including (1) Adjusted Net Asset Method, (2) Liquidation Value Method, and (3) Excess Earnings Method.

8.1.3.1 Adjusted Net Asset Method The *adjusted net asset value method*, also known as the *asset accumulation method*, estimates the value of the total *invested capital* of an enterprise by identifying, distinguishing, disaggregating, and summing the Fair Market Value of both *tangible* and *intangible* component assets. Once the assets to be included in the transaction have been identified, the valuation analyst must separately and distinctly value each. For example, a typical physician transaction may include *tangible personal property* (e.g., furniture, fixtures, and equipment), real property (e.g., buildings), and intangible assets (e.g., procedures and protocols, trained and assembled physician and nonphysician workforces, and custody rights to patient medical records). It is the responsibility of the valuation analyst to clearly identify those assets, both tangible and intangible, that will be included in the transaction and subject to valuation. The final opinion of value issued by the analyst will be the summation of the value of each of the individually and distinctly identified and appraised tangible and intangible assets. For a further discussion of the appraisal various tangible and intangible assets of healthcare enterprises, see Chapter 14, "The Valuation of Tangible and Intangible Assets."

ADJUSTED NET ASSET METHOD

A method that estimates the value of the total invested capital of an entity by determining the sum of the fair market value of each of its discrete assets.

8.1.3.2 Liquidation Value Method *Liquidation value methods*, either by orderly or forced disposition, estimate the value of an enterprise by determining the present value of the net proceeds from liquidating the company's assets and paying off liabilities. The "*orderly*" method is used to describe a situation in which the sell-off process is conducted in an organized and systematic fashion within a reasonable time horizon directed by the seller. In this scenario, a lesser degree of urgency exists, in contrast to *the* "*forced*" *method*, where the seller no longer is in a position that affords him or her the opportunity to proceed at the seller's own discretion toward liquidation, with (all, or the majority of) the assets being sold at approximately the same time in at the same relatively quick time period—often at auction. Generally, the *orderly liquidation value* method will yield a value greater than the value that may be determined under the *forced liquidation value method*.

LIQUIDATION VALUE METHOD

A method that estimates the value of an entity by determining the present value of the net proceeds from liquidating the company's assets and paying off liabilities.

8.1.3.3 Excess Earnings Method The excess earnings method, also called the "Treasury Method" or the "*IRS Formula Method*," based on Revenue Ruling 68–609, does not neatly fit into any of the three approaches. This method is considered by many valuators to be a "hybrid" method, combining elements of the asset/cost approach with elements of income approach methods.

This method first values the intangible assets of the subject entity using a residual technique, whereby a portion of the benefit stream (e.g., net free cash flow or net income) is, first, attributed to a return on net tangible assets using a market-derived cost of capital for similar tangible assets; second,

EXCESS EARNINGS METHOD

A "hybrid" method, combining elements of the asset/cost based approach with elements of income approach methods, establishing the value of an entity's tangible and intangible assets, arriving at an estimate of the overall asset value for the subject entity as a going concern.

an appropriate portion of the benefit stream is attributed to the fair market value of the replacement cost of services provided by the owner as "owner compensation"; and finally, the dollar amount of the benefit that remains after the deduction of these two amounts (the "residual") is then presumed to be attributable to the intangible assets. This amount of the benefit stream, which has been determined to be attributable to the intangible assets of the subject entity, is then capitalized using a risk-adjusted equity rate of return, and the resulting indicated value of the intangible assets is then combined with (added to) the value of the tangible assets of the subject entity to arrive at an estimate of the overall asset value for the subject entity as a going concern. An example of the application of the excess earnings method can be found online at http://www.wiley.com/go/healthcarevaluation.

8.2 ALTERNATIVE VALUATION TECHNIQUES

At times, due to the nature of the asset or service being valued, the valuation analyst may need to rely on *alternative techniques*, which do not neatly fit into any of the above approaches, to arrive at a value indication. As noted in Chapter 7, "Basic Valuation Tenets," the fundamental analytical technique common to all valuation is the determination and capitalization of the expected future benefit to be gained from the ownership of the property being valued. The application of this fundamental strategy remains effective even in the event the analyst relies on an *alternative valuation technique*. The following list of techniques is not intended to be exhaustive; instead, it is meant to represent a class of techniques that do not fit neatly into any single approach classification. The analyst should be prepared to be confronted with seemingly esoteric or exotic assets (or business relationships) whose valuation requires innovative techniques. The competent valuation analyst need not avoid combining valuation approaches, methods, and techniques as necessary to complete the valuation, so long as they can remain true to the fundamental economic concepts expressed in Chapter 7, "Basic Valuation Tenets."

8.2.1 Certainty Equivalent Valuation

One alternative valuation technique that can be used by the valuation analyst is the concept of Certainty Equivalent Valuation (CEV). As has been noted previously, the future is uncertain. Valuation is concerned with projecting the most probable economic benefit that will accrue to the owners of an asset. There exists any number of possible outcomes related to the economic benefit that is *actually realized* from owning an asset. More traditional valuation approaches deal with these uncertain outcomes by

CERTAINTY EQUIVALENT VALUATION

Establishes the smallest certain cash flow an entity would be willing to exchange for a cash flow with risk.

Valuation Using the Certainty Equivalent Approach, *Simon Frasier University, http://www.sfu.ca/~awv/413/413l5.pdf (accessed December 5, 2012).*

forecasting the most probable outcome and discounting that outcome by a risk-adjusted required rate of return, often a discount rate, which reflects that the more uncertain the outcome, the greater the perception of risk and the greater the discounting. This concept is developed in detail in Chapter 9, "Costs and Sources of Capital."

An alternative strategy that may be employed in developing an indication of value is to assign a probability to each possible outcome, with the condition that the probabilities must sum to one. This restriction implies that one of the events must occur and no other event not included in the set is allowed to occur. The measure of economic benefit for each outcome is then multiplied by its corresponding probability. The probability-weighted economic benefits of all of the possible outcomes are then summed to determine the most probable expected economic benefit. To arrive at the value on a specific date, the most probable expected economic benefit must be discounted back from the date of the outcome to the valuation date. Due to the fact that all of the uncertainty involved in the possible outcomes has been accounted for in the probability weighting, the analyst need only discount the cash flow by the appropriate risk-free rate. The value indication derived after the discounting of the most probable expected benefit would represent the *actuarially fair* value of the asset, that is, the investor would be indifferent between purchasing the asset at the calculated price and investing the same amount in a risk-free asset.

One limitation of the CEV is that it may not be possible to support and document the basis upon which the valuator has assigned the probabilities to each possible outcome. Also, the number of possible outcomes may be too numerous or the assignment of particular probabilities may lack sufficient empirical support as a valid foundation for their selection. While the logic underlying CEV can apply to any situation, it is the practical application of the CEV concept that leads to difficulties. CEV should only be used in a situation where the analyst has (1) a clearly defined set of possible outcomes, (2) a sound methodology for assigning probabilities to the possible outcomes, (3) reliable information related to the measurement of the economic benefit that results from each possible outcome, and (4) the possible

outcomes are discrete, mutually exclusive events. An example of the application of the certainty equivalent valuation to value a covenant not to compete can be found online at http://www.wiley.com/go/healthcarevaluation.

8.2.2 Monte Carlo Simulation Analysis

A closely related technique to the CEV is Monte Carlo Simulation Analysis (MCSA). Monte Carlo simulations are similar to the CEV method, in that they attempt to determine the likelihood of possible outcomes. MCSA harnesses the ability of computers to quickly complete repetitive tasks. The basic structure of an MCSA model is to randomly determine, in an informed manner, those factors that affect the economic benefit accruing to the owners of an asset. Then, from those randomly determined factors, the analyst determines the economic benefit that would accrue. This process is repeated a large amount of times (typically, 100,000 or more), with each iteration having the underlying factors driving the value of the economic benefit randomly calculated. After completing the iterations, the analyst then averages the value of the calculated economic benefits, which represent the most probable economic benefit that the owner of the asset would expect. Then, similar to the CEV technique, the analyst would discount the expected benefit back to the valuation date, using the appropriate risk-free rate. Unlike the CEV method, instead of determining the economic benefit associated with each possible outcome, the analyst must determine the appropriate probability distributions to apply to the underlying factors that drive the economic benefit realized from the ownership of the asset. The selected probability distribution (e.g., normal, uniform, t-student, etc.) will shape the values of the randomly selected underlying factors that affect the economic benefit that accrues to the owner of an asset. Care should be given to the selection to ensure that it conforms to the reality of the process that determines the possible outcomes.

As an example, consider revenue from a healthcare entity, which as discussed earlier is most often the product of output and reimbursement per unit

MONTE CARLO SIMULATION ANALYSIS

A simulation used for sampling random outcomes of a stochastic process, such as a stock price.

Options, Futures, and Other Derivatives*, 7th ed., by John C. Hull (Upper Saddle River, NJ: Pearson Prentice Hall, 2009), p. 267.*

of output. These can be considered the underlying random factors that drive revenue. Therefore, to apply an MCSA technique to revenue projection, the analyst would assume a probability distribution for both the procedure volume and the reimbursement. One such selection could be to assume that both variables are *log normally distributed*, that is, that the percentage of change in the variables is normally distributed with a mean equal to the long-run trend and variance equal to the historically observed variance. The analyst would then select (more precisely, the computer program used for the MCSA would select) randomly a value for the growth rates in output and reimbursement from a population with mean/variance parameters as defined above. A single iteration would then be the last period reimbursement increased by the randomly selected growth rate times the last period output increased by the randomly selected growth rate for the output. This process would be repeated X times (where X is a sufficiently large number). The result would be X possible revenue outcomes, the average of which would be the most probable (given the distributional assumptions above) revenue. A similar process could be undertaken to project X possible economic expense burdens necessary to support the X different revenue amounts already calculated. The analyst could then calculate the difference between these two projections as the residual income that would accrue to the owner of the asset. This residual amount could then be averaged and discounted to arrive at the value, as of the valuation date, of the right to ownership of the asset.

MCSA is limited by the amount of historical data available to parameterize the underlying random factors affecting value. With a small data set, the variability of the underlying random factors may be too large to provide an expectation without a wide margin for error, and it may be more appropriate to use an analytical method, such as those described earlier. Another limitation to MCSA is the necessity to assign a particular probability distribution to the underlying factors. This requires making assumptions regarding the nature of the data-generating process that produces each of the random underlying factors. The analyst should be careful to select a

Factoid

The Monte Carlo Simulation was coined by John von Neumann, Stanislaw Ulam, and Nicholas Metropolis and was named after a casino in Las Vegas, Nevada, where Ulam's uncle would often gamble.

"The Beginning of the Monte Carlo Method," by N. Metropolis, Las Alamos Science*, Special Issue, 1987, p. 127.*

distribution that is sensible for the given underlying variable. For example, a normally distributed random variable can (with a nonzero probability) take on any value, from negative infinity to positive infinity. Reimbursement, conversely, cannot be below zero (and in all practical applications cannot be zero). Therefore, assigning a normal distribution to reimbursement would be inappropriate, so an alternative (such as the log normal distribution assumed earlier) should be selected. The last limitation of MCSA is that it requires a significant level of programming ability to properly apply the methodology. Some user-friendly additions to familiar software packages (such as the Crystal Ball add-in for Microsoft Excel) have been developed, but caution is advised in using *black-box* programs without understanding the particular limitations of the software utilized. Inadvertent errors may occur if the output from these programs is not sufficiently understood by the valuation analyst.

8.2.3 Economic Value-Added Analysis

Economic value-added analysis is a useful tool for developing executive compensation structures, particularly bonuses. It is premised on the belief that the compensation received by an executive should be scaled to the magnitude of the increase in economic value he or she provides. It is similar to the *excess earnings method* described earlier. The analysis is performed at the beginning of the compensation period (e.g., the beginning of the calendar year) by the analyst calculating the profit of the firm after consideration of the necessary compensation to be paid to the owners of the assets (both tangible and intangible) and excluding any compensation to the executive. The analyst would repeat this calculation at the end of the compensation

ECONOMIC VALUE ADDED ANALYSIS

A measure of progress of value creation, relying on the principles that (1) a company is profitable when returned earnings on capital exceed opportunity costs of capital; and (2) wealth is created from positive net present value investments.

"What's Wrong with the Economic Value Added?" by Sergei Vailievich Cheremushkin, Social Science Research Network, http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1120917 (accessed December 5, 2012).

DISCOUNTED NET CASH FLOW METHOD

A method that estimates the present value of "normalized" expected cash flow distributable to the owners of the subject entity for a determined projection period, with a residual or "terminal" value ascribed to all expected cash flow beyond the projection period.

period as well. The difference between these two amounts would be the economic value added by the executive. Compensation, or bonuses, then would be tied to the amount of economic value the executive was capable of producing. This compensation structure provides the benefit of aligning the executive's incentives with those of the owners of the firm. The executive's compensation would be dependent on increasing the economic value added to the enterprise, which necessarily increases the value of the enterprise to the owners, as contrast to more traditional compensation structures that may result in a misalignment of interest between the executive and the firm's owners.

8.2.4 Real Option Analysis

A valuation analyst may be confronted with a particular engagement that involves the appraisal of an asset that is best accomplished using a *real option method*. *Real options* exist when the value of the assets making up an enterprise do not capture all of the *strategic value* of the ability to control those assets. Real options reflect the *flexibility* available to the owner of the enterprise to engage in activities, such as the expansion or abandonment of a project. Typical valuation methodology may require that the management of a firm be committed to a particular strategy with the exception of all others. A typical discounted cash flow method may not capture the value inherent in the option for a hospital to open a new location or service line for the provision of services. In that case, real *option analysis* (ROA) provides a framework through which the valuation analyst can consider the value of the imbedded real option, that is, to expand or not to expand. The analysis is performed similar to the valuation of financial options, either through numerical methods (i.e., simulations) or analytical methods (i.e., Black Scholes equation). The valuation of real options is a complex and varied subject. The nature of the ROA topic exceeds the scope of this text and is discussed by many alternative sources (see *Key Sources*).

REAL OPTION ANALYSIS

A method for assigning a dollar value for structuring a project to include information on where exit points should exist in the project's time line and that of having the option to exit at those points.

"Real Option Analysis: Improving Project Selection in Healthcare Settings," by David K. Wyant, Journal of Healthcare Information Management *23, no. 1 (Winter 2009): 59.*

8.2.5 Net Present Value Analysis

In addition to providing valuation services related to transactions within the healthcare industry, a consultant may be asked to perform an analysis related to the feasibility of a project. Typically, corporate finance departments considering strategic projects will use a *Net Present Value* (NPV) analysis to evaluate the likelihood of success for a project. The NPV of an investment project is the discounted value of the differences over time between monetary costs and benefits in each period.[51] For healthcare enterprises seeking to determine the viability of a strategic option, the NPV analysis provides a financial investment basis for determining whether to proceed with the anticipated project or reject it. Healthcare enterprises may employ an NPV analysis to evaluate a project's potential impact on the enterprise's financial profile, as well as on its needs for total available capital and allocation decisions related to utilization of existing capital.[52] These healthcare enterprises should seek to determine whether the additions to net cash flow generated from the anticipated project over the lifetime of that project will be greater than the initial *start-up* and the ongoing *maintenance costs* of the project after consideration of the enterprise's cost of capital, as well as the probability of obtaining both a return on and a return of investment capital.

The NPV analysis is undertaken in an identical manner to the traditional discounted net cash flow methodology. The analyst will forecast revenue, along with the associated operating and capital expense burdens necessary to support those revenues, and calculate the residual income that would accrue

[51] Anthony J. Culyer, *The Dictionary of Health Economics*, 2nd ed. (Northampton, MA: Edward Elgar Publishing, 2010), p. 347.

[52] Daniel M. Grauman, et al., "Capital Planning for Clinical Integrations," *Healthcare Financial Management Association* 65, no. 4 (April 2011—reprinted): 5.

NET PRESENT VALUE ANALYSIS

An approach to valuing a potential capital investment project by finding the present value of its expected future incremental cash flow.

Options, Futures, and Other Derivatives*, 7th ed., by John C. Hull (Upper Saddle River, NJ: Pearson Prentice Hall, 2009), p. 745.*

to the investors in the project. This residual cash flow is then discounted to the initiation date of the project at an appropriate risk-adjusted discount rate (see Chapter 9, "Costs and Sources of Capital," for a discussion of the calculation of discount rates). The result of this discounting process would be the cash equivalent value of the anticipated future residual cash flow of the project over the life of the project. To determine the NPV of the project, the analyst then subtracts the initial start-up capital investment needed at initiation to fund the project. If the NPV of the project is greater than zero (i.e., the present value of the future expected cash flow is greater than the initial investment) then the value of the enterprise as a whole would be positively affected by proceeding with the project. Alternatively, should the NPV of the project be negative, the enterprise would expect to reduce its overall value by proceeding with the project (i.e., by expending more to invest in the project than the sum total of the cash flow it will produce over its lifetime). NPV analysis not only provides a straightforward method to determine the feasibility of a project, it is also useful in making decisions between possible mutually exclusive projects. The NPV of a project represents the expected increase in enterprise value that will result from the investment in the project; therefore, when deciding between multiple projects, the analyst should recommend the project with the greatest marginal impact on the enterprise's value, that is the project with the greatest NPV.

With the advent of accountable care organizations, as promulgated under the accountable care act (commonly known as "*Obamacare*"), a growing number of healthcare organizations are using NPV analysis to assess their participation in the emerging healthcare organizations. A detailed analysis of the application of NPV for accountable care organizations can be found in the book titled *Accountable Care Organization: Value Metrics and Capital Formation*, published in 2013 by Taylor and Francis.[53]

[53] Robert James Cimasi, *Accountable Care Organizations: Value Metrics and Capital Formation* (Boca Raton, FL: Taylor and Francis Group, 2013).

8.2.6 With and Without Analysis

A *with and without* analysis, also known as a *but for,* or a *before and after* analysis, is a technique that employs a *hypothetical condition* in the determination of value. The foundation of the technique lies in calculating an indication of value, using the methods described earlier, under a specified set of *explicit assumptions*, then repeating the valuation exercise under a *new* subset of assumption, that is, *with and without* the inclusion of certain of the assumptions. This technique is commonly applied in the valuation of damages in the litigation support arena, where it may be referred to as a *but for* analysis in reference to the indicated value *but for* the purported wrongful action of the defendant. Charles Wilhoite, ASA of Willamette Management Associates, describes this method, referring to it as the *before and after damages method*, as:

> *The before-and-after method is based on the premise that economic damages can be estimated by comparing:*
>
> 1. *actual profits realized by the plaintiff company during the damages period with*
> 2. *projected profits for the plaintiff company assuming no wrongful acts had been committed*
>
> *In essence, the difference between the projected profits (before the alleged wrongful acts and assuming the continuation of pre-damage operating results) and the actual performance (after the alleged wrongful acts) represents the economic damages.*[54]

This method can also be useful in determining value in nonlitigation contexts. A *with and without* analysis can be employed to determine the magnitude of a *key person* discount, as described in Section 8.4.5, "Key Person Discounts"). The valuation analyst can calculate the value of an enterprise, including the appropriate revenues and expenses associated with the *key person* (the initial set of assumptions) and then recalculate the value in the absence of the *key person* (the secondary set of assumptions). The value difference between the two cases, the *with and without*, would equal the anticipated enterprise value impact of the loss of the *key person*. Valuation analysts using a *with and without* analysis should clearly

[54] Charles A. Wilhoite, "Lightning Strikes Twice, MRI Associates Wins Big Again: Halloween Verdict Proves to Be Frightening to Regional Health System," *Insights* (Spring 2012): 88–93.

Key Person Discounts

A reduction in the ownership value of an entity, due to the actual or real loss of an owner or a key person.

Dictionary of Health Economics and Finance, *edited by David Edward Marcinko and Hope Rachel Hetico (New York: Springer, 2007), p. 208.*

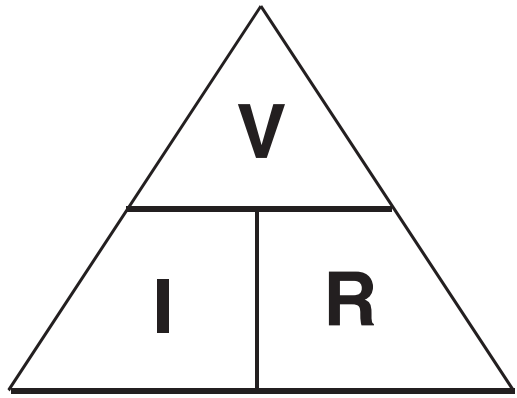
state the assumptions utilized in each case, the change in assumptions from the initial case to the secondary case, and the reason for the difference. It should also be noted that changing numerous assumptions, from one case to the next, may not be equivalent to the aggregation of the same changes individually, that is, two concurrent changes may have an impact on the magnitude of each other that would not be reflected in a *piecewise* (one by one) analysis of the sole impact of each.

8.3 RISK ASSESSMENT

The paramount concern for the valuation analyst, using any of the methods described earlier, is to accurately and precisely determine the risk factors involved in his or her projections related to the future expected benefit that will accrue to the owners of the subject property. A visual illustration of this risk-benefit relationship is depicted in Exhibit 8.5.

When assessing the amount of risk associated with the given healthcare enterprise being valued (component "*R*" of the value pyramid), it is important for the valuator to keep the following items in mind:

1. Since uncertainty breeds the perception of risk, under which circumstances a higher rate of return is demanded by potential purchasers, even high-quality, risk-averse, stable growth, highly profitable, and eminently transferable professional practices may have the potential to be "*tar-brushed*" by the perception of overall market uncertainty, as well as risk related to the particular subject enterprise's industry sector.
2. Other market motivating factors often drive transactional pricing multiples, for example, investors' fear of being shut out of their ability to legally maintain or sell their investment represents an undue stimulus or special motivation and synergy that may drive the deal, resulting in prices below or above value.



I = **Economic Benefit Stream, e.g., Income, Earnings, Cash Flow**
As defined by appraiser and appropriate to assignment

R = **Risk Adjusted Required Rate of Return applicable to selected benefit stream, e.g., Discount Rate, Cap Rate, Multiple Valuation**

V = **Economic Value of the Enterprise**

EXHIBIT 8.5 The Value Pyramid
Source: © Health Capital Consultants

3. The selection of risk-adjusted rates to capitalize an earnings or benefit stream into value requires more than just a cursory analysis of underlying data related to market systematic risk, as a nonsystematic, subject enterprise risk adjustment may also be appropriate.

The valuator should be aware that the assessment of risk by investors is related to both the actualities and (perhaps more substantially) the perceptions of the market and related to external economic, demographic, and industry conditions, as well as to aspects of the specific subject professional practice and the prospective transaction.

As discussed earlier, it is important to first analyze and reach a supportable conclusion as to the risk and return for a specific type of investment that is characteristic of the specific dynamics of the market in which it operates at any point in time before selecting a discount/capitalization rate.

It should be kept in mind that while this estimate of investor-perceived risk may necessarily be based, to some degree, on the judgment of the valuation consultant, which may be subjective in nature, objective methods and techniques are available and should be employed to the extent possible to

arrive at a valid and supportable discount/capitalization rate. The assessment of risk is inexorably related to, and should be based on, an informed consideration by a qualified analyst familiar with the healthcare industry subsector within which the subject entity operates and who may properly assess the most *probable* expectations and perceptions of a universe of typical buyers, sellers, owners, and investors as to the future performance of the subject enterprise, as well as expected material changes in the substantive value drivers.

In the final analysis, the assessment of risk must be carefully correlated to an informed, realistic, and unsparing assessment of current "*buyers'/sellers' perceptions in the market.*"

8.3.1 Financial and Operational Benchmarking

Financial operations are a significant source of risk for many healthcare enterprises. The valuation analyst should carefully consider both the financial performance and the economic condition of the subject enterprise when determining the level of risk involved in investing in the enterprise.

There are many factors that determine the relative attributes of success or failure of a healthcare enterprise in the current dynamic regulatory, reimbursement, and competitive environment. Perhaps one of the most important of these factors is the degree to which management is able to react to changes by making timely, informed decisions regarding the operational direction and financial performance of the organization. Among the most useful management tools available to achieve this objective is that of *benchmarking*, a well-established and long-accepted process of financial analysis that can assist managers and their professional advisers in developing a comprehensive understanding of the operating performance and financial status of their healthcare enterprise.

Benchmarking techniques can also be used to illustrate the degree to which an enterprise varies from comparable healthcare industry norms, as well as to provide vital information regarding trends in the internal operational performance and financial status of the subject enterprise. The successful application of benchmarking will generally reveal both favorable and unfavorable areas of a business's operations, which may then require further examination to determine causality and planning for their remediation. In this manner, the process of benchmarking often assists not only in identifying the existence of nonstandard performance and anomalies in costs, levels of productivity, and financial ratios, but also in discovering their underlying causes. Once the driving factors for aberration from the norm are determined, they should be further investigated and assessed as to the potential weaknesses and risk factors, as well as the potential strengths they pose for the enterprise going forward. While this benchmarking process is

essential for internal managers seeking to adjust business methods to optimize performance, it is also an invaluable tool for valuators and financial analysts in forecasting the most probable future performance of the subject enterprise.

Healthcare valuation analysts often use benchmarking to help assess the subject entity–specific (nonsystematic) risk by identifying and quantifying its relative strengths and weaknesses, compared to normative data from similar entities in its specific industry. Common methods of applying benchmarking analyses to the valuation process include:

1. Adjusting operating expenses and capital items, as well as capital structure to industry norms (when valuing a *control* position);
2. Adjusting the indication of a discount rate or cost of equity derived from the market (subject entity specific risk premium);
3. Selecting the appropriate financial multiples or ratios (e.g., price/earnings, price/revenue, price/EBITDA); and
4. Selecting appropriate discounts and premiums based on the level of value sought (e.g., discount for lack of marketability, control premium, minority discount).

Prior to performing a benchmark analysis, the valuation analyst will find it useful to *common size* the data in order to account for intertemporal differences in scope and scale that may skew the calculated results.[55] Common size refers to expressing the historical financial metrics as a percentage or a ratio of some measure. Methods of common-sizing include expressing items on income and expense statements in terms of

1. Percentage of revenue;
2. Per unit produced—for example, Relative Value Unit;
3. Per provider—for example, physician;
4. Per capacity measurement—for example, per square foot; or
5. Other standard units of comparison.

Successful financial and operational benchmarking can be divided into two categories:

1. Internal Subject Entity Benchmarking
2. External Benchmarking

[55] "Common Size Financial Statements," NetMBA.com (2007), http://www.netmba.com/finance/statements/common-size/ (accessed August 13, 2009), p. 3.

8.3.1.1 Internal Benchmarking

8.3.1.1.1 Internal Subject Entity Benchmarking *Internal subject entity benchmarking* compares the current or most recently reported performance of an enterprise or a property to its past performance, a process that involves the normalization of data (see the earlier discussion regarding normalization in Section 8.1.1.2, "Discounted Net Cash Flow Method") regarding the subject entity's historical operating performance and financial status and the comparison of that past data with the current data related to the subject entity. The adjustment of past data may be necessary to allow for a similar basis on which to make comparisons, by avoiding the complications of accounting/reporting measurement differences that have arisen over time within the entity, or anomalies, that is, extraordinary and nonrecurring events. *Internal subject entity benchmarkin*g examines the performance, over the course of time, of the subject entity for the purpose of identifying changes in performance within the entity and to provide a basis for projecting future performance over time. Recalling the *Principle of Induction*'s premise that the future is likely to be like the past (see Section 8.1.1.2.3.1, "Historical and Industry Trend Analysis"), *Internal subject entity benchmarking* can assist the valuation analyst, from a risk perspective, by highlighting changes in the historical operations of the subject entity and suggesting those trends that may require further investigation in determining the likelihood of the subject entity's ability to achieve the financial and operational targets projected within the valuation.

8.3.1.2 External Benchmarking

External benchmarking refers to the comparison of the subject enterprise or property to various benchmark metrics derived from data sources outside of the subject entity. *External Benchmarking* can be divided further into two categories: (1) *Benchmarking to Industry Norms* and (2) *Economic Benchmarking*.

8.3.1.2.1 Benchmarking to Industry Norms *Benchmarking to industry norms* compares data from the subject entity or property to normative survey data from other entities within the same industry sector and subsector.[56] This method of benchmarking provides the basis for the comparison of the *operational performance* and *financial condition* of the subject entity to that of similar entities, for the purpose of identifying its relative *strengths*, *weaknesses*, and *related measures of investment risk*.

[56] See Sik Wah Fong, Eddie W. L. Cheng, and Danny C. K. Ho, "Benchmarking: A General Reading for Management Practitioners," *Management Decision* 36, no. 6 (1998): 410.

The process of *benchmarking* against industry averages or norms will typically involve the following steps:

1. *Identification* and *selection* of appropriate surveys to use as benchmarks, that is, to compare with data from the *subject entity* of interest. This involves, in part, answering the question, "*In which survey would this organization most likely be included?*"
2. If appropriate, *recategorization* and *adjustment* of the subject entity's *revenue* and *expense* accounts to optimize data compatibility with the selected survey's structure and definitions (e.g., common sizing).
3. *Calculation* and *articulation* of observed differences of the subject entity from the industry averages and norms, expressed in terms of variance in ratios, dollar unit amounts, or percentages of variation.

Benchmark analysis, both internal and external, requires the *comparison* of metrics related to *operational performance* and *financial conditions* of the subject entity. These metrics reflect the *relative efficiency* of the subject entity as compared with its own historical performance, as well as its performance relative to the industry subsector in which it operates. Several of the metrics that may be used in the *benchmarking process* are described in the following sections.

8.3.1.3 Clinical Benchmarking Metrics *Clinical benchmarking* was initially a subset of industry benchmarking. Today, *clinical benchmarking* addresses several aspects of clinical care, including the continuous development and maintenance of quality health care; how best practices supports the attainment of targeted patient-focused outcomes; the compilation of all

CLINICAL BENCHMARKING

A benchmarking technique that is typically used with the expectation that a given organization is aiming to improve the quality of clinical care, obtain and/or maintain a particular standard of excellence, or increase the number of practices or processes that are founded in evidence-based practice.

"Sharing the Evidence: Clinical Practice Benchmarking to Improve Continuously the Quality of Care," by Judith Ellis, Journal of Advanced Nursing *32, no. 1 (2000): 216–218.*

generally accepted, evidenced-based benchmarks for best practices; evaluating the involvement of practitioners and multidisciplinary effort across levels of care in benchmarking activities; and the dissemination of best practices.[57]

Clinical benchmarking is typically used with the expectation that a given organization is aiming to improve the quality of clinical care and patient outcomes, obtain and/or maintain a particular standard of excellence, or increase the number of practices or processes that are founded in *evidence-based practice*.[58] The impact of successful clinical benchmarking often results in the continued utilization of a *best practice* approach to management, as well as the *innovative progression* in quality of care. Typically, the application of benchmark analysis is directly dependent on a practitioner's respective buy-in to the benchmarking process.[59] In light of the dynamic changes regarding the movement from traditional *fee-for-service* to *value-based reimbursement* (VBR), the valuation analyst should inquire as to the status of this within the subject entity and assess the impact on *qualitative value drivers*, for example, *depth of management*, that might provide support for the subject entity's ability to survive and prosper in the new *quality/value-driven* reimbursement environment. As this is a relatively new, and perhaps unfamiliar, consideration in valuing healthcare provider enterprises, the next sections are intended to provide a brief primer on *quality metrics* as increasingly important *value drivers*, requiring the analytical attention of the valuator.

As those *clinical benchmarking practices* being adopted are typically similar to those used for industry *financial benchmarking*, valuation analysts may wish to apply many of the same types of performance indicators, notwithstanding that they may have to be adopted to *clinical practices*, in contrast to industry or *business-related processes*. The applicability of a given metric is dependent on the *needs of the organization* and the *fit of the proposed benchmarking study* to those needs, as well as the *risk attended to the cost of the benchmarking*; in addition, the result may be *misinterpreted*, leading to a *lack of credibility* with providers.[60] A few of the more

---

[57] Judith Ellis, "Sharing the Evidence: Clinical Practice Benchmarking to Improve Continuously the Quality of Care," *Journal of Advanced Nursing* 32, no. 1 (2000): 216.

[58] Ibid., pp. 216–218.

[59] Ibid., p. 220.

[60] The challenges associated with benchmarking include who establishes the benchmark, how the data is reported, and does the data take into account statistical noise that may be seen as distorting the credibility of the message delivered? Thomas P. Miller, Troyen A. Brennan, and Arnold Millstein, "How Can We Make More Progress in Measuring Physicians' Performance to Improve the Value of Care," *Health Affairs* 28, no. 5 (September/October 2009): 1429.

commonly used benchmarking indicators, for example, *clinical resource utilization* and types of *quality indicators*, are discussed in more detail in the following sections.

8.3.1.3.1 Measuring Clinical Resource Utilization *Clinical resource utilization*, a topic that is becoming increasingly important with the acceleration in healthcare quality initiatives, includes concerns regarding the amount of resources used by a healthcare entity and the impact of *resource utilization* practices on quality of care.[61] The importance of measuring and benchmarking utilization rates is reflected in current and proposed legislation regarding physician payments, for example, *value-based purchasing initiatives*.[62] Due to recent concern over increasing imaging expenditures, some governmental organizations, such as the *Congressional Budget Office* (*CBO*), have proposed increasing the use of machines for imaging services as one type of cost-reduction initiative.[63]

Inpatient *Diagnostic Related Groups* (*DRGs*) are considered helpful benchmarks for utilization rates and can be collected from standard claim forms for physician payment (see Chapter 2, "Reimbursement Environment," for a discussion of DRGs and other clinical metrics).[64] In addition, because submission of DRGs is regulated by the *Health Care Industry Association*'s (*HCIA*) *International Classification of Clinical Services* (*ICCS*) coding system, hospital-specific codes are converted to a universal system, standardizing patient-level data from different hospitals for easy comparison.[65] Additional useful benchmarking indicators for measuring clinical resource utilization include average measurements for *length of stay (ALOS or LOS)*; *pharmaceutical units* or *pharmacy cost*; *laboratory units/cost*; *imaging units/cost*; and *average routine charges*, for example, room and board costs per case/day, total ancillary costs, operating room costs, anesthesia costs, and medical/surgical supply costs, which are often designated as ratios (i.e., per case or per day).[66]

---

[61] HFMA, "Financial and Clinical Benchmarking: The Strategic Use of Data," HCIA, 1997, p. 58.

[62] "Patient Protection and Affordable Care Act," *Pub. L.* 111-148, 124 Stat 353 (March 23, 2010).

[63] Congressional Budget Office, *Budget Options Volume I: Health Care*, Congress of the United States (December 2008) pp. 117–118.

[64] HFMA, "Financial and Clinical Benchmarking: The Strategic Use of Data," HCIA, 1997, pp. 59–61.

[65] Ibid.

[66] Ibid., p. 60.

8.3.1.3.2 Measuring Quality The topic of whether healthcare reform would improve the quality of care and the price of services has been among one of the more pressing concerns voiced by providers and patients for the last few decades.[67] With an increased focus on improving quality of care, while, at the same time, decreasing healthcare costs and expenditures, as well as the attempt to balance the interests of patients, physicians, *and* payors, healthcare reform has posed an almost intractable challenge. Quantifying the quality of care is perceived to be difficult, due, in part, to the variability in how providers define and perceive the concept of "*quality.*" As a result of this misalignment, there exist a variety of conflicting methods by which to establish healthcare *quality metrics*. Quality indicators have been established in three general categories: (1) *institutional quality indicators*, (2) *service quality indicators*, and (3) *clinical quality indicators*.

Institutional quality indicators are benchmarking metrics used to determine how well a provider adheres to regulatory standards set by accreditation agencies, associations, and other regulatory bodies.[68] Although institutional quality is traditionally determined by measuring outcomes, several organizations continue to use measures of compliance to quantify adherence to regulatory measures.[69] Examples of organizations requiring hospital compliance with quality targets include (1) the *Joint Commission*; the *College of American Pathologists* (*CAP*) for laboratory operations; (2) the *Occupational Safety and Health Administration* (*OSHA*) for workplace safety; and (3) the *National Council for Quality Assessment* (*NCQA*), which measures the quality of health plans.[70]

Methods of collecting data on quality vary by hospital, health system, or state. For example, some states require hospitals to fill out "*hospital scorecards*," which may be used to measure a range of performance indicators, from *clinical outcomes* of various specialties (e.g., in obstetrics: Cesarean delivery rates, postdelivery complication rates), to *hospital throughput data* (e.g. number of cases, ALOS).[71] This data may be used in a variety of ways at the discretion of the provider, for example, consumer marketing of services or obtaining additional Health Maintenance Organization (HMO) contracts.[72]

---

[67] For example, see Daniel Lorence, "Benchmarking Quality Under U.S. Health Care Reform: The Next Generation," *Quality Progress* (April 1994).

[68] HFMA, "Financial and Clinical Benchmarking: The Strategic Use of Data," HCIA, 1997, p. 47.

[69] Ibid.

[70] Ibid., pp. 47–48.

[71] Ibid., p. 49.

[72] Ibid., pp. 49–50.

Factoid

The American Medical Group Association (AMGA) provides three different annual quality surveys that allow participating organization to compare their data to industry peers across the nation. These include (1) the Patient Satisfaction Benchmarking Program, (2) the Provider Satisfaction Benchmarking Program, and (3) the Employee Satisfaction and Engagement Benchmarking Program.

"Benchmarking," American Medical Group Association, http://www.amga.org/Research/benchmarking_research.asp (accessed September 15, 2009).

Service quality indicators are used to measure *patient satisfaction* regarding the healthcare services they received from providers.[73] In some ways, this is the most direct method to gauge performance and the success of an organization's customer service goals. Although many organizations tailor satisfaction surveys to the particular services provided, data may not be comparable across organizations. Regular assessment of *patient satisfaction* may be useful for improving long-term quality outcomes of a healthcare enterprise, but it is often impractical as a short-term or immediate outcome measure, due to the variable time interval between survey collection and implementation of desired changes.[74] See the sidebars for several sources of data regarding healthcare quality that are published annually by the *American Medical Group Association* (*AMGA*): (1) *Patient Satisfaction Benchmarking Program*; (2) *Provider Satisfaction Benchmarking Program*; and (3) *Employee Satisfaction and Engagement Benchmarking Program*.[75]

There exist several hundred *Clinical Quality Indicators*, which may be useful in measuring *clinical outcomes* from patient treatments. Three general categories of indicators commonly used are:

1. *Generic indicators*, for example, morbidity and mortality or readmission, which are measures based on a rate of occurrence within the patient population.

[73] Ibid., p. 50.

[74] Ibid., pp. 50–51.

[75] American Medical Group Association, "Benchmarking," http://www.amga.org/Research/benchmarking_research.asp (accessed September 15, 2009).

2. *Disease-specific indicators,* which are used to classify patients with regard to either a specific diagnosis or procedure (with varying degrees of specificity), for example, the number of patients undergoing an elective surgery.
3. *Functional indicators*, which are outcomes used as a proxy for patient quality of life or overall population health and may include, for example, patient functional performance following a procedure.[76]

Clinical quality indicators are examples of measuring *output quality*, that is, the determination of whether the quality standard was met as a result clinical care or treatment.[77] With the rise of *accountable care* (as detailed in Chapter 6, "Healthcare Reform"), the ability of healthcare enterprises to generate revenue will be increasingly linked to the clinical and quality measures discussed earlier. The assessment of risk for a given healthcare enterprise necessitates an analysis of the clinical and quality metrics of the subject entity in comparison with industry norms.

8.3.1.4 Ratio Analysis *Financial ratio analysis* calculates ratios of various aspects of the *operational performance* and *financial conditions* as illustrative of the financial status of the subject entity. These ratios are evaluated in terms of their comparison to generally established industry norms and are often expressed as ranges of positive or negative trends for the subject industry, in comparison to the industry sub-sector. For example, a *current ratio* (as described next) of less than 1.0 for the entity might be considered "*suspect*," in indication of inadequate resources to meet current obligations, when compared to ratios derived from survey data from the comparable industry subsector.

FINANCIAL RATIO ANALYSIS

A benchmarking technique in which ratios are typically calculated as measurements of various financial and operational characteristics that illustrate the financial status of the entity.

[76] HFMA, "Financial and Clinical Benchmarking: The Strategic Use of Data," HCIA, 1997, p. 57

[77] Arthur G. Tweet and Karol Gavin-Marciano, "The Guide to Benchmarking in Healthcare: Practical Lessons from the Field," *Quality Resources* (1998): 25.

Liquidity Ratios

Ratios that measure the ability of an organization to meet cash obligations as they become due, that is, to support operational goals.

Common types of financial indicators that are measured by ratio analysis include:

1. *Liquidity ratios* measure the ability of an organization to meet cash obligations as they become due, that is, to support operational goals. Ratios above the industry mean generally indicate that the organization is in an advantageous position to better support immediate goals. The *current ratio*, which quantifies the relationship between assets and liabilities, is an indicator of an organization's ability to meet short-term obligations. Managers use this measure to determine how quickly assets are converted into cash.
2. *Activity ratios*, also called *efficiency ratios*, indicate how efficiently the organization uses its resources or assets, including cash, accounts receivable, salaries, inventory, property, the plant, and equipment. Lower ratios may indicate an inefficient use of resources and assets.
3. *Leverage ratios*, measured as the ratio of long-term debt to net fixed assets, are used to illustrate the proportion of funds, or capital, provided by shareholders (owners) and creditors to aid analysts in assessing the appropriateness of an organization's current level of debt. When this ratio falls equal to or below the industry norm, the organization is typically not considered to be at significant risk.
4. *Profitability*: Indicates the overall net effect of managerial efficiency of the enterprise. To determine the profitability of the enterprise for benchmarking purposes, the analyst should first review and make adjustments to the owner(s) compensation, if appropriate. Adjustments for the market value of the "*replacement cost*" of the professional services provided by the owner are particularly important in the valuation of professional medical practices for the purpose of arriving at an "*economic level*" of profit.

Activity Ratios

Ratios that indicate how efficiently the organization uses its resources or assets, including cash, accounts receivable, salaries, inventory, property, the plant, and equipment.

Leverage Ratios

Ratios used to illustrate the proportion of funds, or capital, provided by shareholders (owners) and creditors to aid analysts in assessing the appropriateness of an organization's current level of debt.

Profitability

An indication of the overall net effect of managerial efficiency of the enterprise.

Exhibit 8.6 displays some of the commonly used ratios in each of the above categories:

The valuation analyst should be aware that the financial ratios discussed here are illustrative, but not exhaustive, of those available. The selection of the appropriate ratio(s) to consider will be largely driven by the facts and circumstances specific to the subject enterprise being valued, for example, a key metric within the health insurance industry subsector is the *medical loss ratio*, which is not likely to be applicable in other industry subsectors.[78] The valuation analyst should endeavor to include as many industry-specific *benchmarking metrics* available to generate the fullest, most robust picture of the subject enterprise's *financial performance* and *economic status*, as related to its industry subsector.

In addition, the selection of financial ratios for analysis and comparison of the enterprise's performance requires careful attention to the homogeneity of the available benchmarking data sample. Benchmarking of intra-organizational data typically proves to be less variable across several different measurement periods. However, the use of data from *external* enterprises for comparison may introduce variation in measurement methodology and procedure. In the latter case, the use of a standard chart of accounts for the subject enterprise, or recasting the subject enterprise's data to a standard format that matches the organization of the benchmark sample data, can effectively facilitate an appropriate comparison of the subject enterprise's *operating performance* and *financial status* to *industry normative* survey data.

[78]The Medical Loss Ratio is the relationship of medical insurance premiums paid out for claims. David Edward Marcinko and Hope Rachel Hetico, eds., *Dictionary of Health Insurance and Managed Care* (New York: Springer, 2006), p. 181.

EXHIBIT 8.6 Commonly Used Financial Ratios

Ratio	Formula
Profitability Ratios	
Operating Profit Margin	$\frac{\text{Operating Profit}}{\text{Net Revenue}}$
EBITDA Margin	$\frac{EBITDA}{\text{Net Revenue}}$
Liquidity Ratios	
Current Ratio	$\frac{\text{Total Current Assets}}{\text{Total Current Liabilities}}$
Working Capital to Revenue	$\frac{\text{Working Capital}}{\text{Net Revenue}}$
Working Capital (excluding current portion of Interest Bearing Debt) to Revenue	$\frac{\text{Working Capital} - \text{Current Portion of Interest Bearing Debt}}{\text{Net Revenue}}$
Activity Ratios	
Days in Accounts Receivable	$\frac{\frac{\text{Accounts Receivable}}{\text{Net Revenue}}}{365}$
Net Property & Equipment to Net Revenue	$\frac{\text{Property and Equipment (net)}}{\text{Net Revenue}}$
Total Asset Trunover	$\frac{\text{Net Revenue}}{\text{Total Assets}}$
Leverage Ratios	
Debt Ratio	$\frac{\text{Total Liabilities}}{\text{Total Assets}}$
Interest Bearing Debt to Book Value of Total Capitalizaion	$\frac{\text{Interest Bearing Debt}}{(\text{Interest Bearing Debt} + \text{Net Worth/Equity})}$
Interest Bearing Debt to Market Value of Total Capitalizaion	$\frac{\text{Interest Bearing Debt}}{(\text{Interest Bearing Debt} + \text{Market Value of Equity})}$

HISTORICAL SUBJECT BENCHMARKING

A benchmarking technique that compares the current or most recently reported performance of an entity to its past performance, a process that involves the adjustment and comparison of past data with current data.

Healthcare *industry normative* survey data of this type, for the purposes of benchmarking, may be obtained from several publicly available, or proprietary, sources, enabling the analyst to compare detailed financial, operational, and clinical performance to similar peer group data. It is important to ensure that the survey data is as current as possible, and it should be noted that delays of a year or more in the publication of survey data are not uncommon. In the healthcare industry's rapidly changing reimbursement and regulatory environment, where year-to-year changes may be significant and material, mismatching data from different years due to the delay in availability may result in shortcomings as to the efficacy and validity of the benchmark analysis and the valuation process. An example of the application of measuring quality can be found online at http://www.wiley.com/go/healthcarevaluation.

8.3.1.5 Economic Benchmarking Generally speaking, *economic benchmarking* may be used as a *research technique* to understanding market forces. More specifically, *economic benchmarking* is a comparison of *business operation efficiency* based on economic principles, or as it is affected by the characteristics of a particular market.[79] One study hypothesized that economic benchmarking can be used to (1) improve the average performance of a given entity within the marketplace; (2) improve the performance of poorly performing organizations, more than others above a certain threshold of performance; or (3) reduce the gaps in performance between organizations.[80]

The *client base* and *earnings* of a healthcare enterprise are associated, in some degree, with the demographics of the area in which the enterprise operates. For example, the value of an existing physician medical practice

[79]Virendra Ajodhia, Konstantin Petrov, and Gian Carlo Scarsi, "Economic Benchmarking and Its Applications," KEMA Consultants, p. 1.

[80]G. Jan van Helden and Sandra Tillema, "In Search of a Benchmarking Theory for the Public Sector," *Financial Accountability & Management* 21, no. 3 (August 2005): 341.

ECONOMIC BENCHMARKING

A benchmarking technique that compares that business operation efficiency based on economic principles, or as it affects a particular market.

"Economic Benchmarking and Its Applications," by Virendra Ajodhia, Konstantin Petrov, and Gian Carlo Scarsi, KEMA Consultants, p. 1.

with an established patient population would typically be negatively affected by high population growth and turnover rates, which circumstances would make it easier for a new *competitive market entrant* medical practice to establish itself and become equally profitable.[81] In contrast, the value of an existing practice may increase with a stable, steadily growing population base, as a rising population rate may act to promote economic growth and increase the pricing of services within a typical market.[82]

The age distribution of a given *market service area*'s (MSA) patient population is an important factor in assessing utilization demand for certain medical specialties and subspecialties. Today, the aging population of baby boomers has increased demand for certain specialties, such as practitioners of cardiology, geriatric medicine, ophthalmology, and orthopedics. In contrast, a younger population base will typically be more reliant on, and therefore raise the demand for, practitioners of pediatrics, obstetrics, family medicine, and neonatology.

Economic benchmarking provides a guideline by which consultants can compare the efficiency, needs of, and demands on healthcare organizations, while accounting for market forces. This form of benchmarking is generally used to provide basic information as to where a given enterprise stands with regard to its *effectiveness* and/or *efficiency* within the competitive MSA in which it operates.[83] This information provides a foundation for further subject entity–specific analysis for the purpose of benchmarking the subject entity's relative riskiness as related to (1) *operational and clinical performance*, (2) *financial status*, (3) *efficiency*, and (4) *function in the marketplace*.

[81] Anne P. Sharamitaro, "Research for Valuations: The Theory and Practice of Industry Data Gathering," *NACVA* (January 26, 2007): 29.

[82] Ibid.

[83] G. Jan van Helden and Sandra Tillema, "In Search of a Benchmarking Theory for the Public Sector," *Financial Accountability & Management* 21, no. 3 (August 2005): 339.

Factoid

The Gross National Product (GNP) is the broadest indicator of economic growth, with current-dollar GNP measuring the market value of goods and services produced, and constant-dollar GNP (or Real GNP) measuring the quantity of economic output.

Guide to Economic Indicators, *by Norman Frumkin (Armonk, NY: M. E. Sharpe, 1990), p. 114.*

8.3.1.5.1 Economic Benchmarking Indicators and Sources There are a variety of national, regional, and local sources that provide some of the more common economic indicators, which include (1) *unemployment*, (2) *labor statistics*, (3) *inflation*, (4) *new housing starts*, (5) *household income*, (6) *inflation rates*, (7) *interest rates*, (8) *Gross National Product* (GNP), (9) the *Composite Index of Leading Economic Indicators*, (10) *return rates for government securities*, and (11) *financial market data and indexes*, among others. (See the sidebars for several sources of general economic data.)

In addition to using both *internal* and *external* benchmark comparisons in developing the *assessment of risk*, the valuation analyst should consider the subject entity's operation within the context of the *four pillars*, that is, (1) *regulations*, (2) *reimbursement*, (3) *competition*, and (4) *technology*, as discussed later.

8.3.2 Regulatory Risk

Perhaps arising from the *corporatization* and the rapid growth of *government financing* of the ever-changing U.S. healthcare delivery system, the regulatory environment in which healthcare enterprises and providers operate has become significantly more *complex* and *intense* in its *scrutiny*. This circumstance presents the potential for severe penalties, civil and criminal, related to entering into transactions and arrangements that may subsequently be found to be legally impermissible. With the passage of the 2010 Patient Protection and Affordable Care Act (ACA—aka *Obamacare*), and the government's assertion to eliminate fraud as an avenue to help finance reform, providers are facing additional attention focused on increased regulation and strict prosecution of *fraud and abuse* violations. Despite the June 2012 U.S. Supreme Court decision upholding the constitutionality of

the ACA, and the related implementation of the act, issues related to the regulation of healthcare enterprises, assets, and services on both a federal and a state level are yet to be resolved. Regardless of how these issues are ultimately decided, the sweeping nature of the ACA will continue to drive ongoing changes in the structure, operation, and financing of many healthcare provider enterprises. See Chapter 6, "Healthcare Reform," for an in-depth discussion of the ACA, as well as other trends related to healthcare reform.

With this ever-changing regulatory environment, the ability to accurately project the future performance of a healthcare entity is diminished, as the level of uncertainty related to *healthcare business and capital structures*, *operations*, and *current marketing plans* increases. As such, this level of uncertainty may increase the perceived risk of an investment in a healthcare entity. The valuation analyst should carefully research the perception of this uncertainty, and the resulting perceived risk, by monitoring the healthcare regulatory changes and the market's reaction to them. Note that the investor's perception of risk is often more important than what the risk may actually be (see the earlier discussion on the impact of the *perception of risk*).

The healthcare industry represents one of the largest sources of expenditures by the federal government and as a result is one of the most heavily regulated U.S. industries (as discussed in Chapter 3, "Regulatory Environment"). The potential for *fraud and abuse* claims adds to the uncertainty of achieving the forecast net economic benefits accruing to the owners of a healthcare entity, thereby increasing the perceived risk and demand for a higher *risk-adjusted rate of return* for a potential investor. The valuation analyst should, in performing his or her assessment of risk, include an analysis of the potential effects of regulatory oversight, resulting in diminished profitability for the enterprise.

8.3.3 Reimbursement Risk

As Medicare is often a significant source of revenue for a healthcare entity, annual changes in the method by which Medicare reimburses providers can, concomitantly, significantly affect the perceived level of risk related to the *forecasted financial performance* of a healthcare enterprise. Initially, with Medicare's conversion to the prospective payment system, projection of payment for services rendered provided a relative certainty, for example, service X is reimbursed by Medicare with Payment Y, with little or no adjustment. Further, commercial payors typically index their payments for services rendered to the rate established by the Medicare PPS, which similarly provides a level of certainty in the commercial market. On a day-to-day basis, this provides tremendous certainty.

Note that although Congress changes Medicare reimbursement rates on an annual basis, this constitutes, to some degree, a *predictable change*, which is not a driver of *uncertainty. Unpredictable change* drives *uncertainty.* However, Congress has, on many occasions, reversed an announced change in reimbursement for Medicare's prospective payment systems, often to the benefit of the healthcare providers, which unpredictable change is then often mirrored by many commercial payors, in turn driving tremendous uncertainty and perception of risk in the healthcare industry. This uncertainty regarding reimbursement under the prospective payment systems is only compounded by the unease associated with the accelerating shift from fee for service payments to VBR. In performing a *risk assessment*, the healthcare valuation analyst should be aware of this uncertainty and how it relates to investor perception of risk and demand for higher *rates of return.* Chapter 2, "Reimbursement Environment," discusses payor trends within the healthcare industry in detail.

8.3.4 Competitive Risk

In recent years, *consumer-driven healthcare* has increased, due to the shift away from *defined benefits* to *defined contributions* of premium coverage plans, where more of the responsibility for premium payment is placed directly on the insured patients. The resulting economic pressures from this new paradigm have been accompanied by greater *direct-to-consumer advertising* by both providers and pharmaceutical companies.[84] Competition within the healthcare industry, driven by the growth of *consumer-driven healthcare*, is complicated by those unique characteristics of the healthcare industry that hinder the traditional notion of economic behavior. For example, as the relationship between *price* and *quality of care* is generally defined by providers, rather than by consumers, patients are less equipped to make informed healthcare purchase decisions, in comparison to other nonhealthcare–related markets. A more in-depth discussion of the unique competitive characteristics of the healthcare industry, as well as the barriers to new market entrants, is set forth in Chapter 4, "Competition."

Despite these *barriers to entry* in the healthcare marketplace, the competition among healthcare entities can become intense as these entities endeavor to add new services or expand to new markets. The development of ACOs (as discussed in Chapter 6, "Healthcare Reform") reduces the

[84] Marc-Andre Gagnon and Joel Lexchin, "The Cost of Pushing Pills: A New Estimate of Pharmaceutical Promotion Expenditures in the United States," *Public Library of Science* 5, no. 1 (January 2008): 0032.

total number of competitors in a given market and serves a consolidating role within the healthcare industry. Relative to nonhealthcare industries, this nontraditional economic behavior and industry consolidation serve to increase perceptions of risk, while heavy regulation of operations (which also serves as a *barrier to entry*) tends to decrease perception of risk. The valuation analyst should carefully review the competition within the specific MSA in which the healthcare enterprise being valued operates, and determine the likelihood of changes to the firms making up the likely competitors of the enterprise.

8.3.5 Technological Risk

In this era of healthcare reform, change is constantly on the horizon, with increased emphasis on advancements and utilization of new technologies. The United States exhibits an intensive technologically focused style in the practice of medicine and delivery of healthcare services that is unparalleled elsewhere. Technology-driven medicine is perceived as a source of professional prestige, with society generally favoring the application by providers of even more advanced medical technologies. These technological advancements in the clinical treatment of patients will undoubtedly shape the future direction of patient care services in a reimbursement environment that rewards providers based on "*quality*" over "*quantity.*"

The continual turnover in technology required within the healthcare industry continues to lend a *predictable* level of technological change that, while not specific with respect to the type of new technology, is constant in its effect on the delivery of healthcare services. The additional risk for healthcare entities is not only the *change in technology* (which may render some providers obsolete) within the industry, but is also the inability to foresee the arrival of new technologies for a subject entity's specific MSA, as well as the demand for capital to fund its acquisition, implementation, and operation. The old adage "*No Bucks, No Buck Rogers*" is particularly pertinent to this capital adequacy risk factor. Accordingly, the valuation analyst should be aware of the technological trends within the particular industry sector and subsector, as well as the particular specialty and subspecialty of the subject entity.

8.4 DISCOUNTS AND PREMIUMS

With each method used, certain adjustments should be considered based on the specific requirements of each engagement and the inherent indication of value (i.e., the "*level of value*") that results from each method. There are

Blockage Discount

A price concession that will typically be accepted by a controlling interest holder of a freely traded company when selling a large block of stock at one time.

DISCOUNT FOR LACK OF MARKETABILITY

A discount applicable to the value of a controlling interest in a closely held company, due to the inherent illiquidity of the investment, which may include the explicit and implicit costs incurred in developing the market, assessing the viability of the business interest, and those costs associated with preparing the business for a potential transaction.

several different premiums and discounts that may be appropriate to consider in performing a valuation of a healthcare enterprise, for example, *Discount for Lack of Marketability*, *Key-Person Discount*, *Blockage Discount*, *Minority Discount*, *Control Premium*, *Blockage Premium*, and so on. Application of these discounts and premiums requires a thorough understanding of the specific facts and circumstances of the valuation assignment, as well as of the legal bundle of rights that make up the property interest being appraised. For example, if the scope of the engagement requires the valuator to determine the fair market value of a 100 percent *controlling* interest in a private (*closely held*) business, indications of value derived from methods that result in a *freely traded* level of value (e.g., the *Guideline Public Company Method,* described earlier) may warrant the application of a premium to reflect the prerogatives of control inherent to the 100 percent controlling interest being appraised, which elements of control are absent from the analysis of minority interest level shares in publicly traded companies.

8.4.1 Discount for Lack of Marketability

Discounts for lack of marketability are meant to reflect two circumstances that affect the monetization of property: (1) liquidity (or lack thereof), which typically refers to the ability of the seller to convert his or her investment into cash, with certainty as to the amount and timing of the proceeds; and (2) level of marketability of a business interest, which refers to the relative transactional costs of monetizing an interest in a closely held enterprise, in contrast to the transactional cost of a property interest where

there exists a previously established market for the specific business interest being sold (e.g., publicly traded shares that are bought and sold on a stock exchange enjoy a high level of marketability, in contrast to shares in the same company that may have certain restraints in regard to being traded on the exchange). As noted by Professor Abbot,

> *Since the adoption of definitions for marketability (capability and ease of transfer or salability) and liquidity (ability to readily convert an asset into cash* ***without significant loss of principal****), it is important to parse this discount based on the source of impairment. Marketability denotes the legal ability to sell or transfer ownership. A public, registered, and unrestricted security is fully marketable, while a public, registered, but restricted security (subject to Rule 144) is less marketable and a private, unregistered interest is least marketable (most impaired).*[85]

There are inherent risks relative to the liquidity associated with ownership of controlling interests in both *closely held* and *freely traded* companies, in contrast to ownership of minority interests in freely traded companies. Owners of entire companies (public or private) or minority interests in private companies lack the ability to simply contact a buyer or a broker to sell their interest instantaneously and receive the proceeds within days, in contrast to investors in the public stock market, who have the ability to sell their *freely traded* minority interest in a company within minutes and receive cash proceeds in a matter of days.

Further, as pointed out in Shannon Pratt's *Valuing a Business*, the controlling interest holder in a *closely held* company would have the ability to liquidate his or her interest only by either (1) consummating a public offering of the controlling block of stock or (2) selling his or her interest in

Risk

Uncertainty, or the assignment of outcomes and their associated probabilities of occurring.

Dictionary of Health Economics and Finance, *edited by David Edward Marcinko and Hope Rachel Hetico (New York: Springer, 2007), p. 316.*

[85] Ashok Abbot, "Discount for Lack of Liquidity: Understanding and Interpreting Option Models," *Business Valuation Review* 28, no. 3 (Fall 2009).

a private transaction.[86] The transactional considerations that a controlling owner may incur, should this individual wish to divest of his or her ownership interest, include the following:

1. *Uncertain time horizon to complete the offering or sale.*
2. *Cost to prepare for and execute the offering or sale.*
3. *Risk concerning eventual sale price.*
4. *Noncash and deferred transaction proceeds.*
5. *Inability to hypothecate.*[87]

The controlling interest holder of a *freely traded* company would typically have to accept some level of price concession in order to sell a large block of stock at once, referred to as a *blockage discount*, which also occurs for large blocks of minority interests, as discussed next.[88]

Thus, a discount may be applicable to the value of a controlling interest in a *closely held* company, due to the inherent illiquidity of the investment, which may include the explicit and implicit costs incurred in developing the market, assessing the viability of the business interest, and those transactional costs associated with preparing the business for a potential transaction. Such a discount is commonly referred to as a "*discount for lack of marketability*."

Much of the empirical research supporting the notion of a *private company discount*, that is, a *discount for lack of marketability* for controlling interests in *closely held* companies, centers on the difference in acquisition multiples of public and private companies.[89] However, it is the view of some in the valuation profession that there is no conceptual basis for applying a *discount for lack of marketability* to a controlling interest.[90] These analysts point to a study conducted by *John Phillips* and *Neill Freeman*, published in the *Business Valuation Review* in September 1995, that attributes the indicated discounts resulting from the *Mergerstat Review Study* of P/E ratios of

---

[86] Shannon Pratt, *Valuing a Business: The Analysis and Appraisal of Closely-Held Companies*, 5th ed. (New York: McGraw-Hill, 2008), p. 441.

[87] Ibid.

[88] S. P. Pratt, *Business Valuation Discounts and Premiums*, 2nd ed. (Hoboken, NJ: John Wiley & Sons, 2009), pp. 118–119.

[89] Shannon Pratt, *Valuing a Business: The Analysis and Appraisal of Closely-Held Companies*, 5th ed. (New York: McGraw-Hill, 2008), pp. 443–445.

[90] Chris Mercer, *Quantifying Marketability Discounts* (Memphis, TN: Peabody Publishing, 1997), pp. 325–344.

acquisitions of public and private companies to differences in size, industry, and profitability.[91]

Other observers of the differences in the acquisition multiples between public and private companies have hypothesized the following reasons for the variance:

1. **Exposure to the market**, that is, publicly traded companies are listed in multiple news outlets and their audited financial data is available to the public; the lack of this market exposure for private companies requires more resources to be spent finding possible acquisition targets and obtaining information necessary to assess a proper bid price.
2. **Quality of financial information**, that is, more extensive financial reporting requirements for publicly traded companies, in contrast to private companies, may lead to information asymmetries between buyers and sellers of private companies, resulting in an increased perception of riskiness for investors in private companies, compared to investors in publicly traded companies; it should be noted that even though publicly traded companies may still be able to "mask" certain information about the company through questionable accounting practices, it is assumed that private companies, operating under less stringent reporting requirements, would have a greater ability to manipulate their accounting data.
3. **Size effect**, in other words, similar to the argument set forth in the Phillips and Freeman study, the private company data set typically consists of smaller companies, as compared to the public company data set, and smaller firms are typically riskier than larger firms, as most empirical studies on the matter have shown; hence, the more risky the firm, the higher the return that would be required by a typical investor, and therefore the lower the indicated value result.[92]

Empirical studies performed more recently regarding the difference in acquisition multiples between public and private companies include the

[91] See reference to John R. Phillips and Neill W. Freeman, "Do Privately-Held Controlling Interests Sell for Less?" *Business Valuation Review* 14, no. 3 (September 1995): 102–113, in Chris Mercer, *Quantifying Marketability Discounts* (Memphis, TN: Peabody Publishing, 1997), pp. 340–341.

[92] Shannon Pratt, *Valuing a Business: The Analysis and Appraisal of Closely-Held Companies*, 5th ed. (New York: McGraw-Hill, 2008), p. 444.

Koeplin, Sarin, and Shapiro Study and the *Officer Study.*[93] These studies indicate the existence of a *private company discount*, even after controlling for industry and size, when making comparisons of the valuation multiples. However, the results of these most recent studies vary substantially, depending on the valuation multiple chosen for the analysis. The *Koeplin et al. study* reported that the comparison of Enterprise Value/Sales multiples derived from acquisitions of public and private companies did not provide an indication of the existence of a *private company discount*; however, the comparison *of Enterprise Value/EBITDA* multiples indicated an 18 percent discount, and the comparison of *Enterprise Value/EBIT* multiples yielded a 30 percent discount. The *Officer Study* had similar variability in the results.

In addition to the liquidity risks inherent in controlling interests (of both *closely held* and *freely traded* enterprises), there exist inherent risks relative to the liquidity of investments in *closely held* minority interests that are not relevant to the investment in freely *traded* minority shares. This *closely held minority interest liquidity risk* is distinctly different from that of the *controlling interest liquidity risk*, mentioned earlier, and typically is observed using the variance in specific types of minority interest shares.

Over the years, there have been several empirical studies performed attempting to quantify a *discount for lack of marketability* related to ownership of *closely held* minority interests in contrast to *freely traded* minority interests. These studies can be classified into two categories: (1) transactions involving restricted stock of publicly traded companies and (2) studies involving pre- and post-initial public offerings (IPO).

8.4.1.1 Restricted Stock Studies Publicly traded companies may sell unregistered securities by means of a *private placement*. These "*restricted*" stocks are very similar to the shares of stock of the same company that are publicly traded in the market, except that the owners of the restricted stocks are prohibited from selling for a designated period of time (e.g., six months, one year, or two years). Purchasers of restricted stock typically require a discount from the price of the publicly traded shares, to reflect the risk associated with holding such an illiquid investment.

[93] John Koeplin, Atulya Sarin, and Alan Shapiro, "The Private Company Discount," *Bank of America Journal of Applied Corporate Finance* 12, no. 4 (Winter 2000): 94–101; Micah Officer, "The Price of Corporate Liquidity: Acquisition Discounts for Unlisted Targets," *Journal of Financial Economics* 83 (2007): 571–598.

Restricted Stock

Publicly traded stocks are prohibited from trading for a designated period of time (e.g., six months, one year, or two years).

Table 8.1 summarizes the results of several of the empirical studies performed on the discounts given to restricted stocks.

The arithmetic mean of these studies results in approximately a 28 percent discount of the price for restricted stocks of public companies. It should be noted that since 1997, when the *SEC Rule 144* requiring a two-year "*holding period*" before restricted stocks could be freely traded was reduced to one year, there has been only one restricted stock study performed. This study, by *Columbia Financial Advisors* (set forth in Line 13 in Table 8.1), found an average discount for lack of marketability of only 13 percent.

8.4.1.2 Pre-IPO Studies Two of the significant studies relating to the discounts of the price of private transactions and their subsequent IPOs

TABLE 8.1 Summary of Restricted Stock Studies

	Published Empirical Study	Years Covered by the Study	Number of Transactions	Average Discount
1	SEC Overall Avg.	1966–69	398	25.80%
2	SEC Non reporting OTC Companies	1966–69	398	32.60%
3	Milton Gelman	1968–70	89	33.00%
4	Robert E. Moroney	1968–72	148	35.60%
5	Robert R. Trout	1968–72	60	33.50%
6	J. Michael Maher	1969–73	33	35.40%
7	Standard Research Consultants	1978–82	28	45.00% (median)
8	William L. Silber	1981–89	69	33.80%
9	FMV Options, Inc.	1979–92	>100	23.00%
10	Management Planning, Inc.	1980–96	53	27.70%
11	Johnson Study	1991–95	70	20.00%
12	Columbia Financial Advisors	1996–April 1997	23	21.00%
13	Columbia Financial Advisors	May 1997–1998	15	13.00%
14	**Average (excluding median values)**			27.87%

Business Valuation Discounts and Premiums, 2nd ed., by S. P. Pratt (Hoboken, NJ: John Wiley & Sons, 2009), p. 89.

TABLE 8.2 Summary of Emory Studies (Adjusted 2002)

Study Date	No. of Qualifying Transactions	Mean Discount	Median Discount
1980–1981	12	59%	68%
1985–1986	19	43%	43%
1987–1989	21	38%	43%
1989–1990	17	46%	40%
1990–1992	30	34%	33%
1992–1993	49	45%	43%
1994–1995	45	45%	47%
1995–1997	84	43%	41%
1997–2000	266	50%	52%
Total of All Transactions (1980–2000)	543	46%	47%

"Underlying Data in Excel Spreadsheet for 1980–2000 Pre-IPO Discount Studies, as adjusted October 10, 2002," http://www.emoryco.com/attach/1980_2000_Underlying_Data.xls (accessed December 30, 2008).

were considered: (1) *Emory Studies* and (2) *Willamette Management Associates Studies*.

These empirical studies measured the difference in price of arm's-length transactions involving private companies and the price of their stock at a subsequent IPO.

8.4.1.2.1 Emory Studies (also known as the Baird & Co. Studies) John D. Emory Sr., F. R. Dengel III, and John D. Emory Jr., of Emory Business Advisors, have conducted nine studies between the years 1980 and 2000, using the prospectuses of companies at their IPO that had a prior transaction within five months prior to the IPO. In 2002, after a further review of the transactions, the authors of the study eliminated all transactions that possibly could have been outside the time frame of the nine studies, as well as corrected other minor errors that had occurred over the years.[94] The adjusted results of the Emory Studies are summarized in Table 8.2.

The average of the nine studies by Emory and colleagues resulted in an average discount for lack of marketability of 46 percent and a median discount of 47 percent. It should be noted that the 1997–2000 study was a specialized study of 266 transactions involving "*dot-com*" only stocks.

[94] John Emory Sr., F. R. Dengel III, and John Emory Jr., "Discounts for Lack of Marketability Emory Pre-IPO Discount Studies 1980–2000 as adjusted October 10, 2002," *Business Valuation Review* (December 2002): 190.

8.4.1.2.2 Willamette Management Associates Studies *Willamette* Management Associates (WMA) has conducted an annual study from 1975 through 2000 of completed IPOs, similar to the Baird Studies, to determine a discount for lack of marketability. The results of WMA's studies are summarized in Table 8.3.

TABLE 8.3 Summary of WMA Studies

Time Period	Number of Companies Analyzed	Number of Transactions Analyzed	Standard Mean Discount	Trimmed Mean Discount*	Median Discount
1975–78	17	31	34.00%	43.40%	52.50%
1979	9	17	55.60%	56.80%	62.70%
1980–82	58	113	48.00%	51.90%	56.50%
1983	85	214	50.10%	55.20%	60.70%
1984	20	33	43.20%	52.90%	73.10%
1985	18	25	41.30%	47.30%	42.60%
1986	47	74	38.50%	44.70%	47.40%
1987	25	40	36.90%	44.90%	43.80%
1988	13	19	41.50%	42.50%	51.80%
1989	9	19	47.30%	46.90%	50.30%
1990	17	23	30.50%	33.00%	48.50%
1991	27	34	24.20%	28.90%	31.80%
1992	36	75	41.90%	47.00%	51.70%
1993	51	110	46.90%	49.90%	53.30%
1994	31	48	31.90%	38.40%	42.00%
1995	42	66	32.20%	47.40%	58.70%
1996	17	22	31.50%	34.50%	44.30%
1997	34	44	28.40%	30.50%	35.20%
1998	14	21	35.00%	39.80%	49.40%
1999	22	28	26.40%	27.10%	27.70%
2000	13	15	18.00%	22.90%	31.90%
		Mean	37.30%	42.20%	48.40%
		Median	36.90%	44.70%	49.40%

"Summary of Discounts for Private Transaction P/E Multiples Compared to Public Offering P/E Multiples Adjusted for Change in Industry P/E Multiples," by Willamette Management Associates, 2004, http://www.willamette.com/research/research-discount.html (accessed December 30, 2008).
*Excludes the highest and lowest of indicated discounts.

TABLE 8.4 Koeplin, Sarin, and Shapiro Study

Descriptive Statistics	Private Firms[1]	Public Firms[2]
Net Sales (in millions)	$56.30	$91.20
Assets	$40.60	$60.10
	Private Company Discount[3]	
Enterprise Value/EBIT	30%	
Enterprise Value/EBITDA	18%	
Enterprise Value to Sales	<1%[4]	

"The Private Company Discount," by John Koeplin, Atulya Sarin, and Alan Shapiro, *Bank of America Journal of Applied Corporate Finance* 12, no. 4 (Winter 2000): 94–101.
[1]Median of 84 closely held companies acquired.
[2]Median of 84 matched public companies acquired.
[3]Based on median multiples for domestic acquisitions.
[4]Difference not statistically significant.

The average and median of the trimmed data of WMA's studies resulted in a discount for lack of marketability of 42.2 percent and 44.7 percent, respectively.

8.4.1.3 Acquisition Multiples Studies

8.4.1.3.1 Koeplin, Sarin, and Shapiro In 2000, the *Bank of America Journal of Applied Corporate Finance* published a study conducted by John Koeplin, Atulya Sarin, and Alan Shapiro titled "The Private Company Discount," referred to as the *Koeplin, Sarin and Shapiro Study.*[95] This study reviewed matched pairs (within a similar sector) of private and public company acquisitions between 1984 and 1998. Table 8.4 shows descriptive statistics related to the relative size of the private and public firms within the study, as well as the implied discount derived from the median of the selected transaction multiples.

8.4.1.3.2 Officer Study In 2007, the *Journal of Financial Economics* published a study conducted by Micah Officer, titled "The Price of Corporate Liquidity: Acquisition Discounts for Unlisted Targets," referred to

[95]Koeplin is now an associate professor at the University of San Francisco; Sarin is now a professor at Santa Clara University; Shapiro is now a professor at the University of Southern California.

TABLE 8.5 Officer Study

Descriptive Statistics	Private Firms[1]	Unlisted Subsidiaries[2]	Public Firms[3]
Assets (in millions)	$52.50	$255.20	$292.60
	Private Company Discounts		
	Private Firms[4]	Unlisted Subsidiaries[5]	
Enterprise Value/EBITDA	17%	27%	
Enterprise Value/Sales	18%	30%	
Average Acquisition Discount	17%	28%	

"The Price of Corporate Liquidity: Acquisition Discounts for Unlisted Targets," by Micah Officer, *Journal of Financial Economics* 83 (2007): 571–598.
[1]Median of 417 closely held companies acquired.
[2]Median of 416 unlisted subsidiaries acquired.
[3]Median of 4,206 public firms acquired.
[4]Based on average difference in multiples (price paid for equity to book value of equity, price paid for equity to earnings, enterprise value to EBITDA, and enterprise value to sales) paid for private firms and comparable public firms (difference in arithmetic average of multiples).
[5]Based on average difference in multiples (price paid for equity, price paid for equity to earnings, enterprise value to EBITDA and enterprise value to sales) paid for unlisted subsidiaries and comparable public firms (difference in arithmetic average of multiples).

as the *Officer Study.*[96] This study compares acquisition multiples paid for (1) "*stand alone*" private companies or (2) unlisted subsidiaries of publicly traded companies to an industry- and size-matched comparable acquisition of a publicly traded company. Table 8.5 shows the relative size of each category based on total assets, as well as the average *private company discount* for the "stand alone" private firms (17 percent) and the unlisted subsidiaries (28 percent).

8.4.1.3.3 Mergerstat Review Study Each year, "Mergerstat Review" conducts a study to examine the variance of price to earnings (P/E) ratios of transactions involving the acquisition of public companies vs. transactions involving the acquisition of private companies. Transactions during the last eleven years were summarized and analyzed.

[96]He is now an associate professor of finance at Loyola Marymount University.

TABLE 8.6 P/E Ratios—Transactions Involving Public Companies and Private Companies

Year	Median P/E Offered: Acquisitions of Public Companies	Base	Median P/E Offered: Acquisitions of Private Companies	Base	Calculated Discount
2000	18	379	16	130	11.11%
2001	16.7	261	15.3	80	8.38%
2002	19.7	161	16.6	83	15.74%
2003	21.2	198	19.4	107	8.49%
2004	22.6	188	19	108	15.93%
2005	24.4	230	16.9	127	30.74%
2006	23.7	294	21.4	65	9.70%
2007	24.9	300	21.6	64	13.25%
2008	22.1	130	10.6	51	52.04%
2009	18.1	98	18.4	22	–1.66%
2010	20.9	162	9.3	21	55.50%
2011	21.3	139	14.9	77	30.05%
Mean					20.77%
Median					14.49%
Weighted Mean (by base number of transactions)					18.65%

Compiled from data on the Median P/E Offered: Public vs. Private from "Mergerstat Review," FactSet Mergerstat, LLC, Santa Monica, CA, 2008 (p. 20) and 2012 (p. 21).

The results of the Mergerstat Review analysis are lower than those of the other two studies—the average resulting in a *discount for lack of marketability* of 20.77 percent, with a median of 14.49 percent and a weighted average (by number of private transactions) of 18.65 percent. A comparison of median P/E ratios for public and private acquisitions is set forth in Table 8.6.

8.4.1.4 Selection of a Discount for Lack of Marketability In the June 19, 1995, ruling in *Mandelbaum v. Commissioner*, U.S. tax court judge David Laro outlined several factors that should be considered when determining the appropriate discount for lack of marketability to be applied to a particular valuation assignment. The methodology employed by Judge Laro includes adjustments to the results of the various discount studies based on these so-called *Mandelbaum Factors*, which have been recognized as contributing

TABLE 8.7 Factors Affecting the Discount for Lack of Marketability

Factor	Direction of Effect	Impact of Effect
Private vs. Public Sales of Stock	Increase	Moderate
Financial Statement Analysis	Increase	Smaller
Company's Dividend Policy	Increase	Smaller
Nature of the SUBJECT ENTITY, Its History, Position in the Marketplace, and Its Economic Outlook	Decrease	Moderate
Management	Decrease	Moderate
Control	Decrease	Larger
Restrictions on Transfer of Ownership	Increase	Smaller
Holding Period	Decrease	Smaller
Redemption Policy	Decrease	Smaller
Transaction Costs	Increase	Larger

factors relating to the *discount for lack of marketability* and are set forth in Table 8.7.[97]

Historically, it has been believed that the amount of market exposure for publicly traded companies lent investor comfort, due to the greater transparency in disclosure requirements, although with the scandals and defalcations in capital markets over the last decade, some analysts may find the claimed transparency to be illusory at best. Nonetheless, the level of resources required to be expended by the buyer in performing requisite due diligence in assessing a potential transaction, as well as the costs incurred by the seller in preparing the business for sale (e.g., accounting costs, legal costs, appraisals, management time, and brokering fees), should be considered in determining the amount of discount applicable.[98] Many analysts still believe there is a significant disparity as to these costs between public and private company transactions.

In the development of a *discount for lack of marketability*, consideration should be given to those specific facts and circumstances related to the

[97] *Mandelbaum v. Commissioner*, T.C. Memo. 1995-255.

[98] S. P. Pratt, *Business Valuation Discounts and Premiums*, 2nd ed. (Hoboken, NJ: John Wiley & Sons, 2009), pp. 204–206.

unique healthcare regulatory environment, which is typically more intense and robust than in other industries. The potential for regulatory scrutiny and the associated public concern may tend to limit the pool of potential investors for a given enterprise.

A recent illustration of the risk of limiting a potential pool of investors occurred when *Mercy Health System*, a *tax-exempt* Catholic health system, attempted to sell one of its hospitals, St. Joseph's, located in Hot Springs, Arkansas, to a *for-profit* competing hospital, which resulted in picketing, community unrest, and scrutiny by the Vatican.[99] The public nature of the criticism received by Mercy is ongoing and may limit its acquisition plans going forward, due to concerns related to its standing and position within the community, particularly in regard to its tax-exempt standing.

Another example of those marketability concerns unique to healthcare would be the recent legislation that eliminated the *whole hospital exception* to the Stark Law.[100] The *whole hospital exception* allowed a physician to have an ownership interest in a hospital (not in a subdivision of the hospital) if the physician was authorized to perform services at the hospital.[101] Similar to potential effects of negative public opinion, regulations that limit physician ownership may act to limit the potential investor/buyer pool and decrease the number of joint ventures between physicians and hospitals.[102] Specifically, increased regulation affecting physician investment results in physician providers having limited access to capital, thereby being relegated to cope with aging plants and equipment and a decreased ability to attract, recruit, and retain quality physicians, with a resulting loss of market share, revenue, and profit.[103]

---

[99] Jim Doyle, "Is Mercy Health Abandoning Catholic Mission in Hot Springs?" *St. Louis Post-Dispatch*, October 21, 2012, http://www.stltoday.com/business/local/is-mercy-health-abandoning-catholic-mission-in-hot-springs/article_44b46620-a3b7-57bd-9612-5d0b3942baf3.html (accessed January 21, 2013).

[100] The whole hospital exception was severely limited, and effectively eliminated, under section §6001 of the ACA, which bans future physician-owned hospitals from forming and also limits the expansion of existing facilities. "Patient Protection and Affordable Care Act," *Pub. L.* 111-148, 124 Stat 684 (March 23, 2010).

[101] "Prohibition against Any Federal Interference," 42 U.S.C. 1395(d)(3) (May 18, 2008).

[102] Robert James Cimasi, "Whistling Past the Graveyard: The Impact of Regulation of Healthcare Valuation," *Valuation Strategies* (September/October 2008): 19, 43.

[103] "Capital Financing: Financial and Operating Metrics Analysis," prepared for the Illinois Health Facilities Planning Board by the Governors State University Health Administration Program, September 2004, p. 8.

Moreover, multiple commentators have argued that self-referral regulations have led to the exclusion of physicians as major investors in new "*health market initiatives*," thereby reducing the investor pool in healthcare markets in which physicians seek to have an ownership interest.[104] A limitation on the number of potential investors such as this may affect the value of such enterprises by discounting their value for a perceived lack of marketability.[105] For more information on the Stark Law, see Section 3.3.2, "Stark Law," in Chapter 3, "Regulatory Environment," and for more information of the effects of the limiting of the whole hospital exception under the ACA, see Section 4.5.4, "Physician-Owned Healthcare Facilities," in Chapter 4, "Competition."

In addition to the concerns noted previously, the *gauntlet* of regulatory oversight and public scrutiny surrounding transactions within the healthcare industry may have a *chilling effect* on potential participants in the market for healthcare enterprises and may also affect the *liquidity*, that is, the time necessary to convert an investment into cash, of healthcare enterprises. For example, consider the illustrative case of a nonprofit tax-exempt managed care organization attempting to divest itself of a Medicaid managed care service line. A transaction of this nature may include approval from state insurance regulators, department of health and senior services, and other state regulatory agencies, as well as being subject to public and legislative hearing and antitrust approval regarding the qualifications of the potential purchasers, and may include a review of:

1. The sufficiency not only of the financial, but also the management capital of the purchasers; and
2. The ethical and legal standing of the purchasing organization.

This level of oversight requires management time and expertise to direct the acquisition process, as well as direct outlays of funds to comply with the regulatory requirements. In addition to the direct costs involved with regulatory compliance, the oversight from nongovernmental advocacy groups may create a great deal of public contentiousness that may pose a significant public relations risk to a potential purchaser's other businesses and brands.

---

[104] Paul Larson and Deryl Gulliford, "Stark Regulations and Health Care in Rural America," American Academy of Medical Administrators, http://www.aameda.org/MemberServices/Exec/Articles/winter05/StarkandRuralHealthCare.pdf (accessed June 2, 2008).

[105] Robert James Cimasi, "The Valuation of Physician-Owned Hospitals in a Changing Reimbursement and Regulatory Environment," *Pulse* (Physician Hospitals of America) (Winter 2007/2008): 15.

These added costs specific to the healthcare industry, both direct and reputational, will tend to:

1. Limit the pool of potential purchasers and investors willing to accept the consequences of participating in the transactional market for healthcare enterprises; and
2. Diminish the prices offered as potential purchasers attempt to defray these costs.

These considerations related to the regulatory and public environment should be included when developing a *discount for lack of marketability* in the healthcare industry.

8.4.2 Control Premium/Discount for Lack of Control

A control premium is an increase to the pro rata share of the value of the business that reflects the impact on value inherent in the management and financial power that can be exercised by the holders of a control interest of the business, usually the majority holders. Conversely, a *discount for lack of control* (*DLOC*) is the reduction from the pro rata share of the value of the business that reflects the impact on value of the absence or diminution of control that can be exercised by the minority equity holders of the entity being appraised. The mathematical relationship between the control premium and the DLOC can be expressed by the following formula:[106]

$$\text{Discount for Lack of Control} = 1 - \frac{1}{(1 + \textit{Control Premium})}$$

When attempting to quantify the appropriate *discount for lack of control* to be applied to the indicated level of value, the specific conditions and factors related to the healthcare industry, subsector, specialty, and subspecialty of the subject enterprise, as well as the mix of the type of buyer of entities similar to the subject enterprise who would be typical in the universe of buyers, sellers, owners, and investors for the subject enterprise when considering the hypothetical transaction, which is inherent in the standard of *fair market value*. Further considerations, which would include whether this pool of investors consists of *strategic vs. financial buyers*, *long- versus short-time horizon investors*, and *industry insiders versus speculators*, should be considered when analyzing the results and determining the pertinence and application of the empirical studies described next.

[106] Shannon P. Pratt, *Business Valuation: Discounts and Premiums* (New York: John Wiley & Sons, 2001), p. 19.

There are several empirical studies available that attempt to quantify control premiums. Two such studies are:

1. **Mergerstat Review**—An annual series study of the premium paid by investors for controlling interest in public traded stock.[107]
2. **Control Premium Study**—A quarterly series study that compiles control premiums of publicly traded stocks by attempting to eliminate the possible distortion caused by speculation of a deal.[108]

In determining the appropriate control premium for a healthcare-related enterprise, the valuation analyst may use the "*Mergerstat Review*" studies of control premiums paid in several healthcare transactions (SIC code 80). An example of these studies from 1995 to 2011 is presented in Table 8.8.

The analysis of the "*Mergerstat Review*" studies indicated an *arithmetic mean control premium* of 34.30 percent, a *median control premium* of 32.20 percent, and a *weighted arithmetic mean control premium* of 36.41 percent (weighted by the number of transactions considered in each period analyzed), based on data from 1995–2011.

Similarly, a valuation analyst may also use the "*Control Premium Study*," which reports control premiums paid in healthcare transactions (SIC Code 80) as well, set forth in Table 8.9.

The analysis of the "*Control Premium Study*" indicated an *arithmetic mean control premium* of 44.69 percent, a *median control premium* of 35.95 percent, and a *weighted arithmetic mean control premium* of 37.65 percent (weighted by the number of transactions considered in each period analyzed), based on data from 1998 to 2011.

Consideration of the application of a *discount for lack of control* should take into account studies published in the valuation profession literature, including those of *Eric Nath* and *M. Mark Lee,* which present the argument that a *discount for lack of control* should be applied only based on facts and circumstances that indicate that a typical acquirer would reasonably believe that it can create sufficient added economic benefits so that the acquisition value of a company will exceed its market value.[109] In the circumstance that in a specific industry within which

[107] Published by Applied Financial Application, LP.

[108] Complied by Mergerstat, a trademark of Applied Financial Application, LP.

[109] Eric Nath, "Control Premiums and Minority Interest Discounts in Private Companies," *Business Valuation Review* 9, no. 2 (June 1990): 39–46; M. Mark Lee, "Control Premiums and Minority Discounts: The Need for Specific Economic Analysis," *Business Valuation Update* 7, no. 8 (August 2001): 1–5.

TABLE 8.8 Selection of a Control Premium Using the "Mergerstat Review" Studies

	Control Premium	
Year	**Mean**	**Base**
1995	32.20%	11
1996	31.20%	19
1997	26.50%	24
1998	39.80%	16
1999	52.80%	10
2000	49.50%	5
2001	52.30%	5
2002	34.40%	6
2003*	31.60%	1
2004	42.80%	8
2005	12.40%	5
2006	40.10%	8
2007	25.90%	13
2008	25.00%	3
2009	0.00%	0
2010	57.00%	14
2011	29.60%	6
Mean	34.30%	
Median	32.20%	
Weighted Mean[1]	36.41%	

Compilation of data on Mean of Control Premiums in SIC Code 80 (Health Services) from "Mergerstat Review," FactSet Mergerstat, LLC, Santa Monica, CA, 2000 (p. 79), 2004 (p. 79), 2008 (p. 79), and 2012 (p. 81).

[1]Mean of all transactions weighted by base number of transactions considered.

*Excludes one transaction with a Control Premium of 4900%. It should be noted that no transactions were reported for SIC Code 80 in 2003.

exist no market conditions that would create these benefits in a manner large enough to justify the payment of a premium, then the expectation that a universe of typical investors would agree to the application of such a control premium may be in doubt. The healthcare industry, which operates under strict governmental oversight, may lack sufficient managerial autonomy to warrant a premium for control, that is, the ownership's flexibility to direct the management of the enterprise may be limited by the regulatory environment inherent in the healthcare industry.

TABLE 8.9 Selection of a Control Premium Using the "Mergerstat Control Premium" Studies

	Control Premium	
Year	**Mean**	**Base**
1998	15.20%	11
1999	40.00%	7
2000	50.20%	4
2001	47.30%	7
2002	22.00%	8
2003	33.30%	6
2004	3.40%	3
2005	38.60%	8
2006	29.40%	9
2007	25.20%	15
2008	41.50%	7
2009	199.40%	3
2010	50.70%	14
2011	29.40%	9
Mean	44.69%	
Median	35.95%	
Weighted Mean[1]	37.65%	

Compilation of data on all U.S. transactions of SIC Code 80, excluding negative premiums, from "Control Premium Study," Mergerstat/Shannon Pratt's BV Resources, 1998–2011.

[1]Mean of all transactions weighted by base number of transactions considered.

8.4.3 SEAM Equation

As noted earlier, in Section 8.1.1.5.1.1, "Tax Affecting Income," recent academic research suggests that the income projections for the subject enterprise should be tax affected, as the *income-based approaches* use a "build-up" method to develop an equity discount rate derived from empirical market transactional data of publicly traded C-corporation minority equity securities. The indicated value derived from the selected methodology may result in a publicly traded C-corporation equivalent level of value.

Should the valuation analyst determine that the valuation assignment requires an indication of value on an S-corporation basis, then an

INCOME-BASED APPROACH

A method measuring the present value of anticipated future economic benefits that will accrue to the owner of the subject entity, such as cash flow, net income, net operating income, or dividend payouts.

adjustment may be required to modify the C-corporation equivalent level of value derived from the selected methodology to the S-corporation (pass-through company) level of value.

A model developed by Dan Van Vleet, ASA, is referred to as "*The S Corporation Equity Adjustment Multiple*" method (SEAM equation) and has met with increasing acceptance in the valuation profession. The SEAM method, as described in detail next, relies on two (2) premises:

1. That there are substantial differences in the treatment of income taxes with S-corporations and C-corporations and with their respective shareholders; and
2. That capital markets, at least over the long term, are efficient.

The SEAM method, which should be applied only to *equity capital*, because the benefit in higher returns from electing *S-corporation tax filing status* accrues only to the *equity portion* of capital and not to *debt*, which is an integral part of total invested capital, provides an estimate of the percentage premium that a hypothetical investor would be willing to pay for obtaining the returns from an S-corporation share in the place of an otherwise identical C-corporation share, calculated by dividing the incremental net economic benefit of being an S-corporation shareholder, rather than a C-corporation shareholder, by the net economic benefit of being a C-corporation shareholder.[110] The model is therefore appropriately applied only to a *noncontrolling interest* in an S-corporation, where empirical market data of publicly traded C-corporation equity securities is used to estimate the value of the S-corporation shares.[111]

[110] Daniel R. Van Vleet, "The S Corporation Economic Adjustment Model," *Business Valuation Review* 23, no. 3 (September 2004): 167–180.

[111] Shannon Pratt and David Laro, *Business Valuation and Taxes: Procedure, Law and Perspective* (Hoboken, NJ: John Wiley & Sons, 2005), pp. 127–130.

The SEAM equation is based on the following assumptions:

1. The pass-through "organizational form of the entity being appraised will continue in perpetuity."
2. "Investors are indifferent between cash investment returns and unrealized capital gains," which results in the S-corporation paying out 100 percent of its earnings as distributions.
3. "Investors in C corporations recognize capital gains taxes when incurred."
4. "Buyers are willing to pay sellers for the S corporation income tax benefits."
5. "Beneficial aspects of current income tax law regarding S corporations and other pass-through tax entities relevant to C corporations will continue in perpetuity."
6. The subject pass-through tax entity "will continue to be a profitable enterprise in perpetuity."[112]

"*The S-Corporation Economic Adjustment*" (SEA) is based on equations that model the net economic benefits to (1) C-corporation shareholders (NEB_c) and (2) pass-through entity shareholders (NEB_s). The NEB_c equation consists of two principle components:

1. Net cash received by shareholders from dividends after the payment of
   a. Income taxes at the entity level;
   b. Income taxes on dividends at the shareholder level; and
2. Net capital appreciation of the equity security after recognition of capital gains taxes at the shareholder level.

Accordingly, the SEAM equation is used to provide an estimate of the percentage premium an investor would be willing to pay for a share of a pass-through entity, in contrast to that of an otherwise identical C-corporation share. The premium is calculated by dividing in the incremental net economic benefit of being a pass-through entity shareholder by the net economic benefit of being a C-corporation shareholder. This percentage is then added to 1 to calculate a multiple that may be used to adjust the indicated equity value of a pass-through taxable entity when empirical studies/analyses derived from market data are used as the basis of the estimate of value of C-corporations. The basic SEAM equation is as follows:

[112] Daniel R. Van Vleet, "The S Corporation Economic Adjustment Model," *Business Valuation Review* 23, no. 3 (September 2004): 167–180.

$$\text{SEAM} = 1 + \frac{t_c + t_{cg} - t_i - t_c t_{cg} + D_p t_d - D_p t_{cg} - D_p t_c t_d + D_p t_c t_{cg}}{1 - t_c - t_{cg} + t_c t_{cg} - D_p t_d + D_p t_{cg} + D_p t_c t_d - D_p t_c t_{cg}}$$

where: t_c = C-corporation effective tax rate
t_{cg} = Capital gains tax rate
t_i = Individual ordinary income tax rate
D_p = Dividend payout ratio
t_d = Income tax on dividends

The multiple, calculated as described, would then be applied to the indicated value resulting from the *discounted net*. An example of the application of SEAM equations can be found online at http://www.wiley.com/go/healthcarevaluation.

8.4.4 Blockage Discounts

Blockage discounts typically refer to the price concession that must be given by a seller in order to sell a large block of publicly traded stock in a short period of time (assuming the size of the block is larger than the existing market demand). While there does not currently exist a reliable empirical methodology for quantifying an exact discount for blockage, the amount should be based on the facts and circumstances of the engagement, which would typically include factors such as the size of the block to be traded, the volume of existing bids, and so on.[113]

8.4.5 Key Person Discounts

Some enterprises, especially in the healthcare industry related to professional medical practices, are highly reliant on a single individual or a small group of key individuals for the continuity of the successful operation of the enterprise. The perceived probability of the risk that some exigency or adverse circumstance could befall the continued participation of this key individual and in turn affect the level of economic benefit generated by the enterprise is encompassed in the *key person discount*. Factors to be considered in determining the existence of the key person discount include the key individual's

1. Relationships with Patient/Customers, including charisma or "*bedside manner*," and reputation or standing in the community;

[113] S. P. Pratt, *Business Valuation: Discounts and Premiums*, 2nd ed. (Hoboken, NJ: John Wiley & Sons, 2009), pp. 134–144.

2. Employee Loyalty; and
3. Advanced Clinical Training and Technical Abilities, for example, board certifications and collegiality, that is, the ability to develop beneficial professional and referral relationships.

Over the years, several studies have been performed in an attempt to quantify the appropriate key person discount, with inconclusive results.[114] One such study by James Larson and Jeffrey Wright, published in the *Business Valuation Review*, analyzed the publicly traded companies before and after the announcement of the departure of key individuals and indicated that

> *When the discount [key person discount] is deemed appropriate, the order of magnitude is generally a decrement of 4–6% in* equity value. *[Emphasis added]*[115]

Even though a specific percentage discount has yet to be established, the use of a *with and without* method (as described in Section 8.2.6, "With and Without Analysis") may be appropriate in determining an indication of the discount that should be applied.

An important issue to consider when determining the level of key person discount to apply is that the majority of small business enterprises are reliant on a key person or persons, and if a "*size premium*" is included in the determination of the risk-adjusted required rate of return, it may include the significant portion of the circumstantial elements that would lead to the application of a *key person discount*.[116]

In addition, specific regulation within the healthcare industry restricts the consideration of the volume of referrals in the determination of value. The valuation analyst should be cautious by ensuring that the application of a *key person discount* does not imply that the decrement to value of the enterprise encompassed by the *key person discount* is related to a decrease in the volume of referrals from nonexempt sources or that the unadjusted

---

[114] See foonote 115, as well as the Bolten/Wang Study, Steve E. Bolten and Yan Wang, "The Impact of Management Depth on Valuation," *Business Valuation Review* (September 1997): 143.

[115] James A. Larson and Jeffrey P. Wright, "Key Person Discount in Small Firms: Experience from the 1990s," *Business Valuation Review* 20, no. 3 (September 2001).

[116] S. P. Pratt, *Business Valuation: Discounts and Premiums*, 2nd ed. (Hoboken, NJ: John Wiley & Sons, 2009), pp. 291–299.

value of the enterprise includes payment for the generation of referrals from outside sources, that is, those not specifically allowed under the *group practice exception*. See Chapter 3, "Regulatory Environment," for a fuller discussion of the regulations specific to the healthcare industry.

8.5 RELATED VALUATION ASSIGNMENTS

8.5.1 Commercial Reasonableness

Regulatory oversight within the healthcare industry requires that many transactions adhere to both the concept of the proposed transaction meeting, the threshold requirement of being within a range of *fair market value*, and the concept of a second requirement that the proposed transaction also meets the distinct, but related, threshold known as *commercial reasonableness*, in order to be deemed legally permissible. Valuation professionals are often engaged to develop and render an opinion as to the *commercial reasonableness* of a given transaction, in part or overall, as an additional deliverable of the valuation engagement.

The Department of Health and Human Services (HHS) has defined the term "*commercially reasonable*" as an arrangement that appears to be "*a sensible, prudent business agreement, from the perspective of the particular parties involved, even in the absence of any potential referrals.*"[117] The Stark II, Phase II, commentary suggests that "an arrangement will be considered 'commercially reasonable' in the absence of referrals if the arrangement would make commercial sense if entered into by a reasonable entity of similar type and size and a reasonable physician of similar scope and specialty, even if there were no potential DHS referrals."[118]

Further guidance as to the definition of *commercial reasonableness* appears in the commentary published by the 2006 American Law Institute, which states that

> *Each financial and contractual connection between hospitals and physicians should be scrutinized to ensure that goods or services changing hands are being provided at fair market value, and at*

[117] "Medicare and Medicaid Programs; Physician's Referrals to Health Care Entities with Which They Have Financial Relationships: Proposed Rule," *Federal Register* 63, no. 6 (January 9, 1998): 1700.

[118] "Medicare Program; Physicians' Referrals to Health Care Entities with Which They Have Financial Relationships (Phase II): Interim Final Rule with Comment Period," *Federal Register* 69, no. 59 (March 26, 2004): 16107.

> *a level no more than necessary for the business purposes of the arrangement.*[119]

To determine whether the subject transaction is within the range of *commercial reasonableness*, the valuation analyst should consider whether the parties entering into the transaction are exhibiting *sound business judgment* in light of the enterprise's *size*, the *number of patients* treated, and the *medical needs* of those patients.[120] Among the several factors to be considered within the context of *commercial reasonableness* of the subject transaction is whether the purchasing entity could have obtained the same services from a *nonreferral* physician at a cheaper rate or under more favorable terms.[121]

Significantly, it is important that the purchaser not "(i) provide physicians with items or services for free or less than fair market value, (ii) relieve physicians of financial obligations they would otherwise incur, or (iii) inflate compensation paid to physicians for items or services."[122]

There are several methods available to the valuation analyst to ascertain the *commercial reasonableness* of the subject transaction(s). One such method is to develop a *post-transaction feasibility model*, which indicates *a payback period* (both a *return on* and *return of*) for the investment to be made in the overall transaction(s), including any and all consideration that transfers from the buyer to the seller for any and all elements of the acquisition(s) of going-concern enterprises and service lines, tangible and intangible assets, and services, as well as any lease arrangements, which may make up the subject overall transaction(s).

As noted earlier, for the subject transaction to be considered *commercially reasonable*, it must be "a sensible, prudent business agreement . . . *even in the absence of any potential referrals*" [emphasis added].[123] In performing the *post-transaction payback period feasibility analysis*, the valuation analyst creates a long-term pro-forma projected statement of cash

---

[119] Alson R. Martin, "Healthcare Joint Ventures," American Law Institute, SM047 ALI-ABA 1093 (2006).

[120] Lewis Lefko, "Fair Market Value in Health Care Transactions," July 20, 2007, http://www.worldservicesgroup.com/publicationspf.asp?id=2086 (accessed September 22, 2009).

[121] "OIG Supplemental Compliance Program Guidance for Hospitals," *Federal Register* 70, no. 19 (January 31, 2005): 4867.

[122] Ibid.

[123] "Medicare and Medicaid Programs; Physician's Referrals to Health Care Entities with Which They Have Financial Relationships: Proposed Rule," *Federal Register* 63, no. 6 (January 9, 1998): 1700.

flow (see Section 8.1.1.6, "Projected Cash Flow"), including all elements of the transaction(s) under consideration. This cash flow is then aggregated to determine the number of periods necessary to *recoup* the initial investment, including all financing costs, of the assets purchased in the subject transaction(s). If the valuation analyst determines that the required *payback* period is of a duration similar to the investment horizon expected by the universe of typical investors in assets similar to the subject transaction, then the valuation analyst may deem the transaction to be *commercially reasonable*, in that it is probable that given the available information, a similar investor would endeavor to participate in the proposed transaction(s).

Additional guidance in developing the *commercial reasonableness* threshold, as it pertains to the *Stark Law*, can be found in the more detailed analysis proposed by the government's expert in the 2004 *U.S. v. SCCI Hospital Houston* case (as discussed in Chapter 3, "Regulatory Environment").[124] The government's financial expert in that case stated that *commercial reasonableness* depended on the agreement being "*essential to the functioning of the hospital*" and further emphasized that there had to be "*sound business reasons for paying medical director fees to referring physicians.*"[125]

Further, the government's expert analyzed several factors in assessing the *commercial reasonableness* of the compensation, including:

1. The size of the hospital, number of patients, and patient acuity levels needs;
2. The quality of activities and involvement of medical staff in need of medical direction;
3. The number of regular committees and meetings that required physician involvement; and
4. The quality of hospital management and interdisciplinary coordination of patient services.[126]

This *feasibility* analysis component of the commercial reasonableness study should include consideration of the *broad strategic goals* and *stated*

---

[124] *United States ex rel. Darryl L. Kaczmarczyk, et al. v. SCCI Health Services Corp.*, Civ. No. H-99-1031 (S.D. Tex. April 12, 2004).

[125] *Fair Market Valuation Report—United States v. SCCI*, in *US ex rel. Kaczmarczyk, et al v. SCCI Hospital Ventures, Inc.*, Civ. No. H-99-1031 (July 12, 2005), p. 6; Lewis Lefko, "Fair Market Value in Health Care Transactions," Haynes and Boone, LLP, July 20, 2007, http://www.worldservicesgroup.com/publications.asp?action=article&artid=2086 (accessed September 18, 2008).

[126] *Fair Market Valuation Report—United States v. SCCI*, in *United States ex rel. Kaczmarczyk, et al. v. SCCI Hospital Ventures, Inc.*, Civ. No. H-99-1031, (July 12, 2005), p. 6.

mission of the organization. Often, purchasers within the healthcare industry include *charitable organizations*, that is, entities that are required to be organized and operated exclusively for exempt purposes, including charitable purposes, which in this instance includes relief of the poor, the distressed, or the underprivileged.[127]

In addition, as stated in Revenue Ruling 69–545:

> *In the general law of charity, the promotion of health is considered to be a charitable purpose. […] A nonprofit organization whose purpose and activity are providing hospital care is promoting health and may, therefore, qualify as organized and operated in furtherance of a charitable purpose.*[128]

The threshold for *commercial reasonableness* within the context of a *tax-exempt* charitable organization may differ from that of a *for-profit* organization. As implied by the name, *for-profit* organizations are typically motivated to seek financial profit, that is, revenues in excess of the capital and operating expense burdens of the enterprise. *Tax-exempt* charitable organizations, conversely, have *stated missions* and are required by the IRS regulations to provide a *community benefit*, as noted earlier. The accomplishment of this charitable mission may result in these enterprises sustaining financial losses, with the expectation of the goals of the charitable mission, for example, care of indigent patients, providing a *social benefit* that exceeds the anticipated financial losses. In the *commercial reasonableness* context, this implies that for *tax-exempt* charitable organizations it may be *commercially reasonable* to consider to some degree some elements of transactions that fail to meet the *feasibility* criteria described earlier and that may result in ongoing *financial losses*, so long as these transactions are in documented furtherance of their charitable mission. An example of how this circumstance is manifested is the case where a health system may be required to provide finance payments for some period of time to cover losses associated with incorporating a medical practice into an *integrated healthcare system* for the *long-term benefit* of the community it serves. The *nature, scope,* and *reason* for the *support payments* should be *well documented* and considered within the context of the health system's commitment to provide a *continuum of quality care* to the *market service area*.

---

[127]Exemption Requirements—Section 501(c)(3) Organizations—http://www.irs.gov/charities/charitable/article/0,,id=96099,00.html (accessed February 9, 2012); "Exempt Purposes," Internal Revenue Code Section 501(c)(3), http://www.irs.gov/charities/charitable/article/0,,id=175418,00.html (accessed February 9, 2012).

[128]IRS Revenue Ruling 69-545, 1969-2 C.B. 117.

8.5.2 Purchase Price Allocation

Another valuation assignment that may be requested of the analyst is a *purchase price allocation*. Financial reporting standards and IRS tax regulations require that the purchasing organizations account for the assets transferred during a business combination. Under the FASB ASC 805, formerly known as *Statement of Financial Accounting Standards* (SFAS) 141(r), business combinations must be accounted for using the "*acquisition method*" for the purposes of financial reporting. The *acquisition method* requires that the reporting entity must provide the following:

1. Identify the acquirer;
2. Determine the acquisition date;
3. Recognize and measure the identifiable assets acquired, the liabilities assumed, and any noncontrolling interest in the acquiree; and
4. Recognize and measure goodwill or a gain from a bargain purchase.

Of interest in the *purchase price allocation process* are steps 3 and 4, *the recognition and measurement of the identifiable assets acquired* and the *recognition a measurement of goodwill*. If it were assumed that the prospective transaction were to occur under the premise of *value in use as a going concern*, and if it were further assumed that the valuation methodology used was the *discounted net cash flow* (DCF) method, the resulting value indication would represent the *discounted expected future economic benefit* that would accrue to the owners of all of the assets (*tangible and intangible*) into *perpetuity*. As such, the value of the *discrete assets* that make up the *subject entity* would be included in *the single value indication* resulting from the *DCF analysis*.

Allocation of the purchase price, as required in step 3 of ASC-805, would then be accomplished by first determining the *fair value* of each of the *identifiable* assets included in the transaction. *Fair value* is defined by FASB, under ASC 820, as:

> *the price at which an orderly transaction to sell the asset or to transfer the liability would take place between market participants at the measurement date under current market conditions.*[129]

Assuming the underlying transaction for which the allocation is being undertaken was conducted in the absence of coercion or intentional

[129] "Fair Value Measurement," FASB ASC 820-10-05-1B (May 2011), formerly SFAS 157, para. 5.

misrepresentation, then the price paid by the acquirer for the subject entity can be, for financial reporting purposes, considered *fair value*.

The purchase price allocation process then becomes an exercise in identifying and measuring the specific assets (*both tangible and intangible*) and assigning a portion of the purchase price to each. The identification and measurement of *tangible assets* is straightforward. Many techniques exist for the appraisal of real estate and other fixed assets (see Chapter 14, "The Valuation of Tangible and Intangible Assets," for a full discussion of techniques for valuing tangible assets). Application of the most suitable valuation method, given the characteristics of the particular subject entity, results in the amount of the purchase price to be allocated to the tangible personal property of the subject entity.

The residual amount that remains after the deduction of the value of the tangible personal property represents the expected economic benefit that would accrue to the owners of the subject entity from the subject entity's *intangible* assets. According to ASC 805, for an intangible asset to be identifiable it must:

> *(1) [be] separable, that is, capable of being separated or divided from the entity and sold, transferred, licensed, rented or exchanged, either individually or together with a related contract, identifiable asset, or liability, regardless of whether the entity intend to do so; or, (2) Arises from contractual or other legal rights, regardless of whether those rights are transferable or separable from the entity of from other rights and obligations.*[130]

Given the FASB standards expressed earlier, the remainder of the purchase price allocation process consists of identifying and discretely valuing the individual intangible assets included in the transaction. After the value of the *identifiable intangible asset* has been deducted from the purchase price (along with the previously determined *tangible asset* value), any residual unallocated purchase price amount remaining will be classified as *goodwill* and will represent the value of the intangible assets that fail to meet the criteria for *identification*.

As an example, in the transfer of ownership in a physician practice, the typical identifiable intangible assets include the following:

1. The custodial rights to patient medical records;
2. Employment agreements;
3. Noncompete covenants;

[130] Citing (SFAS 141(R)), para. 3k (December 2007), which was recodifyed as "Business Combinations" (FASB ASC 805).

4. Favorable lease interest;
5. Certificate of need (if required);
6. Trademarks, trade names, and other marketing-related intangible assets;
7. Internet domain names and telephone numbers;
8. Technology related intangibles, such as unique techniques or processes; and
9. Any intellectual property related intangibles, such as patents or trade secrets.

To the extent that within a given transaction any of these *identifiable* intangible assets exist, they can be separately valued and deducted from what would otherwise be considered goodwill. It should be noted that in addition to the above *identifiable* intangible assets, a physician practice will typically include an intangible asset composed of the physician and nonphysician trained and assembled workforces. FASB has determined that while the *trained and assembled workforce* intangible asset exists, it is not *identifiable* (as defined earlier) and therefore cannot be separately valued from the practice goodwill for financial reporting purposes. During the last decade, there have been numerous books, chapters, and journal articles, as well as webinar presentations and conferences, devoted to the valuation activities related to purchase price allocations for financial reporting. A list of these resources can be found in the bibliography of valuation literature in the appendices of this book.

In addition to, and distinct from, allocating the purchase price for financial reporting purposes, the valuation analyst may also be asked to allocate the purchase price for tax purposes. The Internal Revenue Service (IRS) requires both the *buyer and seller* in a business transaction to file *form 8594, Asset Acquisition Statement*, which reports the *sale/purchase* of a group of assets that *constitute a business* to attach to their respective income tax returns. Completion of Form 8594 requires both the purchaser and the seller to allocate the purchase price across seven asset classes defined as follows:

1. **Class I assets**—"Cash and general deposit accounts (including savings and checking accounts), other than certificates of deposit held in banks, savings and loan associations, and other depository institutions."
2. **Class II assets**—"Actively traded personal property within the meaning of section 1092(d)(1) and Regulations section 1.1092(d)-1 (determined without regard to section 1092(d)(3)). In addition, Class II assets include certificates of deposit and foreign currency even if they are not actively traded personal property. Class II assets do not include stock of target affiliates, whether or not actively traded, other than actively

traded stock described in section 1504(a)(4). Examples of Class II assets include U.S. government securities and publicly traded stock.

3. **Class III assets**—"Assets that the tax payer marks-to-market at least annually for federal income tax purposes and debt instruments (including accounts receivable). However, class III assets do not include:
   - Debt instruments issued by persons related at the beginning of the day following the acquisition date to the target under section 267 (b) or 707;
   - Contingent debt instruments subject to Regulations sections 1.1275–4 and 1.483–4, or section 988, unless the instrument is subject to the non-contingent bond method of Regulations section 1.1275–4(b) or is described in Regulations section 1.988–2(b)(2)(i)(B)(2); and
   - Debt instruments convertible into stock of the issuer or other property."
4. **Class IV assets**—"Stock in trade of the taxpayer or other property of a kind that would properly be included in inventory of the taxpayer if on hand at the close of the taxable year, or property held by the taxpayer primarily for sale to customers in the ordinary course of its trade or business."
5. **Class V assets**—"All assets other than Class I, II, III, IV, VI, and VII assets. **Note**. Furniture and fixtures, buildings, land, vehicles, and equipment, which constitute all or part of a trade or business, are generally Class V assets."
6. **Class VI assets**—"All section 197 intangibles (as defined in section 197) except goodwill and going concern value. Section 197 intangibles include:
   - Workforce in Place;
   - Business books and records, operating systems, or any other information base, process, design, pattern, know-how, formula, or similar item;
   - Any customer-based intangible;
   - Any supplier-based intangible;
   - Any license, permit, or other right granted by a government unit;
   - Any covenant not to compete entered into in connection with the acquisition of an interest in a trade or a business; and,
   - Any franchise, trademark, or trade name."

The term "section 197 intangible" does not include any of the following:

- An interest in a corporation, partnership, trust, or estate;
- Interest under certain financial contracts;
- Interests in land;
- Certain computer software;

Certain separately acquired interest in films, sound recordings, video tapes, books, or other similar property;
Interest under leases of tangible property;
Certain separately acquired rights to receive tangible property or services;
Certain separately acquired interest in patents or copyrights;
Interest under indebtedness;
Professional sports franchises acquired before October 23, 2004; and,
Certain transactions costs."

7. **Class VII assets—**"Goodwill and going concern value (whether or not the goodwill or going concern value qualifies as a section 197 intangible)."[131]

Section 197(d)(1) of the *Internal Revenue Code* (IRC) further defines the section 197 *intangibles* as including the following:

(A) goodwill,
(B) going concern value,
(C) any of the following:
(i) workforce in place including its composition and terms and conditions (contractual or otherwise) of its employment,
(ii) business books and records, operating systems, or any other information base (including lists or other information with respect to current or prospective customers),
(iii) any patent, copyright, formula, process, design, pattern, knowhow, format, or other similar item;
(iv) any customer-based intangible,
(v) any supplier-based intangible, and
(vi) any other similar item,
(D) any license, permit, or other right granted by a governmental unit or an agency or instrumentality thereof,
(E) any covenant not to compete (or other arrangement to the extent such arrangement has substantially the same effect as a covenant not to compete) entered into in connection with an acquisition (directly or indirectly) of an interest in a trade or business or substantial portion thereof, and
(F) any franchise, trademark, or trade name.[132]

---

[131] Instruction for Form 8594 (Rev. December 2008), Department of Treasury, Internal Revenue Service.

[132] Internal Revenue Code, Section 197, Amortization of Goodwill and Certain Other Intangibles.

Section 197 goes on to define *customer-based intangibles* as:

> *(i) composition of market,*
> *(ii) market share, and*
> *(iii) any other value resulting from future provision of goods or services pursuant to relationships (contractual or otherwise) in the ordinary course of business with customers.*[133]

And section 197 further defines supplier-based intangibles as "any value resulting from future acquisitions of goods or services pursuant to relationships (contractual or otherwise) in the ordinary course of business with supplier of goods or services to be used or sold by the taxpayer."[134]

If the value of the enterprise being purchased is calculated based on a *going concern* premise of value, the individual distinct assets (Class I–VII) will not be distinctly valued, but instead will be valued as part of the entirety of the practice. The role of the consultant, then, is to allocate a portion of the purchase price to the tangible and intangible assets for completion of Form 8594, as well as provide a basis for the *depreciation* of the *tangible assets* and *amortization* of the *intangible assets*. It should be noted that in completing the IRS Form 8594, the value of any *physician and nonphysician trained and assembled workforces* may be allocated separately from goodwill, in contrast to the treatment of the *trained and assembled workforce* as required by ASC 805 for financial reporting.

The identification and valuation of *separately identifiable intangible assets*, as *distinct from goodwill*, is necessary to correctly produce postacquisition financial statements that accurately reflect the assets held by the acquiring firm and is governed by ASC 805. In addition, for tax reporting purposes, it is also necessary to assign value to certain of the intangible assets acquired to complete the required IRS Form 8594 and to provide a basis for the amortization of the intangible assets. Accepting an engagement to complete a purchase price allocation requires the valuation analyst to determine whether the allocation should be completed for financial reporting and/or tax reporting purposes regarding the treatment of intangible assets; these types of reports are distinct and most often significantly dissimilar in their definition, selection of methodology, and underlying assumptions. For further discussion of intangible assets, see Chapter 14, "The Valuation of Tangible and Intangible Assets."

---

[133] Ibid.

[134] Ibid.

8.6 CONCLUSION

The valuation analyst has available numerous and diverse *approaches*, *methods*, and *techniques* (*methodology*) to use in developing a financial appraisal of healthcare *enterprises, assets,* and *services*. The choice of approach(es) or method(s) depends primarily on the *purpose* of the valuation report, the specific characteristics of the type of property interest being appraised, and the level of value and interest in that property. The *objective and purpose* of the valuation engagement, the *standard of value*, the *premise of value*, and *the availability and reliability of data* must all be considered by the valuator, as well as the specific nature of the engagement being undertaken, all of which will act to inform the valuation analyst as to the *methodology* to apply.

Standards of appraisal practice require the valuation analyst to consider the use of multiple approaches, methods, and techniques in arriving at his or her final indication of value. The convergence of multiple methods tends to lend credence to the calculated results, although the lack of agreement does not necessarily imply that any one approach, method, or technique is incorrect. The divergence of results does, however, suggest further investigation by the valuation analyst to determine the source of the variance in value indications.

In the application of the various methods described earlier, the valuation analyst should always be aware of the foundational economic principles set forth in Chapter 7, "Basic Valuation Tenets." The approaches, methods, and techniques discussed in this chapter are all based on the financial and economic underpinnings of value. Confusion and misapplication of valuation *methodology* can occur if those underlying concepts are not understood and adhered to.

8.7 KEY SOURCES

The U.S. Bureau of Labor Statistics

"The Bureau of Labor Statistics is the principal federal agency responsible for measuring labor market activity, working conditions, and price changes in the economy . . . to support public and private decision-making."

"About BLS," U.S. Bureau of Labor Statistics, http://www.bls.gov/bls/infohome.htm (accessed January 17, 2013)

http://www.bls.gov

The National Economic Review

A quarterly publication by *Mercer Capital* providing an overview of the major factors affecting the U.S. economy.

http://www.nationaleconomicreview.net/

Survey of Current Business

A monthly publication by the *U.S. Department of Commerce* presenting the latest national, international, regional, and industry estimates.

"About the SCB," Survey of Current Businesses, http://www.bea.gov/scb/about.asp (accessed January 18, 2013)

http://www.bea.gov/scb/index.htm

U.S. Department of the Commerce's Bureau of the Census

The leading source of quality data about the people and economy of the United States.

"About Us," U.S. Census Bureau, "http://www.census.gov/aboutus/ (accessed January 18, 2013)

http://www.census.gov

Economic and Statistics Administration

A division of the Department of Commerce that provides timely economic analysis, disseminates national economic indicators, and oversees the U.S. Census Bureau and the Bureau of Economic Analysis.

"About Us," Economic and Statistics Administration, http://www.esa.doc.gov/about-us (accessed January 18, 2013)

http://www.esa.doc.gov/

The Bureau of Economic Analysis

Provides a quantitative view of U.S. domestic production, consumption, and investment, of exports and imports, and of national and domestic income and saving.

"Mission, Vision, and Values." U.S. Bureau of Economic Analysis, May 23, 2011, http://www.bea.gov/about/mission.htm (accessed January 18, 2013)

http://www.bea.gov/

Claritas

Provides an easy and convenient way to obtain detailed demographic reports and maps that offer insight into a market.

http://www.claritas.com

IHS Health Group (f/k/a Medical Data International)

A global information company offering data in the areas affecting the business landscape, such as energy, economics, geopolitical risk, sustainability, and supply chain management.

"About IHS," IHS Health Group, 2013, http://www.ihs.com/about/ (accessed January 18, 2013)

http://www.ihs.com/

Major Accounts Exchange (The MAX)

"[A]n online publication that helps suppliers drive IDN and GPO contracts."

"About Us," 2011, Lifeline, Inc., http://www.uslifeline.com/aboutus.shtml (accessed January 18, 2013)

http://www.uslifeline.com

Valuing a Business: The Analysis and Appraisal of Closely Held Companies

A comprehensive reference for active business appraisers covering theoretical principles and practice techniques for effective business valuation.

Valuing a Business: The Analysis and Appraisal of Closely Held Companies, 5th ed., by Shannon Pratt (New York: McGraw-Hill, 2008)

Appraisal and Valuation: An Interdisciplinary Approach

Established that valuation analysis often requires the integration of various fields.

Appraisal and Valuation: An Interdisciplinary Approach, by Richard Rickert, American Society of Appraisers (Washington, DC: International Valuation Sciences Institute, 1987), p. 13

Business Valuation and Federal Taxes

Discusses valuation techniques and the impact of regulatory edicts.

Business Valuation and Federal Taxes, by David Laro and Shannon Pratt (Hoboken, NJ: John Wiley & Sons, 2011)

The Handbook of Advanced Business Valuation

A guide for advanced business valuation methods and approaches.

The Handbook of Advanced Business Valuation, by Robert Reilly and Robert Schweihs

The Market Approach to Valuing Businesses

A guide to market approach–based methods.

The Market Approach to Valuing Businesses, 2nd ed., by Shannon Pratt (Hoboken, NJ: John Wiley & Sons, 2006)

Financial Valuation, Applications. and Models

A guide for the practical application of valuation theory.

Financial Valuation, Applications. and Models, 2nd ed., by James R. Hitchner (Hoboken, NJ: John Wiley & Sons, 2006)

Private Capital Markets: The Valuation, Capitalization, and Transfer of Private Business Interests

A guide for advanced business valuation methods and approaches.

Private Capital Markets: The Valuation, Capitalization, and Transfer of Private Business Interests, by Robert T. Slee (Hoboken, NJ: John Wiley and Sons, 2011)

Financial and Clinical Benchmarking: The Strategic Use of Data

A guide for the appropriate selection and use of benchmarking data.

Financial and Clinical Benchmarking: The Strategic Use of Data, by HFMA, HCIA, Inc., 1997

Business Valuation Discounts and Premiums

A discussion of the appropriate use and selection of discounts and premiums that may affect the value of the enterprise being valued.

Business Valuation Discounts and Premiums, 2nd ed., by S. P. Pratt (Hoboken, NJ: John Wiley & Sons, 2009)

Emory Studies

A range of nine studies conducted between the years 1980 and 2000, using the prospectuses of companies at their IPOs that had a prior transaction within five months prior to the IPO.

Willamette Management Associates Studies

An annual study, conducted from 1975 through 2000, of completed IPOs, determining a discount for lack of marketability.

Koeplin, Sarin, and Shapiro Study

A 2000 study that reviewed matched pairs (within a similar sector) of private and public company acquisitions between 1984 and 1998.

Officer Study

A 2007 study that compared acquisition multiples paid for (1) "stand alone" private companies, or (2) unlisted subsidiaries of publicly traded companies, to an industry- and size-matched comparable acquisition of a publicly traded company.

Mergerstat Review Study

An annual study that examines the variance of price to earnings (P/E) ratios of transactions involving the acquisition of public companies vs. transactions involving the acquisition of private companies.

Internal Revenue Service (IRS)

Under the Department of the Treasury, the IRS aims to help the large majority of compliant taxpayers with the tax law, while ensuring that the minority who are unwilling to comply pay their fair share.

"The Agency, Its Mission and Statutory Authority," U.S. Internal Revenue Service, http://www.irs.gov/uac/The-Agency,-its-Mission-and-Statutory-Authority (accessed September 18, 2012)

http://www.irs.gov/

Valuation of Corporate Growth Opportunities: A Real Options Approach
Describes the reasons for using a real options valuation approach and sets forth the techniques required to complete one.

Valuation of Corporate Growth Opportunities: A Real Options Approach, by Richard E. Otto (New York: Garland Publishing, 2000)

The Real Options Solution: Finding Total Value in a High-Risk World
Describes the theory and approaches for real options analysis.

The Real Options Solution: Finding Total Value in a High-Risk World, by Peter F. Boer (New York: John Wiley & Sons, 2002)

Project Valuation Using Real Options: A Practitioner's Guide
Sets forth a practical approach to real option valuation.

Project Valuation Using Real Options: A Practitioner's Guide, by Prasad Kodukala and Chandra Papudesu (Fort Lauderdale, FL: J. Ross Publishing, 2006)

Real Options in Theory and Practice
Describes the theory and approaches for real options analysis.

Real Options in Theory and Practice, by Graeme Guthrie (New York: Oxford University Press, 2009)

Real Options Analysis: Tools and Techniques for Valuing Strategic Investments and Decisions
A guide for when and how to apply a real options valuation approach.

Real Options Analysis: Tools and Techniques for Valuing Strategic Investments and Decisions, 2nd ed., by Jonathan Mun (Hoboken, NJ: John Wiley & Sons, 2006)

Real Options: A Practitioner's Guide
Sets forth the basics of real options analysis and how it may be used to inform investment decisions.

Real Options: A Practitioner's Guide, by Tom Copeland and Vladimir Antikarov (New York: Texere, 2001)

Patient Satisfaction Benchmarking Program
A program completed by the AMGA that gives providers a means of surveying their patients to track patient satisfaction.

"Patient Satisfaction Benchmarking Program," American Medical Group Association, http://www.amga.org/research/psat/index_psat.asp (accessed January 19, 2013)

http://www.amga.org/research/psat/index_psat.asp

Provider Satisfaction Benchmarking Program

A program completed by the AMGA that provides employers with means of surveying their providers to track their perceptions regarding their jobs.

"Provider Satisfaction Benchmarking Program," American Medical Group Association, http://www.amga.org/research/PROSAT/index_prosat.asp (accessed January 19, 2013)

http://www.amga.org/research/PROSAT/index_prosat.asp

Employee Satisfaction and Engagement Benchmarking Program

A program completed by the AMGA that provides employers with means of surveying their employees to track their perceptions regarding their jobs.

"Employee Satisfaction Benchmarking Program," American Medical Group Association, http://www.amga.org/research/ESAT/index_esat.asp (accessed January 19, 2013)

http://www.amga.org/research/ESAT/index_esat.asp

8.8 ACRONYMS

Acronym	Full Title
GDP	Gross Domestic Product
RVU	Relative Value Units
wRVU	Work Relative Value Units
CPT	Current Procedural Terminology
GNP	Gross National Product
CBO	Congressional Budget Office
DRG	Diagnostic Related Group
HCIA	Health Care Industry Association
ICCS	International Classification of Clinical Services
LOS	Length of Stay
ALOS	Average Length of Stay
CAP	College of American Pathologists
OSHA	Occupational Safety and Health Administration
NCQA	National Council for Quality Assessment
HMO	Health Maintenance Organization
AMGA	American Medical Group Association
IPO	Initial Public Offering
WMA	Willamette Management Associates
P/E	Price to Earnings

CHAPTER 9

Costs and Sources of Capital

Regardless of which of the income-based methodologies is used in the valuation process, a key parameter that must be determined is the appropriate *risk-adjusted rate of return* used to discount the *future expected economic benefits* accruing to the owners of the entity/asset under analysis. All income-based approaches attempt to express these future economic benefits, such as *cash flow* or *cost detriments*, in *present day* (as of the date of the valuation) terms. Specifically, the current owners of capital will expect compensation for postponing their enjoyment of their *ownership of capital*, as well as compensation to reflect the relative *uncertainty* of actually receiving those future benefits. These two concepts are central to understanding the cost of capital faced by healthcare entities.

9.1 HEALTHCARE FINANCING OPTIONS

Financing can be achieved through (1) *debt*, (2) *equity*, or (3) *internally generated surpluses* from revenue. Healthcare financing includes various *financial instruments* from short-term financing, taxable long-term financing, and tax-exempt bond financing to private and public equity markets. Choosing the *optimal* combination of each of the sources of capital depends on the size and makeup of the organization and what types of financing are required, as well as the *tax posture* of the borrower enterprise.

Throughout the healthcare industry's history, financing has come from various sources, including "philanthropic donations, public grants, tax-subsidized operating surpluses, and investments from nonprofit organizations based in other industries."[1] Different capital financing options are available to healthcare entities, depending on whether the organization is a *for-profit* or a *nonprofit* entity. For example, publicly traded equity markets allow *for-profit* healthcare organizations to gain access to large sums of capital based on the fluctuating value of their equity, either through an *initial public offer* (IPO) or through a *secondary equity offering* (SEO) for companies already traded in public markets.[2] The capital accumulated through sales of equity may be used by the company to finance future growth opportunities or to repay existing debt.

Both *for-profit* and *nonprofit* healthcare organizations seek capital financing from these various sources, although each entity displays unique financing characteristics that reflect its respective mission. For example, *nonprofit* entities rely more heavily on philanthropy, donations, government grants or savings from tax-exempt status, and traditional sources of debt capital.[3] *For-profit* healthcare entities, in contrast, tend to rely on a combination of "*equity capital and debt*" as financing sources. However, due to regulatory limitations, *nonprofit* healthcare organizations are ineligible to participate in public equity markets.[4] Rather, these entities typically raise capital by (1) using *tax-exempt bonds* to finance their operations, strategic initiatives, and other capital-related needs; (2) relying on *charitable donations* from both individuals and organizations as an alternative method of financing; and (3) leveraging significant flows of *cash deposits* into favorable financing terms from lender institutions, both on an interim basis and for a more permanent lending relationship. In addition, both *for-profit* and *nonprofit* organizations may enter *private capital markets*, through *venture capital* investors and *buyout funds*, as well as private *REITs* and *conduit lending structures*, which allow organizations to gain access to equity capital without subjecting the entity to overly burdensome regulations and the accompanying reporting requirements of the public equity market.

---

[1] James C. Robinson, "Capital Finance and Ownership Conversions in Health Care," *Health Affairs* 19, no. 1 (2000): 57.

[2] David A. Lips, *Healthcare Capital Finance in Good and Challenging Times* (Washington, DC: American Health Lawyers Association, 2009), p. 8.

[3] Bradford H. Gray, "Conversion of HMOs and Hospitals: What's at Stake?" *Health Affairs* 16, no. 2 (1997): 31.

[4] Louis J. Stewart and Pamela C. Smith, "An Examination of Contemporary Financing Practices and the Global Financial Crisis on Nonprofit Multi-Hospital Health Systems," *Journal of Health Care Finance* 37, no. 3 (2011): 1, citing James C. Robinson, "Capital Finance and Ownership Conversions in Health Care," *Health Affairs* 19, no. 1 (2000): 59.

Factoid

Nonprofit healthcare organizations are legally ineligible to participate in public equity markets.

"An Examination of Contemporary Financing Practices and the Global Financial Crisis on Nonprofit Multi-Hospital Health Systems," by Louis J. Stewart and Pamela C. Smith, Journal of Health Care Finance 37*, no. 3 (2011): 1, citing: "Capital Finance and Ownership Conversions in Health Care," by James C. Robinson,* Health Affairs *19, no. 1 (2000): 59.*

Risk Adjusted Rate of Return

Net income expressed as a percentage of total equity adjusted for financial risk.

Dictionary of Health Economics and Finance, *edited by David Edward Marcinko and Hope Rachel Hetico (New York: Springer, 2007), p. 317.*

Debt

All monies, notes, and bonds owed by an enterprise.

Dictionary of Health Economics and Finance, *edited by David Edward Marcinko and Hope Rachel Hetico (New York: Springer, 2007), p 102.*

Equity

The money value of property or interest in property after all claims have been deducted.

Dictionary of Health Economics and Finance, *edited by David Edward Marcinko and Hope Rachel Hetico (New York: Springer, 2007), p. 131.*

Initial Public Offer (IPO)

The first time a business, which was previously a privately held firm, issues publicly traded shares of stock.

Secondary Equity Offering (SEO)

Shares of stock that are purchased from publicly traded firms.

Cash Flows

Reported net income of a corporation plus amounts charged off for depreciation, depletion, amortization, and extraordinary charges to reserve accounts for the particular year under consideration.

Dictionary of Health Economics and Finance, *edited by David Edward Marcinko and Hope Rachel Hetico (New York: Springer, 2007), p. 63*.

9.1.1 History of Healthcare Financing

Capital finance is an integral component of a healthcare organization's long-term financial sustainability. Traditionally structured finance for *solo practitioners* and *small to medium physician group practices* was secured through personal and family equity, as well as debt capital through local *commercial lenders* using their practice's *cash deposits* as leverage and pledging their *accounts receivable*, their *tangible personal property* (e.g., furniture and fixtures) and their *real property* as *collateral*, often supplemented by *personal guarantees* as recourse to the *lender.*[5] As the healthcare industry has evolved, so have the sources of capital for small to medium medical providers, as well as for large healthcare organizations, including *asset based lending* (e.g., *AR financing)* and *cash flow lending*, based on historical performance and the borrower's demonstrated ability to repay.

Typically, 50 percent of a healthcare organization's assets have been financed with equity, the remainder being financed by debt. However, this ratio differs among the various types of healthcare delivery entities (i.e., hospitals, outpatient clinic, ambulatory providers, skilled nursing facilities, long-term care facilities, and so on).[6]

In addition to the underwriting concerns of capital providers, healthcare lenders are influenced by three additional areas: (1) the *low margins* and *high costs* of healthcare services, (2) the volatility of government policy and the "*regulatory uncertainty*" of the healthcare industry, and (3) the

[5] Jim Vaughan and Joan Wise, "How to Choose the Right Capitalization Option," *Healthcare Financial Management* 50, no. 12 (December 1996): 72.

[6] William O. Cleverly, *Essentials of Health Care Finance*, 4th ed. (Gaithersburg, MD: Aspen Publishers, 1997), p. 370.

Factoid

Typically, 50 percent of a healthcare organization's assets have been financed with equity, the remainder being financed by debt.

Essentials of Health Care Finance, *4th ed., by William O. Cleverly (Gaithersburg, MD: Aspen Publishers, 1997) p. 370.*

persistent *perception of risk* as to the ultimate impact on investors captive to the current *healthcare reform initiatives*.

9.1.2 Sources of Financing

Contemporary healthcare organizations have a multitude of borrowing options, including (1) *bond financing*, (2) *commercial lending*, (3) *mezzanine (or subordinated) lending*, (4) *equity*, (5) *sale-leaseback*, and (6) *seller "take back" financing*.[7]

The valuation analyst should carefully consider the availability of the sources of financing that could be used, as well as the costs and fit regarding the investment time horizon of the universe of typical borrowers in determining the appropriate cost of capital. Valuation analysts should also be aware of trends emerging from the healthcare industry that may have an impact on an entity's access to capital. A fact mentioned in a recent article by noted healthcare attorney Peter Pavarini related to the impact of healthcare reform and the recent U.S. Supreme Court ruling in regard to the Patient Protection and Affordable Care Act (ACA):

> *In general, capital will be more available to investment-grade hospitals and health systems and continuing care retirement communities. As health reform progresses, credit ratings may be more difficult to maintain given the anticipated decline in hospital volumes which should result in thinner profit margins. In addition to an organization's credit profile, credit-rating agencies will look at quality factor[s], such as outcomes, much more closely than they have in the past.*[8]

[7]Deborah Gordon and Lisa Lenderman, "Financing Issues for Healthcare Providers and Companies," American Health Lawyers Association Annual Meeting, Boston, June 27, 2011.

[8]Peter A. Pavarini and Matthew J. Lindsay, "Health-Care Reform: The SCOTUS Ruling's Impact on Providers," *Capital Issue Newsletter*, Lancaster Pollard, August–September 2012.

BOND FINANCING

A method of debt financing in which an investment bank underwrites the issuance of a bond and auctions it in the market. The required return is inferred from the price information provided by actual transactions in that specific debt offering.

Valuation professionals should be aware of the changing market conditions and how these changes may affect both the access to and the cost of capital to the borrower.

9.1.2.1 Debt Financing Healthcare entities use debt financing to meet their immediate objectives, as well as to pursue their extended goals in sustaining the continued viability of the organization. *Long-term debt* financing for healthcare organizations represents any debt that is repaid over a period of time that *extends beyond a single year* and can be drawn from various sources, including "private and municipal bond markets [. . .] loans, capital leases, mortgage or real estate financing, participation in real estate investment trusts, taxable bonds, notes, [. . .] certificates of participation, and tax-exempt bonds."[9]

However, the financial composition of long-term debt often differs for *nonprofit* and *for-profit* healthcare entities. Historically, *nonprofit* health systems have relied on "[p]ublic issues of long-term tax-exempt debt," which "remain the largest source of low cost capital financing for most nonprofit hospitals and health systems."[10] A recent national examination of *nonprofit* hospital systems found that approximately 95 percent of the long-term debt of hospitals and health systems consists of *tax-exempt debt.*[11] *For-profit* systems typically carry significantly higher percentages of long-term debt

[9]David A. Lips, *Healthcare Capital Finance in Good and Challenging Times* (Washington, DC: American Health Lawyers Association, 2009), p. 7.

[10]Louis J. Stewart and Pamela C. Smith, "An Examination of Contemporary Financing Practices and the Global Financial Crisis on Nonprofit Multi-Hospital Health Systems," *Journal of Health Care Finance* 37, no. 3 (2011): 3, citing Caryl E. Carpenter, Michael J. McCue, and Jared B. Hossack, "Association of Bond, Market, Operational, and Financial Factors with Multi-Hospital System Bond Issues," *Journal of Health Care Finance* 28, no. 2 (2001): 29–37.

[11]Louis J. Stewart and Pamela C. Smith, "An Examination of Contemporary Financing Practices and the Global Financial Crisis on Nonprofit Multi-Hospital Health Systems," *Journal of Health Care Finance* 37, no. 3 (2011): 5.

Factoid

Approximately 95 percent of the long-term debt of nonprofit hospitals and health systems are comprised of tax-exempt debt.

"An Examination of Contemporary Financing Practices and the Global Financial Crisis on Nonprofit Multi-Hospital Health Systems," by Louis J. Stewart and Pamela C. Smith, Journal of Health Care Finance *37, no. 3 (2011): 5.*

LONG-TERM DEBT FINANCING

Any debt that is repaid over a period of time that extends beyond a single year and can be drawn from various sources.

Healthcare Capital Finance in Good and Challenging Times, *by David A. Lips (Washington, DC: American Health Lawyers Association, 2009), 7.*

compared to *nonprofit* organizations. In addition, long-term debt financing typically increases correspondingly with the size of the healthcare system.[12]

9.1.2.1.1 Public Bond Markets Due to the underwriting costs, *bond financing* is usually efficacious only for large healthcare organizations. A *bond issue* typically involves the underwriting of the bond issuance by an investment bank, often referred to as "*floating*" the bond. The bond issue is then auctioned to the market and the required return is inferred from the price information provided by actual transactions in that specific debt offering. The magnitude of the fees associated with the issue of a *bond flotation* often render small- and medium-size bond issues, based on the total value of the issue, impractical.

Bond Issue

The underwriting of the bond issuance by an investment bank, often referred to as "floating" the bond, which is then auctioned to the market and the required return is inferred from the price information provided by actual transactions in that specific debt offering.

[12] William O. Cleverley and Jane Baserman, "Patterns of Financing for the Largest Hospital Systems in the United States," *Journal of Healthcare Management* 50, no. 6 (November 2005): 362.

9.1.2.1.2 Commercial Lending The narrow profit margins and high operating costs of some healthcare enterprises, as well as the lack of specific knowledge of the healthcare industry leading to uninformed assessments of risk, have in the past often made traditional lenders reluctant to enter the arena of healthcare financing. This is an issue of particular concern to a growing transactional market within the healthcare industry because hospitals and other healthcare entities may be more reliant on credit than other industries are. Capital expenditures play an increasingly important role in hospitals' sustainability, as both facilities and equipment are necessary to attract sufficient physicians and the patients they treat to establish a healthcare provider as a viable investment. The unique financial needs of healthcare organizations require lenders who understand the intricacies and metrics of healthcare operational performance and capital expenditures. The presence of former healthcare industry managers, who understand a healthcare organization's functions and needs, within a financial institution is an integral part of how a healthcare enterprise should choose a financing partner. In addition to the financial capital, these lenders may also provide the *management capital* and an impetus toward enhancing efficiency and cost-cutting initiatives for healthcare borrowers.[13]

9.1.2.1.3 Mezzanine Lending *Mezzanine lending*, also called *subordinated lending*, refers to the issue of a class of debt that in the event of default, and liquidation of the firm's assets, will be paid only after the *senior debt holders* have been compensated. Since mezzanine debt still retains its seniority over common equity, it fills the *middle ground* in a firm's capital structure between equity and senior debt, and, consequently, the cost of mezzanine debt falls between the typical interest rate paid for senior debt and the required

MEZZANINE (OR SUBORDINATED) LENDING

A method of debt financing that refers to the issue of a class of debt that in the event of default, and liquidation of the firm's assets, will only be paid after the senior debt holders have been compensated. It fills the middle ground in a firm's capital structure between equity and senior debt and consequently the cost of mezzanine debt falls between the typical interest rate paid for senior debt and the required rate of return demanded by the equity holders.

[13] Dan Morse, "Looking Outside: Using External Capital Sources to Overcome Budget Constraints," GE Healthcare Financial Services, http://www.gehealthcarefinance.com/includes/OurSolutions/montgomery.pdf (accessed January 5, 2012).

rate of return demanded by the equity holders. The fact that the use of mezzanine debt increases the debt maintenance payments for the firm and thereby increases the probability of default by the borrowing firm, along with the fact that mezzanine debt holders will have seniority in payments in the event of default, both tend to increase the riskiness of an equity investment in the firm using mezzanine debt and will tend to increase the required return demanded by the equity investors.

9.1.2.2 Equity Financing

9.1.2.2.1 Internal Financing Internally financed projects are funded from the reserves or cash flow of the organization, that is, cash flow that would otherwise be available for distribution to the organization's investors, which may be defined as owners within *for-profit* enterprises or the community within *nonprofit* enterprises. In that sense, *reinvestment* of *current earnings* is a form of *equity financing*. Based on the underlying assumption that it is the fiduciary responsibility of the healthcare entity's management to reinvest earnings only in projects that are expected to return at least the *equity holders' required rate of return*, the cost of equity for an internally financed project should be, at a minimum, equal to the investors' required rate of return. However, it should be noted that the "*equity holders required rate of return*" for *nonprofit* enterprises may well be defined (at least in part) as being encapsulated in the mission of the institution to serve its community benefit—a "*social return.*" When this concept runs afoul of the well-worn healthcare aphorism "*No Margin, No Mission*," controversy as to the objectives and expectations for internal financing is assured to ensue.

> **"NO MARGIN, NO MISSION"**
>
> Without sufficient net and operating margins, healthcare enterprises will not have the means with which to fulfill their mission of providing healthcare.

9.1.2.2.2 Public Equity Markets Alternatively, large *for-profit* healthcare entities can issue publicly traded shares, either through an initial public offering (IPO) for firms that are currently privately held or through secondary equity offerings (SEO) for firms whose equity is already traded publicly. The capital raised from publicly traded equity markets has a required rate of return equal to the return on equity of the already outstanding shares of stock existing as of the offering date. This is due to the *dilution effect* of the ownership interest of the current shareholders. These equity holders will

accept this *dilution effect* only if they anticipate that the cash raised from the equity sale will return a greater amount than if the firm did not undertake the new investment that required the stock issue to raise the capital.

9.1.2.2.3 Private Equity *Private equity* refers to any *nonpublic source* of equity. Firms engaged in private equity include *investment banks*, *hedge funds* and firms whose sole purpose is to seek investment opportunities in private companies. Private equity investment necessarily includes diminished control for original equity holders of the firm, which may be subject to the risk of divergent strategic goals between the original equity investors and the private equity investors. Private equity investors typically seek high return opportunities (and consequently have higher risk tolerances); however, they may be less patient for returns than traditional equity holders in the event that cash flow is delayed and may be more inclined to dismantle a less liquid organization to extract the value of its assets.

Private Equity

Any nonpublic source of equity.

9.1.2.2.4 Venture Capital Healthcare entities might alternatively seek equity financing through select *venture capital* sources. *Venture capital* is a subset of private equity that focuses on smaller emerging companies. In addition to their capital investment, venture capitalists provide their expertise in developing strategies to transition smaller private companies in the *early stages* of their development into more mature corporations. This *mentorship process* is often as valuable to the firm as the actual equity investment and differentiates venture capital firms from the rest of private equity.

Venture Capital

A subset of private equity financing that focuses on smaller emerging companies.

9.1.2.3 Alternative Financing Options In addition to the more traditional forms of finance noted earlier, there are several alternative options available to healthcare entities to meet their capital needs.

9.1.2.3.1 REIT Financing *Real Estate Investment Trusts* (*REITs*) are investment vehicles by which to invest in a wider portfolio of real estate assets

Real Estate Investment Trusts (REITs)

A method of financing which involves investment in a wider portfolio of real estate assets than simply acquiring a single property (typically real property). The owner of the premises may obtain REIT financing by agreeing to sell their real estate assets to the trust and subsequently leasing back the property, thereby acquiring cash to invest in its core healthcare functions.

than simply acquiring a single property. In the healthcare industry, REIT investment is typically in real property, land and buildings, used by healthcare entities in the provision of medical services (e.g., medical office buildings, hospitals, medical office parks, outpatient ambulatory centers, long-term care facilities, and others). REIT financing involves healthcare entities that already own their premises and agree to sell their real estate assets to the trust and subsequently lease back the property. This provides the benefit of an injection of cash into the lessee that can be used to invest in the core functions of that healthcare entity, to pay down debt, or to invest in other enterprises and initiatives, as well as provide the trust with rental income for a specified period of time as a return on the investment.[14] Some REIT arrangements may also confer additional tax benefits.

9.1.2.3.2 Joint Financing Another form of financing available to health care entities is *joint financing*. Joint financing involves two or more entities agreeing to joint develop a project/asset to the benefit of both investors. For example, two medical office buildings jointly developing, building, and owning a parking structure for the benefit of both buildings. The benefits of

JOINT FINANCING

A method of financing in which two or more entities agree to joint develop a project/asset to the benefit of both investors, with the benefit of reduced financial burden and more diverse risk allocation to each entity.

[14] Jeffrey H. Cooper, "Real Estate Monetization: An Attractive Source of Hospital Capital," *Health Care Financial Management* (July 2012): 102–104.

joint financing are that it reduces the financial burden to each of the individual participants and allocates the risk among multiple entities.

9.1.2.3.3 Charitable Financing *Charitable financing* is used particularly by *nonprofit* entities. While *charitable donations* do not have an explicit capital cost, there is a cost for solicitation and obtaining the donations. Instead, charitable donations are premised on the expectation that the donation will provide a return to the wider society within which the entity operates. To the extent that an entity fails to meet the benefit expected by the person or the foundation donating the funds, it may find future charitable financing difficult to achieve. The calculation of a social discount rate is not easily achieved and falls under the purview of *welfare finance*. Charitable benefactors have alternative options for allocating their scarce donative capital. The expected return from these alternative investments will tend to set the floor for the required return for charitable donations, as the charitable donation could have been invested in the alternative and provided funds that could then be used for the preferred charitable purposes of the benefactor. Therefore, the *social benefit* derived from a charitable donation should at least equal the risk-adjusted rate of return for a similar enterprise. (Note the discussion of "*Social Return*," earlier.)

In addition to *donations* that directly finance operations, many healthcare ventures (particularly *nonprofit* entities) rely on a *stream of income* generated by returns from the investment of a *charitable endowment*. Instead of directly applying donated funds to the enterprise's operation budget, the funds are deposited in a charitable trust that invests the funds in various instruments with the goal of maintaining the endowment's principles' as well as providing a benefit stream that can be used in achieving stated goals of the institutions. The alternative use of these funds is *reinvestment* within the *charitable trust*, in which case the *required rate of return* should be the expected return on investment for the charitable trust, which presumably would be the required rate of return for a prudent investor within the risk profile permitted under the terms of the endowment or trust.

9.1.2.3.4 Capital Leases and Off Balance Sheet Financing *Capital leases* are another option available to healthcare ventures seeking to obtain financing. Typically, *capital leases* are used to finance, over time, large capital expenditures (e.g., MRI systems, X-ray systems, or radiation therapy equipment). While *capital leasing* has some similarities to traditional *commercial lending*, there are some important benefits that may make the use of capital leases more attractive to healthcare entities, such as (1) they capture the depreciation tax shield benefit of ownership without a significant down payment or personal guarantee; (2) they possibly receive more favorable terms

from industry specialist leasing firms, with greater institutional knowledge of healthcare; and (3) they receive expert technical and administrative advice particular to the leased asset.[15]

A distinction should be drawn between capital leases and operating ("*true*") leases. Operating leases, in contrast to capital leases, are treated as an operating expense and are reflected in the subject entity's income statement as a recurring expense and are often referred to as "*off balance sheet*" financing. An asset leased under a capital lease should be "*capitalized*" and stated on the subject entity's fixed asset list and balance sheet and depreciated over the economic useful life of the asset; a "*true*" (or operating) lease should not.

There are, however, certain aspects of true leases subject to IRS scrutiny. In particular, Revenue Ruling 55 540, 1955–2 C.B. 39 defines a "*true*" lease (i.e., operating) in the equipment leasing context. In this ruling, the IRS stated that

> *The determination of whether an agreement, which in form is a lease, is in substance a conditional sales contract depends upon the intent of the parties as evidenced by the provisions of the agreement, read in light of the facts and circumstances existing at the time the agreement was executed. In ascertaining such intent no single test, or any special combination of tests, is absolutely determinative.*

Interpretations of various IRS rulings and accounting standards suggest that a lease transaction should meet the following criteria to qualify as a "*true lease*" (operating):

1. At the beginning of the lease term, the leased asset must have a projected fair market value at the expiration of the lease term of an amount greater than or equal to 20 percent of the value of the leased asset at the inception of the lease, excluding from consideration the effect of inflation and/or deflation and any cost to the lessor for removal.
2. The leased asset is projected to have the longer of (1) at least 20 percent of its expected normal useful life (the life projected at the inception of the lease) remaining at the end of the base term, or (2) a remaining normal useful life of at least one year at the end of the base lease term.
3. The lessee cannot have a right to purchase or renew the leased asset for a price that is less than its fair market value.[15]

[15] Richard Contino, *The Complete Equipment Leasing Handbook* (New York: Amacom, 2002).

4. The lessor cannot force the lessee to purchase the leased asset at a fixed price.
5. The lessor must have a minimum unconditional equity "at risk" investment equal to at least 20 percent of the value of the leased asset at all times during the lease term. This can be done in a number of ways: with cash, with other consideration, or by personally assuming the obligation to buy the equipment.
6. The lessee must not furnish any part of the purchase price of the leased asset or have loaned or guaranteed any indebtedness created in connection with the acquisition of the leased asset by the lessor.
7. The lessor must show the lease transaction was entered into for profit, apart from any tax benefits resulting from the transaction. Total lease payments that the lessee is obligated to pay over the lease term, when added to the equipment's estimated residual value, have to be greater than the amount of money that the lessor is obligated to pay out for the equipment, such as debt service and equity investment, including any related direct equity financing costs.[16]
8. The present value of the lease payments cannot exceed 90 percent of the Fair Market Value (purchase price) of the equipment.[17]

As construed here, an operating lease should not be considered a *source of capital*. In a *true* lease, the ownership of the asset is retained by the leasing firm. In a *capital lease*, ownership of the asset is transferred to the "*lessee*," and the lease payments are, in effect, *structured payments* for the asset, similar to traditional *loan payments*.

For the purposes of the valuation process, it is important to correctly identify leases as either operating or capital, to assist the valuation consultant in accurately projecting the expected expense burden of the subject entity. In addition, a firm's use of *capital* versus *operating leases* affects the entity's *capital structure*. As is discussed later, the firm's capital structure is a key determinant of the cost of capital. It is incumbent on the valuation consultant to correctly construe the financial position of the subject entity relative to its use of capital and operating leases, to appropriately determine the firm's *capital cost*.

It should be noted that among the current trends in the accounting industry is a movement toward a reconciliation of the accounting standards as expressed by the *Financial Accounting Standards Board* (*FASB*) with the

[16] Internal Revenue Service, "IRS Revenue Ruling 55-540," 1955; Internal Revenue Service, "IRS Revenue Procedure 2001-28," May 7, 2001.

[17] Financial Accounting Standards Board, "Statement of Financial Accounting Standards No. 13," Norwalk, Connecticut, November 1976, p. 49.

Factoid

A business's capital structure is a key determinant of the cost of capital.

Factoid

The Hill-Burton Act was one of the first instances of significant federal funding—and regulation—of the healthcare industry, financial assistance to over 4,200 hospitals, nearly 60 percent of all U.S. hospitals.

Special Analyses: Budget of the United States Government: Fiscal Year 1978, *United States Office of Management and Budget (Washington, DC: Government Printing Office, 1978), p. 215.*

standards promulgated by *the International Accounting Standards Board* (*IASB*). Lease accounting is among the issues to be reconciled during the integration process. Most experts believe that the process will eventually conclude with FASB, and therefore the United States, accepting the *international lease accounting standards*, which *do not allow* for *operating leases*, favoring instead a *capital lease treatment* for all equipment leases.[18] As noted earlier, the conversion of a subject entity's leases to *capital leases* will have an impact on its capital structure and therefore its *cost of capital* as well.

9.1.2.3.5 Government Grants and Programs Federal, state, and local governments are also a significant source of *financial capital* for the healthcare industry. The benefits of a hospital venture to the community in which that entity operates extend beyond the *private investors/owners of the enterprise*. Many communities realize direct, as well as indirect, benefits from healthcare entities. These benefits may encourage governments, at all levels, to assist these enterprises in obtaining sufficient financing to fund their capital and operating budgets.

Toward that end, many governmental agencies have historically developed programs to support endeavors in the healthcare industry. For example, the *Hospital Survey and Construction Act of 1946* (commonly known as the *Hill-Burton Act*) was landmark legislation that provided for federally funded health policy planning and direct federal investment in

[18] Financial Accounting Standards Board, "Exposure Draft: Proposed Accounting Standards Update," August 17, 2010, pp. 1, 3.

hospital construction.[19] (See Chapter 1, "The Chronology of U.S. Healthcare Delivery: From Caduceus to Corporatization," for a discussion of the history surrounding the *Hill-Burton Act*.)

Currently and in the future, these programs will typically be designed to further a particular deficiency in care delivery, as identified by a governmental agency, such as (1) critical access hospital grants supporting hospitals designated as critical access in underserved areas; (2) the HITECH act, which provides funding to assist healthcare enterprises in the adoption of electronic health records (EHR); and (3) funding for post-9/11 emergency preparedness and response capabilities. Valuation analysts should be aware of these alternative sources of financial capital, as well as their availability to the different types of healthcare ventures.

The costs associated with governmental sources of capital may not be recognized as direct financial expenditures. Instead, government assistance may come with an inherent, but not explicit, regulatory burden. Healthcare entities seeking governmental funding may find themselves, as a condition of receiving the funding, required to meet new reporting and/or oversight requirements. For example, as a condition of receiving funding under the HITECH act, healthcare providers are required to prove "*meaningful use*," that is, to receive the funding providers must meet several benchmark standards that indicate not only that they have purchased the required EHR, but that they are also making efficient use of it.[20] The cost burden of this oversight, both through the collection and reporting of data and the costs of meeting the required standards, while not directly reflected in the distinct accounting of the capital cost for these funds, is instead reflected in a greater operating expense burden for the entity and the resultant decrease in the available cash flow. A valuation analyst, considering the inclusion of governmental sources of capital, should carefully consider the costs and sources of payments associated with obtaining these funds to accurately estimate the future economic benefit arising from this form of capital.

9.2 COST OF CAPITAL

A key component of the income-based valuation approaches is the determination of the appropriate *discount rate* to apply to the *expected future economic*

[19] Andrew B. Dunham, *Health and Politics: The Impact of Certificate of Need Regulation* (Chicago: National Center for Health Service Research, 1981), p. 141.

[20] Jonathon P. Tomes, "Avoiding the Trap in the HITECH Act's Incentive Timeframe for Implementing the EHR," *Journal of Health Care Finance* 37, no. 1 (Fall 2010): 91–100.

benefit to be derived from the ownership of the subject entity. This discount rate is most commonly referred to as the *Cost of Capital*. The concept of the *Cost of Capital* can be viewed from two alternative perspectives: (1) the *Cost of Capital* is the *expected expense that an entity will incur* in obtaining the necessary capital financing to fund an investment, or (2) it can be understood as a reflection of the uncertainty pertaining to an *investor's expectation of realizing the projected cash flow* associated with the asset(s) being acquired.

These two concepts are not unrelated. *Investors' risk perceptions* strongly influence the required rate of return necessary to induce investors to allocate a portion of their scarce capital toward a particular project, and these risk perceptions should be swayed by the expectations as to the probability of actually realizing those returns. *Economic and financial theory*, as well as *empirical evidence*, suggests that there exists a strong connection between the *uncertainties* related to the future expected economic benefit of an investment and the *required return* an investor demands. Economic actors (e.g., investors) are assumed to operate in their own best interest within boundaries of *rational economic behavior*, which requires that *greater risk* be rewarded with *greater return.* Toward that end, *rational investors* will assess the relative riskiness (relative to other alternative investment opportunities) and determine the appropriate level of compensation that will be required to allay their fears related to the achievement of the anticipated cash flow. All things being equal, a riskier (i.e., less likely) future cash flow will be discounted at a higher rate to account for the discomfort experienced by the investor related to the likelihood of his or her investment achieving the anticipated future cash flow.

All value is *forward looking* and is therefore subject to *uncertainty and risk*. To assess the value of an asset, an appraiser must accurately forecast the *expected future economic benefit* that will accrue to the owner of that asset, as well as appropriately determine the *likelihood* of actually achieving those anticipated gains. The concept of the *Cost of Capital*, from the *investor's perspective*, is the excess compensation required to render the investor, at a minimum, to a state of indifference between investing in the risky asset and an alternative *risk-free* asset, in other words, a future economic benefit known, with *certainty.* That is, the investor must be compensated not only for the *postponement* of the utility derived from the consumption of the capital that is invested (i.e., the *time value of money*), but also for the *likelihood* of reduced or nonexistent returns from the investment project. The excess return required over the *risk-free* rate of return is referred to as the *risk premium*. Accordingly, the *Cost of Capital* can be considered, in general terms, to be composed of a *risk-free portion* and a *risk premium*. Projects with *greater certainty* regarding the anticipated future economic benefits pose a *lower risk* to

investors and will have a lower risk premium and a lower required rate of return.

From the perspective of the *entity seeking funds* for investment in a project, the *Cost of Capital* can be viewed in the more traditional sense of a *cost*. As noted earlier, capital financing requires that the providers of capital receive a return on their investment. To a firm seeking capital, this can be thought of as the *hurdle* rate. If a project under consideration is not expected to generate sufficient cash flow to provide capital investors with both a *return on* and *return of* their initial investment, then the project should be forgone, in favor of projects with more favorable cash flow expectations or lower capital costs.

Yet in a larger sense, the *Cost of Capital* is the *mechanism* through which the economy enforces the *efficient allocation of scarce resources* to their highest and best use. As a decision *criterion*, the *Cost of Capital* provides information to *economic actors* on the *relative merits* of a project. The individual actors within the economy do not require information regarding every possible use of the scarce capital available in the market; they require knowledge only of the *market* price of capital. So long as the project's anticipated cash flow provides an excess return above the *Cost of Capital*, then the project should be undertaken.

Further, in deciding between two competing projects, the project hat provides the greatest risk-adjusted return would be preferred because it generates the *greatest expected excess cash flow* to the entity after consideration of the cost of the capital employed as a function of the riskiness of the project and the time value of money related to the project's time horizon. This process ensures that capital is directed to those projects with the greatest possible return, that is, the projects with the largest expected future economic benefits are selected, and those projects that provide lesser benefits are avoided. Free market philosophies consider that this is best accomplished through the *price mechanism* without the need for overt direction. The concept asserts, as its basis, that a self-organizing system of socially efficient capital allocation naturally emerges from *rational economic actors* seeking *individually beneficial outcomes*. This concept is commonly referred

Cost of Capital

A key component of the income based valuation approaches is the determination of the appropriate discount rate to apply to the expected future economic benefit to be derived from the ownership of the subject entity.

COST OF CAPITAL

The concept of the cost of capital can be viewed from two alternative perspectives: (1) the cost of capital is the expected expense that an entity will incur in obtaining the necessary capital financing to fund an investment, or (2) it can be understood as a reflection of the uncertainty pertaining to an investor's expectation of realizing the projected cash flows associated with the asset(s) being acquired.

"THEOREM OF THE INVISIBLE HAND"

Given a number of ideal conditions, optimizing behavior on the part of individuals and firms under pure competition leads to an efficient (Pareto-optimal) social outcome.

Price Theory and Applications, *by Jack Hirshleifer (Englewood Cliffs, NJ: Prentice-Hall, 1984), p. 479.*

to as the "*Theorem of the Invisible Hand*" (in reference to the famous Adam Smith quote) and can be summarized as:

> *Given a number of ideal conditions, optimizing behavior on the part of individuals and firms under pure competition leads to an efficient (Pareto-optimal) social outcome.*[21]

9.2.1 Estimating the Cost of Capital

As noted earlier, the *capital structure* of a healthcare entity typically consists of both equity and debt. Each of these *sources of capital* has unique properties that affect the expected cost that a firm would incur when gaining

[21] Hirshleifer states that the "One allocation of goods in an economy is said to be 'Pareto—Preferred,' in comparison with another, if in the first arrangement all parties concerned are at least as well off and one or more of the parties is actually better off than in the second." Pareto-optimal in this sense would be the *arrangement* whereby the maximum utility for all parties is attained, without the reduction of utility for any party. Jack Hirshleifer, *Price Theory and Applications* (Englewood Cliffs, NJ: Prentice-Hall, 1984), p. 479.

Weighted Average Cost of Capital

A blend of the cost of an enterprise's various capital components, including the cost of debt capital and the cost of equity capital of the enterprise, representing the expected return demanded by the blend of both debt and equity investors in the subject entity, and the capital cost to the entity for financing future projects.

WEIGHTED AVERAGE COST OF CAPITAL (WACC)

WACC reflects the relative use of equity and debt in the capital structure of the particular entity under analysis, based mostly on (1) the cost of debt, (2) the cost of equity, and (3) the anticipated capital structure for the subject entity.

access to and using these *capital sources*. To appraise the financial value of a healthcare entity, the most probable cost burden that would be expected by a *typical investor* in the subject entity should be considered. The estimation of the costs related to financing an investment is encapsulated in the concept of the *Weighted Average Cost of Capital* (WACC), which reflects the relative use of equity and debt in the capital structure of the particular entity under analysis. The important types of input into the development of the WACC are (1) the *Cost of Debt*, (2) the *Cost of Equity*, and (3) the anticipated capital structure for the subject entity.

9.2.1.1 Cost of Debt Healthcare enterprises have multiple options available to them in seeking debt financing. The selection of the *type* of *debt financing* will have an impact on the *expected cost of debt*. Deriving the cost of debt is generally a relatively straightforward exercise for a given enterprise. Lenders, in all classes of debt, will expect both a *return of* and a *return on* their initial investment. The size and form of these returns will largely be determined by the *type of debt* that is obtained. Traditional commercial bank lenders will typically expect a return of the principle amount loaned (*return of*), as well as an interest payment (*return on*) on an agreed-on loan repayment schedule. While the terms of the loan may be variable, all debt financing is similar, in that the lenders will expect compensation, above the *risk-free rate*, for providing the loaned funds; to the extent that the *return of* is perceived to be of higher risk, the lenders will demand a greater *return*

on as compensation for assuming this greater risk. Therefore, projection of the expected *cost of debt* necessarily involves an assessment of the relative riskiness of the borrowing enterprise.

The valuation analyst can rely on either the *historical subject entity cost of debt* (i.e., the interest rate on outstanding debt) or a *market-derived expected cost of debt*. Of note is that in using *historical interest expense* as a *proxy* for the *expected cost of debt* attention is required to the timing of the historical debt investment. *Historical interest expense* is based on the level of debt in the firm *at the time the loan was made* and is based on the *prevailing market interest rate at that time*. As of the *date of valuation*, the debt level of the firm may be *significantly different* than *at the time the existing debt was obtained*. Higher debt levels, in general, imply a *greater perceived risk* of borrower default and therefore demand a higher interest rate to compensate the lender for assuming this *greater perceived risk*. To the extent that the level of debt for the subject entity has changed, affecting the lender's perception of the borrower's liquidity and solvency, then the anticipated cost of debt will typically be adjusted upward. The valuation consultant should consider using the historical cost of debt only when it is reasonable to assume that the *level of debt* at the time the subject entity obtained the debt financing is *similar* to the *expected debt levels in the future*.

Alternatively, the valuation analyst can look to the market for similar enterprises that provide insight to the valuation analyst in determining an appropriate cost of capital. One *market-based method* to estimate cost of debt is to collect *current yield rates* for publicly traded, fixed-income securities (i.e., corporate bonds) with similar *risk profiles* (e.g., within the same industry or subindustry) as the subject entity. A *composite cost of debt* can be created by calculating the *weighted average* of the *collected yield rates*, with greater weight applied to those yields derived from market comparable instruments that have greater similarity to the subject entity.

Another *market-based method* for determining an appropriate *cost of debt* is to assess the quality of the hypothetical debt issued by the subject entity and apply a *risk premium* over the prevailing *risk-free rate* in accordance with the valuation consultant's risk assessment. The risk assessment can be performed by using several metrics to discern the subject entity's likelihood of default. A method proposed by Aswath Damodaran at New York University's Stern School of Business is:

> *estimat[e] the cost of debt . . . by us[ing] the*
>
> *interest coverage ratios of these firms to estimate 'synthetic ratings,' and then us[ing]*

the default spreads on these ratings [over the risk free rate] to arrive at the costs of debt.

To allow for the fact that private firms tend to be smaller and riskier than most publicly traded firms, we would use the relationship between interest coverage ratios and ratings for a subset of smaller, publicly traded firms.[22]

The advantage of *market-based methods* is that, assuming relatively *efficient markets*, the *market-derived cost of debt* should reflect all elements of pertinent information (e.g., the impact of *constrained capital markets*) available at the time of the valuation. It may be necessary, though, to further adjust the market-based calculated *cost of debt* to reflect *idiosyncrasies* particular to the given subject entity, such as *poor credit history* or *high leverage*, as compared to industry norms.

9.2.1.2 Cost of Equity Several methodologies have been developed to estimate the *cost of equity* for an enterprise. Selection of the appraisal methodology to employ will rely primarily on the availability of data related to the specific entity being valued. Among the methods commonly used to estimate *equity capital costs* are (1) the *Build-up Method*, (2) the *Capital Asset Pricing Method* (*CAPM*), and (3) *Arbitrage Pricing Theory* (*APT*) methods.

Factoid

Arbitrage Pricing Theory methods are divided into two different types: (1) macroeconomic models, explaining required rates of return based on macroeconomic variables; and (2) microeconomic models, which look to variables specific to the subject entity.

Capital Asset Pricing Method

A technique that defines the riskiness of an investment relative to the overall riskiness of the market, resulting in the assumption that all things being equal, investors will require greater compensation for greater risk.

[22] Aswath Damodaran, "Valuing Private Firms," New York University, http://pages.stern.edu/~adomar/ (accessed on September 18, 2012).

9.2.1.2.1 Build-Up Method

9.2.1.2.1.1 Risk-Free Rate The starting point for developing an appropriate discount rate is the *alternative investment opportunities* in *risk-free* or *relatively risk-free investments*. The interest rate of U.S. government securities is often considered to be a close *substitute* or *proxy* for a *risk-free rate* (e.g., 20-year Treasury bond rate as of the *date of the valuation*).

9.2.1.2.1.2 Investment Alternative (Equity Risk Premium) This adjustment reflects the extra return, or *premium*, realized on the historical public stock market indices (e.g., the New York Stock Exchange [NYSE], Standard and Poor's 500 [S&P 500], and the Dow Jones Industrial Average [DJIA]) that is typically available to an equity investor in large company stocks in excess of the return on a risk-free investment. Morningstar, which acquired the Ibbotson Company, has since 1926 studied and estimated the historical realized *Equity Risk Premium* (*ERP*) associated with the risk of investment in common stock in relation to various government bonds in its *Stocks, Bonds, Bills and Inflation Yearbook* (SBBI).[23]

Various valuation publications (e.g., Grabowski and King) have compared the expected growth in *Gross Domestic Product* (*GDP*), *earnings*, or *dividends* with *realized returns* reported by sources such as Morningstar, noting that "investors could not have expected as large an ERP as the equity premiums actually realized."[24] In light of these published studies, it may be appropriate to adjust downward a historical realized ERP to estimate a forward-looking ERP.[25]

9.2.1.2.1.3 Industry Risk Premium This adjustment applies a measurement of the relative risk of the healthcare industry (SIC code 80) against the market index as a whole by the addition of an industry risk premium to the selected *risk-free rate* and *ERP* from the "*build-up*" method. Morningstar has developed an *industry premium methodology* from tracking the *returns* and *related betas* (which are measurements of relative volatility)

---

[23] Morningstar, as described on its corporate website, http://corporate.morningstar.com/US/asp/subject.aspx?xmlfile=177.xml (accessed September 20, 2012), "*is a leading provider of independent investment research in North America, Europe, Australia, and Asia. [They] . . . offer an extensive line of products and services for individuals, financial advisors, and institutions.*" SBBI is published annually, quarterly and for recent years has been available online.

[24] Roger J. Grabowski and David W. King, "Equity Risk Premium: What Valuation Consultants Need to Know about Recent Research: 2005 Update," *Valuation Strategies* (September/October 2005): 10.

[25] Ibid.

of companies in a number of industries in its annually published *Stocks, Bonds, Bills and Inflation Valuation Yearbook* (SBBI).

9.2.1.2.1.4 Size Risk Premium The *build-up* of the *risk-free rate*, the *equity risk premium*, and *industry risk premium* provides a combined estimate of the *indicated return required* by investors in large company stocks in the healthcare industry. Morningstar measures the additional return *of small company stocks* over the *stock market index* as a whole. *Anomalies* have been noted in the returns of *small companies* in comparison to *larger companies* (famously by Eugene Fama and Kenneth French, as discussed further later). *Smaller companies* tend to produce *greater statistically significant returns* than *larger companies* when controlling for *risk factors* other than *size*. This indicates that participants in equity markets perceive extra *risk* for investing in companies based on their size. Morningstar provides estimates of the *historical size premium* based on *company market capitalization levels* divided into 10 "*deciles*."

9.2.1.2.1.5 Subject Entity Specific Risk Premium The combination of the *four elements* discussed earlier (i.e., the *risk-free rate*, the *ERP*, the *industry risk premium*, and the *size risk premium*) estimates returns based on the *market's expectation* of *systematic risk* from *freely traded equities* not subject to the *liquidity* and *risk* concerns of *small private companies*.

The subject entity-specific risk premium provides an adjustment for the nonsystematic risk and is somewhat more *subjective* than the other elements in the *build-up* method, in that it reflects the valuation consultant's *informed*, if less *empirical*, assessment of the various risk factors that are *inherent and specific to the subject entity.* Additional *risk factors*, specific to a subject healthcare enterprise, include, but are not limited to, (1) *operational performance* (as evidenced by benchmarking), (2) *market/competition*, (3) *technological obsolescence*, (4) *uncertainty* related to *reimbursement* from *government* and *managed care providers*, (5) *provider and staff stability*, (6) *access to capital*, (7) *risk* related to *key persons* or *key suppliers*, (8) *depth of management*, and (9) *geographic distribution.*

HEALTHCARE ENTERPRISE RISK FACTORS

Risk factors include operational performance, market/competition, technological obsolescence, uncertainty related to reimbursement from government and managed care providers, provider and staff stability, access to capital, risk related to key persons or key suppliers, depth of management, and geographic distribution.

Butler-Pinkerton Method

A valuation calculator that attempts to measure total cost of equity and public company specific risk.

"The Butler Pinkerton Model: Empirical Support for Company-Specific Risk," by Peter J. Butler and Keith A. Pinkerton, Value Examiner*, May/June 2003.*

9.2.1.2.1.6 Attempts at Standardization of Selected Risk Premia Research challenges related to determining the appropriate discount rate/cost of equity include (1) finding research to support the quantification of *subject healthcare practice–specific risk premiums*, (2) obtaining *size premium data* for small companies, and (3) determining *industry risk adjustments* for certain professional practice industry subsectors.

Among several efforts within the valuation profession, over the years, a calculator has been released using the *Butler-Pinkerton method* to measure *total cost of equity* and *public company–specific risk*.[26] It provides empirical benchmarks for selecting the correct subject entity–specific risk premium for the subject enterprise, mixing subjective and objective techniques. The calculator can only be used to calculate implicit volatilities exactly matching the private company's total cost of equities (TCOE). An example of the use of the build-up method to determine the cost of equity can be found online at http://www.wiley.com/go/healthcarevaluation.com.

9.2.1.2.2 Capital Asset Pricing Model (CAPM) An alternative to the *build-up method* for estimating the *cost of equity* to be used in the income approaches is the Capital Asset Pricing Method (CAPM). The CAPM technique defines the *riskiness* of an investment relative to the *overall riskiness* of the *market*, that is, the *expected return* from a *well-diversified portfolio of assets*. Underlying this technique is the assumption that all things being equal, investors will require *greater compensation* for *greater risk*. The first step in calculating the *cost of equity* using the CAPM method is to estimate the *beta*, that is, the *relative variability* of the returns for the subject entity in comparison to the market. *Beta is* often considered to be a measure of volatility.

9.2.1.2.2.1 Beta Estimation Beta estimation is a *regression technique*. It measures the *marginal sensitivity* of the selected publicly traded entity's

[26]The calculator was created by Keith Pinkerton and Peter Butler based on the Butler-Pinkerton model and is available on the Business Valuation Resource website, http://www.bvmarketdata.com/defaulttextonly.asp?f=bpmintro.

returns to changes in the *returns* of the *market as a whole*, or a *suitable proxy* for the *market*. The steps for estimating the *beta* of a publicly traded entity are as follows:

1. Collect *historical return data* for the *selected publicly traded stock* and the *market proxy* (e.g., the DJIA or the S&P 500) for an appropriate time frame (e.g., the most recent three- to five-year period preceding the "as of " date of the valuation);
2. Calculate the *excess return* of the selected publicly traded stock's (equal to the *historical returns minus* the *prevailing risk-free rate*);
3. Calculate the *excess return* of the *market* (equal to the *historical market return* less the then, as of the valuation date, *prevailing risk-free rate*);
4. Calculate the *variance* of the *historical excess returns* for the *market proxy*;
5. Calculate the *covariance* between the selected publicly traded stock's excess returns and the market proxy's excess returns; and
6. *Beta* is defined as the ratio of covariance, calculated in step (3), and the market variance, calculated in step (2).

For *closely held firms*, similar to many enterprises typically encountered in the healthcare industry, *betas* can only be estimated *indirectly*, due to the lack of *historical time series information* related to the value of the privately held company's equity. To overcome this deficiency in data for privately held companies, valuators will typically use a *publicly traded company proxy* (or a *portfolio* of *publicly traded companies*) from the same industry as the subject entity being appraised in the calculation of *beta*. Once the *proxy* has been identified, the process outlined in steps 1 through 6 is completed using the *proxy* in place of the subject entity.

The ultimate goal of the *CAPM technique* is to quantify the extent to which the subject entity's equity returns vary in comparison to the *market*. Equity returns that exhibit greater variability than the market will result in a *beta* greater than unity, those with lesser variability than the *market* will have a *beta* less than unity, and an equity *beta* equal to one implies variation in excess returns on par with the *market*.

Once the relationship between the returns of the subject entity (or its proxy) has been estimated, then a reasonable cost of equity can be estimated according to the following equation:

(The current Risk-Free Rate)
+ (The estimated beta × Long-Run Expected Excess Return of the Market)
Cost of equity

Beta Estimation

A regression technique that measures the marginal sensitivity of the selected publicly traded entity's returns to changes in the returns of the market as a whole, or a suitable proxy for the market.

The *cost of equity* calculated in this manner can then be used to determine the appropriate *Weighted Average Cost of Capital* (WACC), as discussed later.

9.2.1.2.3 Arbitrage Pricing Theory (APT) One of the greatest strength of the CAPM method is its simplicity. It is easily calculated from data that is generally available. While the results of the *CAPM method* provide reasonable expectations, at least theoretically, for the *anticipated cost of capital* required by the market, the empirical record is less clear regarding its *efficacy*. In an attempt to address this shortcoming, the *Arbitrage Pricing Theory* (*APT*) *method* has been proposed as an alternative method to estimate the cost of capital.

The main criticism leveled against the CAPM method is that *future expected returns to equity* are affected by more *factors* than *market risk*. The APT method attempts to overcome this criticism by estimating the *cost of capital*, while considering *multiple sources of risk* in addition to *market risk*. The CAPM methodology estimates the *cost of equity* based solely on market risk. The APT method alternatively estimates the cost of equity relative to *a series of factors*. It is the responsibility of the valuator to determine which factors are important in determining the *cost of capital* particular to the subject entity being analyzed.

The name *arbitrage* pricing theory refers to the argument that if factors in addition to the systematic market risk are significant in determining the *expected return of equity*, then to eliminate the *arbitrage opportunity* (an assumption typical in finance and economic theory) the market must already price these *factors* into the subject entity's *cost of equity*.[27] If, instead, the *cost of equity* for the subject entity did not reflect the impact of these factors, then *careful analysis of these factors* would provide *market participants* with an opportunity to generate a *risk-free return* on the

[27] *Arbitrage*, as defined in Frank Fabozzi, Franco Modigliani, Frank Jones, and Michael Ferri (*Foundations of Financial Markets and Institutions* [Upper Saddle River, NJ: Prentice Hall, 2002]), is "the act of taking advantage of a difference in price and/or return of an asset that is traded in more than one market"; in the APT setting, this refers to the *arbitrageurs'* ability to more accurately price capital than the CAPM model, giving them the ability to use this information to earn a risk-free return.

prospective investment. To the extent that a *risk-free opportunity exists*, it should be exploited by so-called *arbitrageurs* until the *cost of equity* for the investment aligns with these *more nuanced expectations*.

APT models can be broadly divided into two different types: (1) *macroeconomic models* and (2) *microeconomic models*. *Macroeconomic models* seek to explain *required rates of return* based on *macroeconomic variables*. Examples of *variables* that could be included in a *macroeconomic model* are changes in *anticipated inflation*, *expected growth rate in gross domestic productions*, the *expected national employment level*, or *trends in consumption spending* and *disposable income*. In contrast, *microeconomic models*, sometimes referred to as *fundamental factor models*, look to variables specific to the subject entity, such as "*Industry Membership, price-earnings ratio, book value-to-price ratio, size, and financial leverage.*"[28] A popular example of a *fundamental factor model* is the *Fama-French three factor model*, which uses *market returns*, *size*, and the *book-to-price ratio* as the determining *factors* in estimating the *cost of capital*.[29]

After the valuator has determined the appropriate set of variables to include in the model, the APT method proceeds by estimating (using an *ordinary least squares regression methodology*) the *factor weighting* of each of the included *variables* using *historical returns* for the subject entity, as well as the *historical values* for the *included factors*. The *expected cost of equity* can then be estimated by applying the *weightings* determined earlier to the *forecasted values* for the included *variables*, as shown in the following equation:

$$Cost\ of\ Equity = a + w_1 * F_1 + \cdots w_i * F_i$$

where: a = the *regression constant*, interpreted as the *unconditional average return*
w_i = the *weighting* for factor (i)
F_i = the *forecasted value* of factor (i)

Calculation of the individual weightings for the multiple included factors in the APT model requires *more complicated techniques* for estimation than the single factor CAPM model. This may account for its more limited use. In addition, empirical evidence is *inconclusive* as to the effectiveness

[28] Richard Defusco, et al., *Quantitative Methods for Investment Analysis* (Baltimore: United Book Press, 2004), p. 649.

[29] As developed by Kenneth French, Ph.D., at Dartmouth University and Eugene Fama, Ph.D., at the Booth School of Business at the University of Chicago.

of various *APT models*, although this is may be partially explained by the requirement to *specifically tailor* the included *factors* to the subject entity, making *broad empirical tests* difficult to perform.[30] It should be noted that the *build-up* method, as described earlier, is consistent with the APT method using *market returns*, *size*, and *industry factors*. Further, the *subject entity–specific risk premium* can be interpreted as a *composite factor*, accounting for *various fundamental factors* as determined by the valuator.

In determining the appropriate method to use in estimating the *expected cost of equity* for a particular engagement, the valuator should balance the *relative merits* of the different methodologies outlined above with the *complexity* of the model and the *available data*. The nature of the specific entity to be valued will help direct the valuator toward a method for estimating the cost of equity. *Small, closely held entities* may lack sufficiently similar publicly traded companies to make the CAPM and APT methods feasible. Under those circumstances, it may be more appropriate to use the *build-up* method. But for larger entities, such as ambulatory surgery centers, large outpatient clinics, or hospitals, the CAPM or the APT may be more attractive.

9.2.1.3 Capital Structure A healthcare organization's *capital structure* is sensitive to *market conditions* and its *short- and long-term goals* for expansion in a changing healthcare environment. An organization's *capital structure decision* is how it plans to finance *daily operations*, as well as how it plans to finance *growth* within the organization. *Capital structure* generally consists of both *short- and long-term debt*, and *common* and *preferred stocks/equities*. It should only be finalized once the organization's goals are clearly defined, and when the time line for financing its needs is known. Organizations seek the *optimal ratio* between *debt* and *equity financing* by which to derive the *maximum benefit* for *stakeholders* of the organization, that is, the *community* (which benefits from a tax-exempt organization) or the s*hareholders* in an investor-owned organization.[31] As is noted in a 2008 article in the *Journal of Health Care Finance*:

> *Capital investment by hospitals is needed to ensure enough capacity to meet the health care needs of a growing population, provide*

[30] Frank Fabozzi, Franco Modigliani, Frank Jones, and Michael Ferri, *Foundations of Financial Markets and Institutions* (Upper Saddle River, NJ: Prentice Hall, 2002), pp. 258–259.

[31] Kenneth H. Marks, et al., *The Handbook of Financing Growth* (Hoboken, NJ: John Wiley & Sons, 2005), pp. 22–23.

> *access to new treatment technologies, and support information technology that can improve patient safety and quality of care. Failure to keep up with plant maintenance or advances in medical technology affects a hospital's ability to attract and maintain physicians and to provide a broad range of services. Similarly, low investment in property, plant, and equipment has been associated with below average quality, inefficient operations, loss of market share, and declines in access to financial capital.*[32]

An important consideration for the valuation analyst is whether the level of *capital expenditures* projected for the analysis is sufficient to support its *revenue projection*. Over short time frames, healthcare entities may experience *efficiency gains* that allow for *greater productivity* without a related *increase in costs*. However, over the long run, once the *efficiency gains* have been fully exploited, increases in output will require *increasing the use of capital investments*. A valuation analyst should be cognizant of this fact, and *revenue projections* should be tempered by the enterprise's ability to access capital, as well as the impact of increasing capital investment on the enterprise's capital structure and thereby its cost of capital.

The theory of capital structure is often viewed as "a unique mix of debt and equity that minimizes the overall cost of financing assets."[33] Historically, the capital structure ratios of *nonprofit* health entities were relatively consistent, while *for-profit* healthcare organizations' ratios tended to reflect *sensitivity* to *market conditions*.[34] *Debt-to-equity ratio* trends for publicly traded hospitals are set forth in Table 9.1.

---

[32]Kristin L. Reiter, John R.C. Wheeler, and Dean G. Smith, "Liquidity Constraints on Hospital Investment When Credit Markets Are Tight," *Journal of Health Care Finance* 35, no. 1 (Fall 2008): 24, citing Charles W. Byrd Jr. and Michael J. McCue, "Can Your Hospital Remain Independent?" *Healthcare Financial Management* (September 2003): 40–44; James J. Unland,"Can Community Hospitals Survive without Large Scale Health Reform?" *Journal of Health Care Finance* 30, no. 3 (2004): 49–58; Samuel W. Levitt, "Quality of Care and Investment in Property, Plant, and Equipment in Hospitals," *Health Services Research* 28 (1994): 713–728; Claudia Campbell, "Hospital Plant and Equipment Replacement Decisions: A Survey of Hospital Financial Managers," Hospital & Health Services Administration, *Journal of the Foundation of the American College of Healthcare Executives* 39, no. 4 (Winter 1994): 538–556.

[33]John R. C. Wheeler, Dean G. Smith, Howard L. Rivenson, and Kristin L. Reiter, "Capital Structure Strategy in Health Care Systems," *Journal of Health Care Finance* 26, no. 4 (2000): 43, 47.

[34]Ibid.

TABLE 9.1 Historical Debt-to-Equity Ratio for Publicly Traded Hospitals

Year	Debt-to-Total Capitalization (%)	Debt-to-Total Capitalization Trailing Five-Year Average (%)	Debt-to-Market Value of Equity (%)	Debt-to-Market Value of Equity Trailing Five-Year Average (%)
2001	15.09	21.82	17.77	27.90
2002	13.14	15.52	15.40	19.27
2003	16.40	17.49	19.78	21.95
2004	19.57	30.94	24.32	44.79
2005	14.44	28.21	16.88	39.30
2006	21.27	27.12	27.02	37.21
2007	22.69	27.71	29.36	38.34
2008	53.17	36.79	117.65	59.02
2009	62.47	41.52	176.26	71.21
2010	43.51	44.86	77.04	81.35
2011	64.04	58.46	179.28	142.19

Ibbotson SBBI: 2012 Valuation Yearbook—Median Data for SIC Code 806: Hospitals (Chicago: Morningstar, 2001–2011). Historical data accessed at http://ccrc.morningstar.com/IndSearch.aspx# (accessed April 25, 2012).

An illustration of this information is set forth in Exhibit 9.1.

Of note is that the *debt-to-equity ratio* tends to differ between *for-profit* and *nonprofit* hospitals, due to varying *access* to *equity markets*.[35] There is recent evidence that the *depressed hospital capital structure* in the 2009/2010 period recovered as hospitals were able to access *different sources of capital* to improve *weak capital structures* encountered during the *Great Recession*.[36] This improvement suggests a pattern that may represent a widening in the access to capital for healthcare entities.

Healthcare valuators should be aware of the *broader trends* within the *market*, including *debt utilization*, the *types and sources of financial capital*, and *overall industry trends*, in determining the appropriate *risk-adjusted discount rate* to use in the income approaches as described in

[35] Ibid., p. 43.

[36] James W. Blake, Eric A. Jordahl, and Andrew J. Majka, "8 Strategies for Hospital Borrowers in 2011," *Healthcare Financial Management* 65, no. 4 (April 2000): 74.

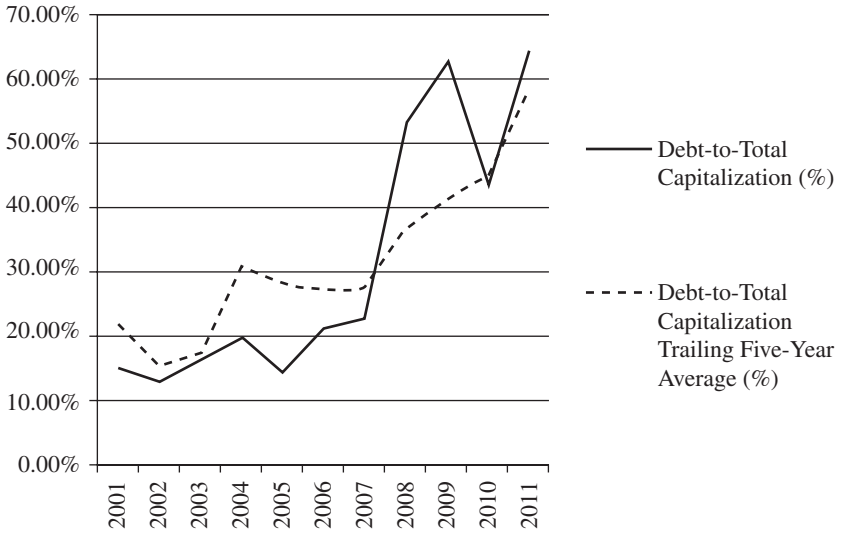


EXHIBIT 9.1 Historical Debt-to-Total Capitalization in the Healthcare Industry
Ibbotson SBBI: 2012 Valuation Yearbook—Median Data for SIC Code 806: Hospitals, Morningstar (Chicago: Morningstar, 2001–2011). Historical data accessed at http://ccrc.morningstar.com/IndSearch.aspx# (accessed April 25, 2012).

Chapter 8, "Valuation Approaches and Methods." According to a 2010 survey conducted by the *Healthcare Financial Management Association*, 40 percent of respondents experienced challenges related to capital funding and 22 percent experienced increases in the *cost of capital* in the wake of the financial turmoil referred to as the *Great Recession*.[37]

Factoid

From 2001 to 2011, Debt to Total Capitalization for Publically Traded Hospitals rose from approximately 15 percent to more than 64 percent.

Ibbotson SBBI: 2012 Valuation Yearbook—Median Data for SIC Code 806: Hospitals *(Chicago: Morningstar, 2001–2011). Historical data accessed at http://ccrc.morningstar.com/IndSearch.aspx# (accessed April 25, 2012).*

[37]Healthcare Financial Management Association, "Hospitals' Response to Difficult Economic Times," *Healthcare Financial Pulse* (May 2010).

Factoid

According to a 2010 survey conducted by the Healthcare Financial Management Association 40 percent of respondents experienced challenges related to capital funding and 22 percent experienced increases in the cost of capital in the wake of the financial turmoil referred to as the Great Recession.

"Hospitals Response to Difficult Economic Times," May 2010, Healthcare Financial Management Association, Healthcare Financial Pulse.

Factoid

A January 2009 study by the American Hospital Association found that 53 percent of responding hospitals considered the unavailability of "usual sources of capital" as a very important factor in their decision to postpone capital projects.

"Report on the Capital Crisis: Impact on Hospitals," American Hospital Association, January 2009, p. 5.

The Great Recession

An 18-month global economic recession lasting from December 2007 to July 2009, in which industrial production fell 16 percent in the United States.

"Did the 'Great Recession' Live Up to the Name?" by David Wessel, Wall Street Journal, *April 8, 2010.*

CAPITAL STRUCTURE DECISION

How a healthcare enterprise plans to finance daily operations, as well as how it plans to finance growth within the organization.

CREDIT BUBBLE

An extended period of historically low interest rates during the late 1990s and early to mid-2000s, subsequently leading to the mid-2000s housing bubble and late 2000 Great Recession.

9.2.1.3.1 Collapse of Capital Market Liquidity Neither healthcare entities nor the *capital markets* they operate in exist within a *vacuum*, and their *access to capital* is affected by *trends* in the *broader economy.* Wide-ranging *factors* that have an impact on the world economy can *reverberate* through markets, affecting the functioning of *capital markets* in the healthcare industry, as well as other industries. A review of the recent history of *global capital market turmoil* and the *interconnectedness* of *worldwide financial markets* is useful in understanding its impact on the healthcare industry.

Historical developments in *international finance*, as well as the *financial innovations* and *political motivations* that predated *the housing boom* and *subsequent economic decline*, make up the roots of the *Great Recession*, which can be traced back to the *housing bubble* in the U.S. *domestic real estate market* during the early and mid-2000s.[38] It was driven by *several factors*, but perhaps most important, the *extended period of historically low interest rates* during the late 1990s and early to mid-2000s. This *credit bubble*, of cheap and easy access to loanable funds, increased demand for housing, which in turn pushed housing prices higher. The effects of the resulting economic downturn reverberated throughout the economy, including the healthcare industry, with the dramatic *retraction in the availability of capital* and the *imposition of strict lending conditions* on those few credits that were being granted.

Increased *capital costs* for healthcare entities can be traced to the increased *perception of risk* by lenders and investors. In light of the recent *uncertainty* related to healthcare reform and the *availability of funding for healthcare services*, *risk-averse investors*, both *equity* and *debt*, demanded *higher returns* to offset the *added risk* assumed by investment in some sectors of the healthcare industry.

In addition to enhanced *risk perceptions* of potential investors, healthcare entities may find financing through *traditional bank lending* and bond markets *constrained* as well. As a result of the financial crisis, investors' *flight to quality*, defined as their tendency to shift capital allocations to *less risky assets* (i.e., from *equity* to *bonds*) during periods of *financial distress*, has *depressed* interest rates. Investors have been adjusting their portfolios by increasing their bond holdings and reducing their equity holdings. This *rebalancing* of portfolios has increased the *supply of loanable funds* and held *borrowing costs low.* Federal Reserve *oversight* and *international banking standards* have led many banks to increase their *holdings of reserves*

[38] Gary S. Becker, "The Great Recession and Government Failure," *Wall Street Journal*, September 2, 2011, http://online.wsj.com/article/SB10001424053111904199404576536930606933332.html (accessed April 26, 2012).

and trim their portfolios of *riskier loan assets*. In addition, to *hedge* against default risks, many banks have increased the burden of *loan covenants* on *new debt*, thereby increasing the *implicit borrowing costs* through *draconian lending policies* with *strict capital reserve* and *cash flow requirements*, even while maintaining lower *explicit interest costs*. A January 2009 study by the American Hospital Association found that 53 percent of responding hospitals considered the unavailability of "*usual sources of capital*" as a very important factor in their decision to postpone capital projects.[39] The report also stated that 73 percent of respondents indicated that access to capital from "banks [and] financial services companies" was at least somewhat harder, with 33 percent characterizing it as significantly harder or that they have no access.[40] Similar trends were noted in the market for taxable and nontaxable bonds.

These trends accentuate the increasingly challenging nature of appraising the value of a healthcare enterprise in volatile capital markets. Aside from enterprise-level concerns, broader macroeconomic events may dramatically affect demand expectations and access to capital. The valuation analysis of a healthcare enterprise should be grounded in the consideration of not just general economic and industry trends but also an understanding of the impact of seemingly unrelated economic events that can infect the healthcare industry by means of interconnected financial capital markets. The value equation for many healthcare enterprises relies significantly on management's ability to effectively assess and mitigate these risks in designing a beneficial capital structure and gaining access to the requisite capital to cost-effectively support current and future operations, as well as finance growth.

9.2.1.3.2 Methods for Projecting Capital Structure The *cost of capital*, and thereby *enterprise value*, is particularly sensitive to the projected capital structure for the subject entity. Small changes in *capital structure*, when projected into *perpetuity*, may have *dramatic impacts* on the valuation analyst's *final opinion of value*. The valuation analyst should have a *firm empirical and analytical foundation* to support his or her *capital structure projections*. In forecasting the *future capital structure* of a healthcare enterprise, the valuation analyst can rely on two methods: (1) the *industry-indicated benchmark debt-to-equity ratio* (such as the Ibbotson's data noted in Table 9.1) or (2) the *historical ratio of debt to equity for the subject entity.*

---

[39] American Hospital Association, "*Report on the Capital Crisis: Impact on Hospitals*," January 2009, p. 5.

[40] Ibid., p. 8.

The method selected by the valuation analyst will, in large part, be determined by the *level of value* being appraised. The industry-indicated benchmark method is most appropriate when applied to a *control* position (i.e., a *majority ownership* position with the ability to influence *operations* and *capital planning*). Implicit assumptions in the *industry-indicated benchmark method* are that the new owner will have the ability to change the capital structure of the subject entity and will choose to select a ratio of debt to equity similar to the most probable ratio that would be selected by the industry. These assumptions are based on the desired *level of value* for the client and the *most probable expected capital structure* that would be used by the *universe of typical purchasers/investors* in the *fair market value* of *the hypothetical transaction* of the subject entity. The *industry benchmark average capital structure* for similar enterprises, which is composed of *many owners and operators* within the healthcare industry, is a *strong indication* of the *industry's preferred capital structure*. Therefore, it is appropriate to apply the *industry benchmark debt-to-equity ratio* when the valuation analyst is seeking a *control level of value*.

Alternatively, if the valuation analyst is seeking not a *control level of value* but a *minority level of value*, it can no longer be assumed that the typical universe of buyers/investors would be capable of altering the capital structure of the subject entity. In this situation, it is more appropriate to apply the historical debt-to-equity ratio for the subject entity. The difficulty in applying the historical levels of debt and equity is determining the *market* value of equity. Debt value is assumed to be booked at its *market* price. Equity, conversely, is not booked at its *fair market value*, which, in fact, is the goal of the valuation exercise. This leads to a *circular argument*, where the *discount rate* is necessary to determine the *value of the equity*, which is, in turn, needed to determine the *discount rate*. To close this circle, the valuation analyst may use an *iterative method* to determine the *internally consistent capital structure*, given the resulting *value of the equity* derived. Steps for the *iterative method* are as follows:

1. Select an assumed capital structure;
2. Determine the value of equity under the assumed capital structure;
3. Calculate the ratio of debt to total capital, given the value of equity determined in step (2);
4. If the debt-to-total capital ratio calculated in step 3 is not equal to the assumed capital structure in step 1, then select a new assumed capital structure; and
5. Repeat steps 1 through 4 until the assumed capital structure in step 1 equals the resulting capital structure in step 4.

By repetitively applying these steps, the valuation analyst can focus in on an appropriate *assumed capital structure* that is consistent with the end result of the valuation.

The *projected capital structure*, using either *the industry benchmark method* or the *iterative method*, can then be used to determine the *weighted average cost of capital* (*WACC*), which represents the *average cost of capital financing*, given a *particular capital structure*, which should be applied to the subject entity's *projected cash flow.*

9.2.1.4 Weighted Average Cost of Capital (WACC) The *discount rate/cost of equity* is typically applied when determining the *present value* of *future economic benefits* in deriving the *equity value* of the enterprise being appraised (equity = assets minus liabilities), on a "*net-of-debt*" basis. When applying an *income approach method* to value the assets of the enterprise, that is, on a "*debt-free*" basis (assets = equity + liabilities), the valuator would typically use a *weighted average cost of capital* (*WACC*) as the expected rate of return on the investment. The WACC is a blend of the cost of an enterprise's various capital components, including the *cost of debt capital* and the *cost of equity capital* of the enterprise.

The WACC is calculated by the formula:

$$\text{WACC} = (k_e * W_e) + (k_d[1 - t] * W_d)$$

where: k_e = Cost of Equity
W_e = Weight of Equity
k_d = Cost of Debt
t = Effective Tax Rate
W_d = Weight of Debt

The WACC, as calculated here, represents the *expected return* demanded by the blend of both *debt and equity investors* in the subject entity; it also represents the *capital cost* to the entity for financing *future projects* (assuming similar *risk parameters*). An example of the application of the weighted average cost of capital can be found online at http://www.wiley.com/go/healthcarevaluation.com.

9.3 CONCLUSION

At any given point in time, healthcare enterprises have a variety of available *financing options*. The *availability of capital* will have a *strong influence* on the *cost of capital* to healthcare ventures. The *capital costs* borne by

healthcare entities will be, in large part, determined by the *mix of financing sources used* for a given project and each of those sources' particular cost. It is important for the valuation consultant to understand that *capital markets* are in a constant *state of flux*, responding to the arrival of new information on *a moment-by-moment basis*. The analysis of *capital cost* for a borrower depends not only on the *corporate governance* and *capital structure* of the firm, but also on the nature of the prevailing *broader macroeconomic trends*. In addition, *capital cost* concerns are *inextricably* linked to the particular *enterprise*, *service*, or *asset* being valued, See Chapter 11, "Inpatient Enterprises," Chapter 12, "The Valuation of Outpatient Enterprises," Chapter 14, "The Valuation of Tangible and Intangible Assets," and Chapter 15, "Healthcare Services," for discussions specific to each entity related to their *costs and sources of capital*.

Capital markets are more intertwined than ever, both across industries and internationally. As has been recently seen, *political* and *social turmoil internationally* can translate into dramatic changes in *domestic returns to equity and debt*. The *rapid expansion* and *growing reliance* on *new technologies* in the *delivery of healthcare* will drive *demand for capital* within the healthcare industry, as healthcare providers, in response those *changing technologies*, *demographics*, and *utilization demand*, seek to upgrade their *facilities*, their *capital equipment,* and their *operational processes*. A thorough understanding of the impact of (1) *the current macroeconomic climate*, (2) the *microeconomic structure of a particular borrower*, and (3) the *financial and economic environment within the healthcare industry* is *instrumental* in determining the appropriate cost of capital to employ in the valuation process.

9.4 KEY SOURCES

Stocks, Bonds, Bills and Inflation Yearbook (SBBI)

Since 1926, this source has estimated the historical realized Equity Risk Premium (ERP) associated with the risk of investment in common stock in relation to various government bonds. It is published annually, quarterly, and, for recent years, has been available online.

"Ibbotson® SBBI® Classic Yearbook: Leading Capital Markets Reference," Morningstar, http://corporate.morningstar.com/ib/asp/subject.aspx?xmlfile=1414.xml (accessed September 21, 2012)

http://corporate.morningstar.com/ib/asp/subject.aspx?xmlfile=1414.xml

Duff & Phelps Risk Premium Calculator

"The Duff & Phelps Risk Premium Calculator is a web-based resource for calculating cost of equity. The web-based model enables users to enter 1–18 inputs. Based upon these user inputs, the calculator delivers an executive summary, detailed results and four cost of equity estimates."

"Risk Premium Calculator," Duff & Phelps, http://www.duffandphelps.com/expertise/Tools/Pages/RiskPremiumCalculator.aspx (accessed September 21, 2012)

http://www.duffandphelps.com/expertise/Tools/Pages/RiskPremiumCalculator.aspx

Duff & Phelps Risk Premium Report

"The Duff & Phelps Risk Premium Report is designed to assist financial professionals in estimating the cost of equity capital ("cost of equity" or "COE") for a subject company. The risk premia and size premia published in the Risk Premium Report can be used to develop levered and unlevered COE estimates using both the build-up method and the Capital Asset Pricing Model (CAPM)."

"2012 Duff & Phelps Risk Premium Report," http://www.duffandphelps.com/expertise/publications/Pages/ResearchReportsDetail.aspx?itemid=70&list=ResearchReports (accessed September 21, 2012)

http://www.duffandphelps.com/expertise/publications/Pages/ResearchReportsDetail.aspx?itemid=70&list=ResearchReports

10-K Wizard

"Researchers can use this online resource to quickly search for information used in addressing SEC regulatory and GAAP reporting requirements, drafting legal agreements, due diligence, compensation benchmarking and competitive intelligence."

"Morningstar Document Research," http://www.10kwizard.com/ (accessed September 21, 2012)

http://www.10kwizard.com/

SDC Platinum

"SDC Platinum is the industry standard for information on new issues, M&A, syndicated loans, private equity, project finance, poison pills, and more."

"SDC Platinum," http://thomsonreuters.com/products_services/financial/financial_products/a-z/sdc/ (accessed September 21, 2012)

http://thomsonreuters.com/products_services/financial/financial_products/a-z/sdc/

9.5 ACRONYMS

Acronym	Full Title
CAPM	Capital Asset Pricing Model
IPO	Initial Public Offer
SEO	Secondary Equity Offering
ACA	Patient Protection and Affordable Care Act
REITs	Real Estate Investment Trusts
FASB	Financial Accounting Standards Board
IASB	International Accounting Standards Board
EHR	Electronic Health Records
WACC	Weighted Average Cost of Capital
APT	Arbitrage Pricing Theory
CAPM	Capital Asset Pricing Method
ERP	Equity Risk Premium
SBBI	Stocks, Bonds, Bills and Inflation Yearbook
GDP	Gross Domestic Product
TCOE	Total Cost of Equities

CHAPTER 10

Planning and Process for Healthcare Valuation Engagements

Knowing is not enough; we must apply. Willing is not enough; we must do.

—Johann Wolfgang von Goethe

Perhaps the most important activity among the several determinants of success for a healthcare valuation engagement is that of *project planning* and establishing a *disciplined process* for developing the valuation conclusion and opinion, as well as preparing and submitting the valuation report. The aphorism of the "*6 Ps*," that is, "*proper prior planning prevents poor performance*," suggests that "*form before function*" should serve as the guiding principle in undertaking a new valuation engagement.

The uniquely broad scope of management concerns, the often limited span of control, and the complex governance structure of their organizations frequently prevent the direct involvement of healthcare C-suite executives in the valuation process, which is often relegated to mid-level management. Accordingly, inherent in the deliverables of most healthcare valuation engagements is the expectation that the valuation professional will *coordinate* and drive the project forward in a *timely* and *efficient manner*. This includes conducting the *due diligence* and *data gathering process* across *multiple facilities, departmental management teams, service line stakeholders*, and other *constituencies*, as well as coordinating with both *general counsel* and *outside legal counsel*. A dedication to the *discipline of planning* and *process* is essential to meeting client expectations regarding the valuation analyst's ability to make the "*trains run on time*." Toward that end, this chapter addresses the specific steps in the planning and execution of a healthcare valuation assignment.

10.1 DEFINING THE ENGAGEMENT

Before the first spreadsheet is opened, several preliminary steps in the valuation engagement process need to be undertaken and resolved. Inevitably, the failure to complete these first steps will, at best, result in a costly waste of man hours spent correcting avoidable errors, and at worst, be manifested as a flawed analysis and a less-than-accurate valuation conclusion and opinion.

10.1.1 Identifying the Parties to the Engagement, Conducting an Appropriate Conflict Search, and Maintaining Privilege

At the earliest possible moment, preferably following the initial phone call, e-mail, or other communication requesting the valuation engagement, the valuation professional should elicit the names and other necessary identifying

information of all parties related to the subject transaction, including any parties holding an *ownership interest, sellers, buyers, lenders*, and their professional advisors, for example, *attorneys, accountants, appraisers*, and *transactional consultants*, as well as the relationships among each of the parties involved in the prospective transaction, and the property being appraised or the assignment at hand. In the event that the appraisal assignment is for *litigation* purposes, identifying information as to all *plaintiffs*, *defendants*, their *respective attorneys*, and the *officer of the court* (*e.g., the judge*) in the *court venue* to which the valuation analyst's report will be submitted should be requested. On receipt of this information, the valuation professional should perform an immediate and thorough *conflict search* to ensure that any potential *conflict of interest* be *affirmatively disclosed* to the client and/or the client's legal counsel, prior to acceptance of the assignment. The regulatory and competitive environment in healthcare is such that when addressing the potential for a *conflict of interest*, the healthcare valuation analyst should be expected to be like *Caesar's wife—not only above reproach, but beyond suspicion*. In the event that the valuation analyst has participated in a previous project that involved one or more of the parties or property interests related to the new engagement, it is the valuation analyst's duty to disclose this information to his or her client, and a decision needs to be arrived at by the client regarding whether to acknowledge and waive any *concern* or *potential claim* of *conflic*t or *privileg*e related to that circumstance.

Appraisal Report

The development and preparation of a certified opinion of value related to a given property interest.

Appraisal Consulting

The development and reporting of a recommendation, analysis, or opinion to solve a problem.

Appraisal Review

The development and reporting of an opinion regarding the quality of an appraisal report.

THREE BASIC CONSIDERATIONS OF VALUATION ASSIGNMENTS

(1) Select the level of valuation service that you need for your specific assignment; (2) match the deliverables of the valuation assignment to the specific purpose, objective, use, and any other special requirements of your project; and (3) make sure the assignment product is "scalable and upgradeable."

Factoid

Valuation reports are issued to communicate the value estimate and may be a variety of types, including oral reports, letters, narratives, and comprehensive reports.

In those instances where the buyer *and* the seller in a transaction, or both parties in a *dispute resolution* (mediation, arbitration, or litigation), agree to *jointly engage* the valuation professional, it is essential that both parties be concisely identified as, *singularly and severally*, the "*client*" for the engagement, and that their *respective responsibilities*, for example, providing documents and information or the responsibility for paying fees and expenses, be clearly established and explicitly set forth in the written terms of the engagement agreement.

In light of the time demands resulting from the limited availability and access to healthcare, it is helpful for *C-suite* executives and their legal counsel, when obtaining disclosure of the identities of the related parties, to gather, at the start of the assignment, the complete contact information, for example, name of firm, mailing address, business phone, direct line, cell phone, e-mail address, of each of the parties, as well as the names and contact information for their assistants and schedulers, the optimal time to reach them, and a determination as to their inclusion/exclusion on the *vetting list* for e-mail communications, correspondence, and conference calls.

10.1.2 Establishing and Maintaining Attorney-Client Privilege

In the current regulatory environment, healthcare valuation analysts are often engaged by outside legal counsel representing the healthcare provider as the valuation analyst's client, in contrast to the healthcare valuation

analyst entering into an engagement agreement directly with the healthcare provider. This may be done for several reasons, including (1) establishing a means by which *attorney-client privilege* might be maintained to protect confidential conversations, e-mail communications, correspondence and documents shared between the valuation analyst and client; (2) providing for direct involvement by the client's healthcare legal counsel in determinations related to regulatory risk and/or the *legal permissibility* of certain property interests being appraised; and (3) maintaining *confidentiality* with third parties related to the subject enterprise, for example, *employees, vendors, lenders* and *patients/customers*. Accordingly, it is typically a best practice for the valuation professional to inquire, at the outset of discussions related to the engagement, whether the "*client*" for the engagement should be the outside legal counsel for the owner of the property interest being appraised. In the event that the decision is made that the client for the engagement should be outside legal counsel, the engagement agreement should specify to which party the valuation analyst's invoices for professional fees and expenses should be sent, which party has the responsibility to pay them, and which party or parties are bound by other contract terms, for example, *indemnification*, *nonsolicitation* of the valuation analyst's staff, and *legal venue*.

Another consideration in maintaining *attorney-client privilege* is to label all *drafts*, work papers, e-mail or correspondence, and other documents and work product as being "*prepared at the request of counsel—subject to attorney-client privilege.*" In addition, to maintain *attorney-client privilege*, all conversations regarding subject matter that may potentially relate to regulatory issues should be conducted *only* with the participation of legal counsel. The legal issues related to *attorney-client privilege* continue to develop over the years, and the valuation analyst should seek guidance regarding this from the client's counsel as to those issues at the outset of the engagement.

CONFLICTS OF INTEREST

A set of circumstances that creates a risk that professional judgment or actions regarding a primary interest will be unduly influenced by a secondary interest.

"Understanding Financial Conflicts of Interest," by Dennis F. Thompson, New England Journal of Medicine *329, no. 8 (August 19, 1993).*

10.1.3 Executing a Confidentiality/Nondisclosure Agreement

Often, prospective clients and/or their legal counsel will request that valuation professionals execute a *confidentiality* and/or *nondisclosure agreement* prior to receiving specific information related to the prospective engagement that would be requisite to performing a conflict search, establishing the nature of the assignment, and agreeing on the scope of deliverables and preliminary budget for executing the engagement. While this is most often not unexpected and should typically be accommodated promptly, the valuation professional should review any such agreement provided by the prospective client to ensure that the terms of the agreement are not so *overly broad* as to *unreasonably restrict* the valuation analyst from doing future work for other parties in a *market service area*, in the event that the valuation analyst is not engaged for that particular assignment. In addition, it is important that the nondisclosure agreement does not prevent the valuation analyst from including certain information in the report that is required in the development of a conclusion or an opinion of value. In the alternative, certain information may be redacted, as agreed to by the client, from the report, so long as it is noted what information is redacted and the information is maintained in the valuation analyst's work file.[1]

General Research

General industry research and information relative to the general economic and demographic trends; competition; general healthcare industry trends; specialty trends; and managed care environment, specific to the subject property interest.

Specific Research

Data specific to, and obtained from, the sources at each subject enterprise. Specific research may include, but is not limited to, financial statements, tax returns, productivity reports, supplies inventory, accounts receivable schedules, fixed asset schedules, prior valuation or consulting reports, budgets and projections, and documentation on transactions involving the subject entity.

[1] Uniform Standards of Professional Appraisal Practice: 2012–2013 Edition, "Confidentiality" section of the "Ethics Rules."

Normalized Earnings Amount

The single dollar amount, derived from the adjusted earning of the subject entity over a number of years, that best represents the earnings capacity of the subject entity, based on the historical performance.

WORK PLAN ELEMENTS

(1) Appraisal staff assignment and (2) identify project milestones.

INHERENT RISK FACTORS

(1) Years in operation, (2) competition, (3) ease of entry in market, (4) growth trend/potential, (5) profitability/efficiency, (6) collections A/R, (7) spectrum of specialties, (8) lease price/terms, and (9) regulatory/malpractice environment.

Factoid

Once all the necessary data to perform an engagement is presented to the valuation consultant, an engagement is typically completed with two to four weeks, depending on the availability of the client and the management of the subject entity to answer follow-up questions and to provide clarification of the data presented to the valuation consultant.

10.1.4 Identify Parties Who May View and Discuss Draft and Final Report

In accordance with *professional standards*, the valuation analyst's report may only be shared with the client who has engaged the valuation analyst. Typically, the engagement agreement for a valuation project will include language similar to the following:

> *Possession of any REPORT or a copy thereof does not carry with it the right of publication or distribution. It may not be used, in whole or in part, by anyone except the CLIENT for whom the REPORT*

VALUATION REPORT STRUCTURE

(1) The client and intended users, (2) the intended use of the appraisal, (3) definition of entity and asset being appraised, (4) standard and premise of value and purpose of appraisal, (5) effective date of the appraisal, (6) description of operation, and (7) subject entity description.

STEPS IN PREPARING THE VALUATION ENGAGEMENT

(1) Prepare preliminary draft narrative report, (2) prepare a final discussion draft, (3) perform a detailed review, (4) obtain an independent internal review, (5) tick-and-tie report, (6) discuss the engagement findings and the final report draft, (7) determine that all review points and open items have been addressed and revisions made as appropriate, (8) conduct a quality review, (9) prepare and bind the final report, (10) sign and apply embossed certification seal, and (11) submit the final bound certified report to client.

was prepared, or conveyed to any third party without the previous express written consent of the VALUATION ANALYST.

However, it is not unusual that the valuation analyst will be requested to provide a copy of his or her work product to parties other than the client. Accordingly, to avoid any possible misunderstanding, or violation of standards or the valuation analyst's duties to the client, the identities of any and all parties with whom the valuation analyst and client may share or discuss the work product (including draft reports, as well as the final valuation report) should be decided in advance with the client and included as a *specific written disclosure* in the terms of the engagement agreement.

10.1.5 Establishing and Maintaining Valuator Independence

At the outset of each engagement, the valuation professional should disclose to the client the *various steps in the process* of developing the *valuation conclusions*, and rendering the certified *valuation opinion*, as well as specifying the format of the valuation analyst's report. It is important to *affirmatively*

communicate to the client that the conditions of the assignment, as related to the valuation analyst *maintaining independence*, will be strictly adhered to throughout the project. Included in this essential discussion should be the explanation that while the valuation analyst may share with the client or other authorized parties to the valuation assignment certain preliminary draft schedules and work papers, as well as, on specified occasions, certain sections of a draft report, this action, if undertaken, will be *only* for the purpose of the valuation analyst soliciting the assistance of these parties in avoiding any *inadvertent factual errors of omission or commission* arising from the valuation analyst's interpretation of data and information supplied by the client. Any such action on the part of the valuation analyst does not give license to the client to engage the valuation analyst in a debate regarding the valuation analyst's *conclusion(s)* or *opinion*.

At the end of the day, the valuation analyst's principal product is the *credibility* of the analyses, *conclusions*, and *opinion* being rendered. Participation in discussions related to the valuation analyst's *cognitive decisions* and professional judgments are the exclusive province of the valuation professional and must be carefully *controlled*, confined to educating the client as to the *methodology* and *assumptions* employed, and conducted in a manner that would *not* lead to a debate as to the valuation opinion. Any leniency or forbearance on the part of the valuation analyst in insisting that this condition be adhered to throughout the engagement may be misconstrued as flexibility on the valuation analyst's part that would detract from the *independence* of his or her opinion and thereby damage the *credibility* of the valuation.

10.1.6 Identify the Objective, Purpose, and Use of the Appraisal

An essential element of each valuation engagement is to clearly establish, through discussions with the client, the *objective*, *purpose*, and *use* of the appraisal prior to beginning the assignment. A statement of the *objective* of the report establishes what the valuation analyst has been engaged to seek, that is, the type (*standard) of value* being sought, the *specified property interest being appraised*, and the valuation "*as of*" date at which the indication of value will be stated. Typically, the engagement agreement for a valuation project will include language as to the *objective* of the appraisal similar to the following:

> *The objective of this REPORT is to provide an estimate of the Fair Market Value (as defined below) as of the VALUATION DATE of the SUBJECT INTEREST.*

The *purpose* of the valuation engagement should also be concisely stated so as to identify the *reason* that the appraisal is being sought, while a statement of the *use* of the report should describe the *specific manner* in which, and toward what end, the valuation report will be *employed*. Typically, the engagement agreement for a valuation project will also include language as to the *purpose* and *use* of the appraisal, similar to the following:

> *The purpose and specific use of this REPORT is to assist CLIENT management and legal counsel in its advisement of CLIENT's board of directors as to its consideration of a prospective transaction of the SUBJECT INTEREST.*

The *purpose* and *use* of the appraisal should include specific reference to whether the property being appraised is (1) subject to an *anticipated transaction*, (2) for an *allocation of purchase price* of a specific transaction into the *various classifications of tangible and intangible assets* (particularly specifying if the allocation is for the purposes of financial reporting or transaction accounting), or (3) whether the appraisal report is being prepared to *support the expert testimony* of the valuation analyst in court.

These first steps in *defining the valuation assignment*, that is, *identifying the parties* to the engagement; conducting an *appropriate conflict search*; executing a *confidentiality/nondisclosure agreement*; identifying the parties who may view the *draft* and the *final valuation report*; establishing and maintaining the *valuation analyst's independence*; and identifying the *objective*, *purpose*, and *use* of the appraisal are steadfast elements, not typically subject to modification once they have been determined and agreed to between the client and the valuation analyst. However, there are some elements of the healthcare financial valuation process that, while needing to be preliminarily established at the outset of the engagement, may require modification during the course of developing the valuation analysis, as will be discussed later in this chapter.

10.1.7 Identify the Scope of the Valuation Assignment

The valuation analyst has the obligation to disclose to the client sufficient information as to *the scope of work* to be performed in order to allow the intended users of the appraisal to understand the *scope of work* performed so that they may rely on the assignment results. Sufficient information includes disclosure of the research and analyses performed and might also include disclosure of research and analyses *not* performed.

Under the 2012 Uniform Standards of Professional Appraisal Practice and Advisory Opinions (USPAP), Scope of Work Rule, it is noted that

For each appraisal, appraisal review, and appraisal consulting assignment, an appraiser must:

1. *Identify the problem to be solved;*
2. *Determine and perform the scope of work necessary to develop credible assignment results; and,*
3. *Disclose the scope of work in the report.*

An appraiser must properly identify the problem to be solved in order to determine the appropriate scope of work. The appraiser must be prepared to demonstrate that the scope of work is sufficient to produce credible assignment results.

Comment: Scope of work includes, but is not limited to:

1. *The extent to which the property is identified;*
2. *The extent to which tangible property is inspected;*
3. *The type and extent of data researched; and*
4. *The type and extent of analyses applied to arrive at opinions or conclusions.*[2]

An acceptable *scope of work* should include such research and analyses that are sufficient to produce *credible conclusions* and *opinions* and that reflect the expectations of *typical readers* of *reports* for *similar assignments*, as well as the scope of work that *professional peers* would perform for a *similar assignment*. It should be noted that the determination of the scope of work in a given assignment is an *ongoing process*, *subject to revision*

Factoid

The Scope of Work Rule was established in the 2006 edition of USPAP, to combat the notion that each scope of work decision should be a one-size-fits-all solution.

"Understanding the Scope of Work Rule and Advisory Opinion 32," by Kenneth L. Joyner, International Association of Assessing Officers, http://www.iaao.org/uploads/joyner1.pdf (accessed December 6, 2012).

[2]"Scope of Work Rule," Uniform Standards of Professional Appraisal Practice, 2012–2013 Edition, Appraisal Standards Board, Appraisal Foundation, Effective January 1, 2012, p. U-13.

Factoid

A consultant's choice of valuation methodology depends primarily on the purpose of the valuation report, the availability of data for each method selected for the engagement, and the specific characteristics of the subject entity.

and reconsideration should additional information or conditions that would affect the assignment be discovered during the course of *due diligence* and analysis. The decision to exclude any steps in, or information obtained through, the *due diligence process*, as well as a decision not to perform any relevant valuation methodology, must be *disclosed*, *explained*, and *supported*. In the event that during the valuation assignment, circumstances arise that limit the valuation analyst's ability to maintain an acceptable scope of practice, for example, access to data and information is denied, the valuation analyst must consider whether the scope of the assignment can be modified, perhaps through the use of *extraordinary assumptions*, and still produce a *credible* valuation conclusion of opinion. Should that not be achievable, the valuation analyst should *withdraw* from the engagement.

10.1.8 Define the Property to Be Appraised

The valuation analyst should *define* the property to be appraised by specifically *determining* and *describing* the *legal bundle of rights* included in *the property interest being appraised*, including the *amount* and *type* of *control prerogatives* being sought. For example, the engagement may call for the valuation of (1) the *total invested capital* (i.e., consideration of all sources of capital, both *equity* and *debt*) of the subject enterprise; (2) *equity* (i.e., *assets-liability = debt*) of the subject enterprise; or (3) *certain assets* of the subject enterprise, any which of these may be done at various *levels of value*. An example of the application of defining the property to be appraised can be found online at http://www.wiley.com/go/healthcareevaluation.com. Note that a transaction may also include certain *services* to be provided by the staff of the subject enterprise, for example, acquiring *physician professional clinical services* and *executive/administrative services* that may not require the same type of *discounts* and *premium*s typically applied to the valuation of *enterprises* or *assets*. An example of the application of defining the property to be appraised can be found online at http://www.wiley.com/go/healthcarevaluation.

The appropriate indication of value for a subject enterprise is directly influenced by the "*level of value*" derived from the various *approaches*, *methods*, and *techniques* employed for the valuation assignment. These "*levels of*

value" can be explained as the *continuum* along which the *prerogatives of control* of the organization, as well as the *liquidity of the investment*, may span.

Control prerogatives include those rights that give the *holder* the ability to perform the following: (1) make changes to the *capital structure* of an organization; (2) implement new *strategic* and *operating objectives*, for example, develop new products or services, expand into new markets, divest of existing service lines, and so forth; (3) change *vendors and/or suppliers*; (4) amend/change the *Bylaws* or *Articles of Incorporation* of the organization, for example, expand/contract the voting requirements required to pass certain initiatives, change the voting rights of certain classes of ownership shares, establish committees, and so on; (5) set *management/executive compensation* policies; (6) change *operational management* of the organization; (7) change the *Board of Directors* of the organization; (8) implement and negotiate *mergers and acquisitions* of the organization; (9) register the company's *financial securities for public sale*, such as an IPO or additional offerings; (10) *declare dividends* and *share buybacks*; and (11) any other right implemented by those in control of the organization.[3]

Intuitively, a property interest that includes control prerogatives should warrant a *premium* above a similar property interest that lacks prerogatives of control. However, the amount of discount applicable to a *minority interest*, which lacks *prerogatives of control*, would most likely not be the same percentage in each and every circumstance. Rather, as alluded to earlier, the appropriate level of *discount for lack of control* (DLOC) should be based on the specific facts and circumstances of the subject property that give rise to the *elements of control*, which would create a *range or continuum of applicable discounts*. For example, the level of control of an enterprise is often misconstrued to be based on the ownership percentage of the property interest being appraised; however, due to elements of the *organizational governance* of the enterprise, for example, a block of ownership interest, the existence of a "swing vote" position, and certain takeover or "*coattail*" protections, minority interests may possess certain elements of control.[4]

Furthermore, the appropriate DLOC chosen should be applied to the corresponding appropriate level of value existing at the outset of the engagement. For example, some within the valuation community have expressed their view that using *pricing multiples of minority interests* in *public companies* results in an indication of value at a *minority interest level*, and that no further DLOC is warranted should the valuation engagement require the appraisal of a *minority interest* in a closely held firm. These same proponents would espouse that a *control premium*, or *acquisition premium*, may

[3]Shannon Pratt, *Valuing a Business: The Analysis and Appraisal of Closely-Held Companies,* 5th ed. (New York: McGraw-Hill, 2008), p. 385.

[4]Ibid., pp. 398–399.

be applicable to the indication of value derived from pricing multiples of minority interests in public companies when the valuation engagement calls for the appraisal of a *control interest* in a closely held firm. Others within the valuation community propose that pricing multiples of minority interests in public companies reflect the same price that a *control position* in the public company would demand and criticize the use of *control premiums* when using the *pricing multiples* of *minority interests* in *public companies* to derive an indication of value for a *control interest*. These critics suggest that if *minority interests* in *publicly traded companies* did not trade at their *control price,* these companies would be bought out, and they point to the relatively small number of publicly traded companies taken private in a given period of time to support their viewpoint that this has not been the case. Furthermore, these critics would suggest that in the event that the appraised interest is at a minority level, a DLOC should be applied to *indications of value* derived from *pricing multiples of publicly traded minority interests*, which are assumed to reflect the *control level* of value.

Another notable aspect of the *levels of value debate* is the idea that *minority interest holders in publicly traded companies* may not be as *price sensitive* to having prerogatives of control, since they would be able to divest their shares with a higher degree of ease in contrast to the holder of a *closely held minority interest*. This viewpoint suggests that *liquidity* is the only difference between *publicly traded minority interests* and *closely held minority interests*, as well as their assumption that *control premiums* based on shares of *publicly traded minority interests* may be lower than those demanded by investors in *closely held entities*. In addition, the valuation analyst should be aware of whether the subject enterprise is *closely held,* in contrast to being *freely traded*, which may have an impact on the *type* and *amount* of *discounts/premiums* that are applicable to certain *valuation methods* and *techniques*. For additional information regarding the DLOC, see Section 8.4.2, "Control Premium/Discount for Lack of Control."

10.1.9 Identify Any Conditions or Restrictions of the Appraisal Assignment

Any *condition* or *restrictions* that *qualify* the *conclusion(s)* and *opinion of value* should be identified, defined, and disclosed at the start of the valuation assignment. This may include *laws and regulations*, *jurisdictional exceptions*, *extraordinary assumptions*, *hypothetical conditions*, *restriction on the availability of data*, and other conditions that may affect the scope of work. *Laws* include *constitutions*, *legislative* and *court-made* law, *administrative rules*, and *ordinances*. *Regulations* include *rules or orders* having *legal force*, issued by an *administrative agency*. There are essentially three

methods by which laws are manifested in order to have *legal force*, that is, (1) *statutory*—federal and state legislation and ordinances; (2) *regulatory*—administrative and agency rules or orders; and (3) legal precedent—judicial directives, orders, and established case law. *Hypothetical conditions* may be defined as "an assumption contrary to that which currently exists but, for the purposes of a valuation, has been assumed to be that which would typically be expected by the universe of typical purchasers." This would apply, for example, if the ancillary services and technical component service line(s) of a medical practice were to be considered as an independent, separate, and stand-alone going-concern enterprise, which is contrary to present fact but assumed for the valuation project. *Extraordinary assumptions* relate to the adjustment of past data, which may be necessary to allow for a similar basis on which to make comparisons and avoid the complications of accounting/reporting measurement differences that have arisen over time within the entity, or anomalies. For example, *nonrecurring events*, such as nonrecurring or extraordinary expenses related to a onetime legal settlement or transaction, should be adjusted to reflect the most probable expectation of normalized economic operating expenses required to support the revenue stream of the subject enterprise.

10.1.10 Valuation "As of Date": Effective Date of the Valuation Analyst's Opinions and Conclusions

At the outset of the assignment, it is imperative that the valuation analyst receive confirmation of the valuation "*as of*" date, the date of which is based on several factors: (1) the most proximate to the anticipated transaction date; (2) the most recent accounting period for which reliable data is available; and (3) statutes, regulations, or court rules that establish the date to which the valuation conclusion and opinion apply.

10.1.11 Standard of Value to be Used in the Appraisal

Of particular importance in performing a healthcare valuation engagement is the determination of the *standard of value* to be used, which answers the question "*Value to whom?"*(see Section 7.2.1, "Standard of Value," in Chapter 7, "Basic Valuation Tenets"). Typical *standards of value* sought in a valuation engagement include:

1. Fair Market Value (see Section 7.2.1.1, "Fair Market Value");
2. Fair Value (see Section 7.2.1.2, "Fair Value");
3. Investment Value (see Section 7.2.1.3, "Investment Value [Synergies])"; and
4. Intrinsic Value (see Section 7.2.1.4, "Fundamental [Intrinsic] Value").

It should be noted that healthcare related valuations typically *require* that the *standard* of *Fair Market Value* be used (see Section 7.2.1.1.1, "Requirement for Fair Market Value in the Healthcare Industry," and Section 3.3.3.7, "Fair Market Value as Defined by Fraud and Abuse Laws").

10.1.12 Premise of Value to Be Utilized in the Appraisal

In addition to the *standard of value*, it is important that the *premise of value*—which answers the question "Value under what further circumstances?"—be established at the outset of a valuation engagement. The two typical categorizations of the *premise of value* are (1) *Value in Use* (see Section 7.2.2.1, "Value in Use") and (2) *Value in Exchange* (see Section 7.2.2.3, "Value in Exchange"), and are set forth in Exhibit 10.1. Note that

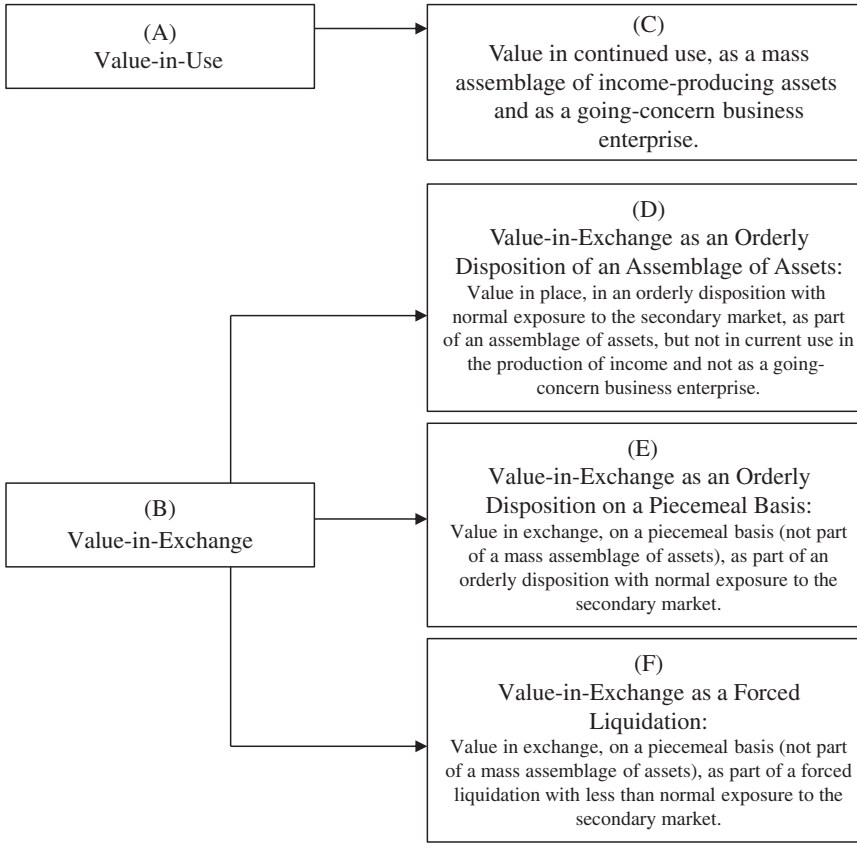


EXHIBIT 10.1 Premise of Value Categories
Source: © Health Capital Consultants

the premise of value of *Value in Exchange* is further defined, based on the following three subcategories: *value as an assemblage of assets*, *value as an orderly disposition*, and *value as a forced liquidation.*

10.1.13 Obtain Preliminary Legal/Organizational and Transaction Documents

At the *outset of the engagement*, the valuation analyst should strive to obtain, as a preliminary first step, as many of the *legal/organizational* and *transactional documents* as are available. Examples of these documents are set forth in Table 10.1.

10.1.14 Development of Preliminary Summary of Relationships/Transaction Schematics

Based on the preliminary *legal/organizational* and *transaction* documents and information received related to the engagement, the valuation analyst

TABLE 10.1 Legal/Organizational and Transactional Documents

Legal/Organizational Documents	Transactional Documents
Articles of Incorporation, LLC Formation Agreements, Partnership Certifications, Certificates of Trust, etc.	Asset Purchase Agreements
By-Laws, Operating Agreements, Trust Agreements	Stock Purchase Agreement
Shareholder Agreements, Member Agreements, Partnership Agreements, etc.	Bill of Sale
Pertinent Executive Meeting Minutes	Asset Contribution Agreement
Existing Employment Agreements and Curricula Vitae for Key Personnel	Buy-Sell Agreement
Real Property Lease Agreements	Standstill Agreements
Personal Property Lease Agreements	Nondisclosure and Confidentiality Agreement
Existing Buy-Sell Agreements	Letters of Intent
Existing Consulting or Management Services Agreements	Transaction Term Sheets
Loan Agreements	Proposed Employment Agreements
Related Party Vendor/Supplier Agreements	Proposed Lease Agreements
Third-Party Payor Agreements	Proposed Compensation Plan Details

should develop a preliminary "*Summary of Relationships*" and/or "*Summary of the Transaction*" schematic, which accurately depicts the "*Flow of Funds*" between *all* parties to the subject transaction in order to specifically and explicitly identify them and avoid any *inadvertent factual errors of omission or commission*. See Chapter 14, "The Valuation of Tangible and Intangible Assets," for a sample illustration of a "*Summary of Relationship"* diagram and Chapter 15, "Healthcare Services," for a sample illustration of a "*Flow of Funds*" diagram set within the context of a physician group practice compensation/income distribution arrangement. This first step serves as the foundation for then developing a secondary request for documents and information.

10.1.15 Prepare and Submit Document and Information Request

The *document and information request* for the engagement should set forth the *internal data of the subject enterprise* that will be relied on by the valuation analyst in performing the requisite due diligence related to developing a conclusion and opinion of value regarding the subject property interest. Typically, this *data-gathering process* takes place in three distinct steps: (1) the *preliminary and supplemental document and information requests*, (2) the *management interview/questionnaire*, and (3) the subject enterprise *site visit*. The *preliminary document and information request* includes those items that support the *subject-specific internal research* related to the subject enterprise, asset, or service. This is most often an *iterative process,* similar to *peeling back layers on a head of cabbage*, and the valuation analyst's review of the initial information received then leads to the development and submission of a *supplemental* request for additional documents and clarifying information. The *iterative* nature of this *process* and the importance of client cooperation in providing the information requisite for due diligence should be communicated to management of the subject enterprise at the outset of the engagement to properly manage expectations regarding the data-gathering process.

These steps in the data-collection process for the *transactional arena* are mirrored in the *discovery* process for *litigation support engagements*. The valuation analyst will make an official request for the *production of documents* to be provided by the opposing party in a legal dispute through the client's legal representation. In addition, analogous to the *questionnaire/survey instrument* in the *transactional valuation arena*, in performing a *litigation support engagement*, the valuation analyst may prepare *interrogatories*, that is, questions to be posed by the client's legal counsel to be answered by the opposition to assist the valuation analyst in the completion of the valuation

TABLE 10.2 Typical Steps in the Data Gathering Process

Transaction Engagements	Litigation Support Engagements
Preliminary Document and Information Request	Request for Production of Documents
Questionnaire/Survey Instrument	Interrogatories
Management Interview/Site Visit	Deposition Testimony

engagement. The valuation analyst may also, as part of a *litigation support engagement*, be called on to provide *expert witness testimony* based on the findings contained within his or her valuation report at a deposition, where the opposing legal counsel will be allowed to cross-examine the valuation analyst regarding his or her conclusions and opinions contained within the valuation report. Table 10.2 shows the relationship between the data-gathering process for engagements involving transactions and those involving litigation support.

As the requested documents and information are gathered, an *engagement-specific database* may be useful to *appropriately* account for the data in a manner that adequately *identifies*, *classifies*, and *stores* it, so that it may be *timely* and *efficiently retrieved* for use (*ICSR*). This *ICSR Process* is described in Exhibit 10.2.

10.1.15.1 Method of Data Transmittal: E-mail, Confidential Back Office/Data Sharing Room, Fax, Mail In addition to e-mail, fax, and hard copy document transmittal, one of the most effective and efficient methods of data transmittal and communicating with the client is through the utilization of a web-based, encrypted "*Back Office*" for the engagement. This is achieved by providing certain individuals, as may be specified by the client, with confidential usernames and passwords to access a specified, confidential file room on the valuation analyst's web server, i.e., "*Back Office.*" This allows users to upload requested documents and information, at their convenience, as well as to review the valuation analyst's *confidential work product* related to the engagement, without such draft documents and information being sent by e-mail or otherwise distributed.

10.1.15.2 Maintaining Data Status Tracking Summaries The timeframe required to complete any engagement is highly dependent on the client's ability to gain *access to*, *gather*, and *submit* the requested data related to the subject enterprise, asset, or service being appraised to the valuation analyst in a *timely* and *efficient* manner. Accordingly, the valuation analyst must

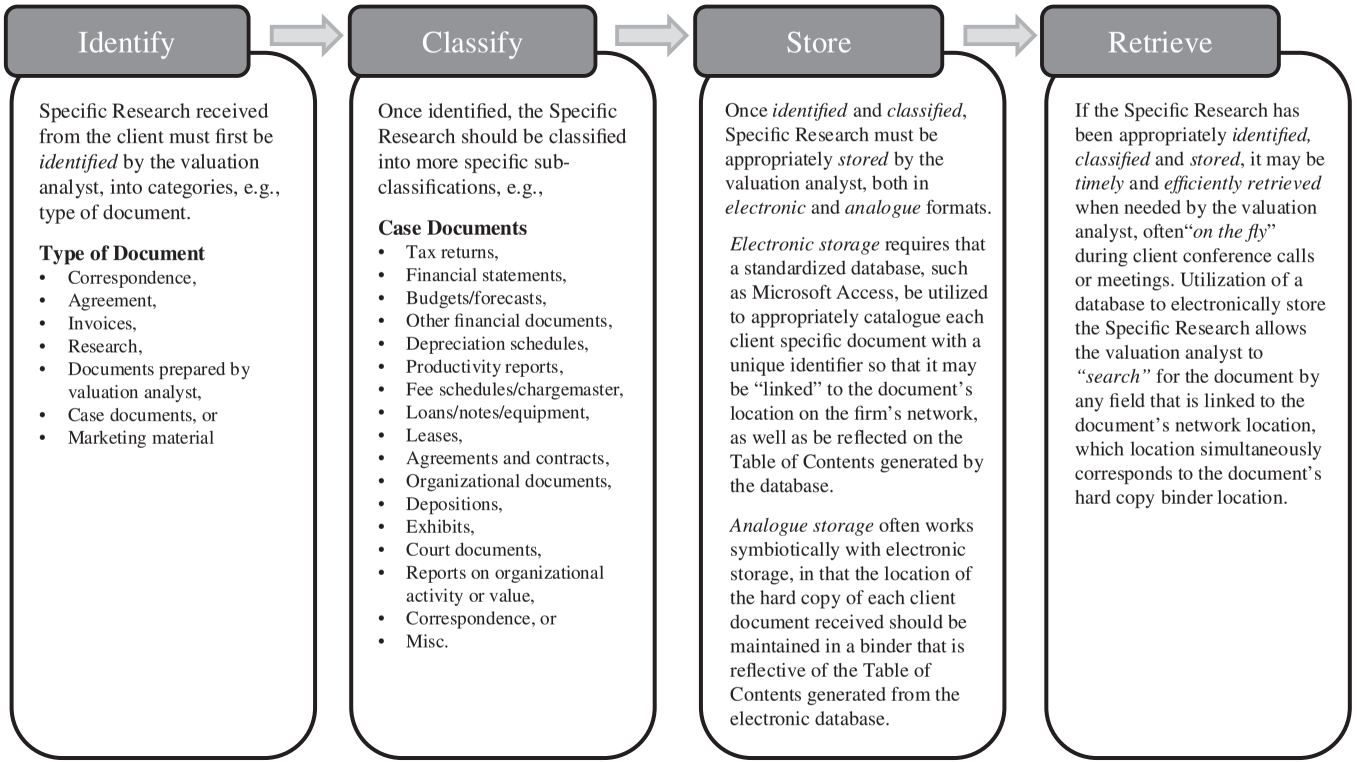


EXHIBIT 10.2 The ICSR Process
Source: © Health Capital Consultants

maintain an accurate *Data Status Tracking Summary*, which provides a contemporaneous "*log*" of those documents and data sets that

1. Have been requested, the date they were requested, and from whom they were requested;
2. Have been received, the date they were received, and from whom they were received; and
3. Have been requested and are still outstanding, will be essential to moving forward the data-gathering process in adherence to the set timetable for the engagement.

10.1.15.2.1 Date for Site Visit, Management Interview, and Report Delivery In addition to the valuation analyst receiving the requested documents and information from the client in a timely manner, it is essential that *milestone chronologies* that set forth the key steps for completion of the engagement be established in order to ensure adherence to the project timetable. These *milestones* include dates for the site visit; management interview; review of the draft report, for the purpose of the client identifying any inadvertent factual errors of omission or commission; and final report delivery. *Effectively communicating* the status of the project to the client avoids any potential misunderstandings, unexpected delays, misplaced client expectations, or other exigencies that may act to weaken client confidence in the valuation analyst's work product or, ultimately, the credibility of the valuation analyst's report.

10.1.16 Budget Required for Completion of the Engagement

The *preliminary budget estimate* for the engagement is typically established at the outset of the engagement, based on initial conversations between the client and the valuation analyst and their preliminary assessment as to the scope of the engagement. The valuation analyst and the client should consider building some flexibility into the budget, due to *exigencies* that may arise during the course of the engagement beyond the control of the valuation analyst, for example, change in the *scope of deliverables* or *premise of value* and unforeseen difficulties in getting the requested data that would require additional time and expense to perform the engagement.

One technique that both preserves the requirement that the valuation analyst be paid for the professional services and expenses to requisite for completing the assignment according to professional standards, and assures that the project costs would not be subject to the valuation analyst "*running the meter*," is set forth as:

> *Should VALUATION ANALYST determine at any time during the engagement that the requirements of the engagement will cause*

VALUATION ANALYST's professional fees to exceed the estimate by more than ten percent (10%), VALUATION ANALYST will so inform CLIENT and obtain CLIENT's permission to proceed.

10.1.17 Draft the Engagement Agreement

Once the *conflict search* has been performed, the *scope of services* has been defined, and the *preliminary budget estimate* has been determined, the *Valuation Engagement Agreement* may be drafted. In addition to reiterating the "*purpose*" and "*use*" of the valuation assignment, considerations not otherwise set forth in the *Valuation Engagement Agreement*, for example, the scope and limitations of the engagement, as well as the relationship of the valuation analyst to the client, should be included. An example of these types of provisions follows:

NATURE OF ENGAGEMENT *Except as otherwise provided herein, nothing contained in this AGREEMENT shall create any relationship of agency, partnership, employment, or joint venture between VALUATION ANALYST and CLIENT. VALUATION ANALYST and CLIENT are independent contractors and neither shall exercise control over the performance of the other hereunder. VALUATION ANALYST does not provide legal or tax advice. VALUATION ANALYST is not required to provide litigation support, give expert witness testimony or attendance in court by reason of this engagement. Should such additional services be requested by CLIENT, mutually satisfactory arrangements must be made prior to such appearance or provision of services. VALUATION ANALYST does not practice law and has not rendered any legal opinions or determinations in this engagement. The indications of value expressed within this REPORT are necessarily applicable only to the type, standard, and premise of value stated within the REPORT, and then only based upon the referenced definition of that type, standard, and premise of value. VALUATION ANALYST hereby disclaims any implied or explicit representation of the future performance or earnings of the SUBJECT ENTERPRISE to any current or future holder of an ownership interest.*

The terms of every valuation engagement should accurately and fairly reflect the *needs*, *fit*, and *risk parameters* for both parties to the

agreement, that is, the valuation analyst and the client. This should include a realistic assessment as to the input required from each party to achieve a successful project outcome. Among these factors and considerations that should be incorporated into the written engagement agreement are the following:

1. *C-suite healthcare executives* and *legal counsel* may not fully comprehend the complexity and need for communication with the valuation analyst;
2. The absence of this cooperation by the client and his or her legal counsel in the process of data gathering, due diligence, and decisions related to the scope and premise of value may make the completion of the assignment impossible; and
3. The ability of the appraiser to adhere to the agreed-on timetables and budgets depends on the valuation analyst not being forced to expend significant amounts of time connecting with the client and legal counsel for conference calls and other communications.

Here is an example of the language to use to establish in advance of the commencement of the valuation assignment the commitment to cooperate:

> ***COMMITMENT TO COOPERATE:*** *CLIENT acknowledges its intent to cooperate seriously and in good faith with VALUATION ANALYST pursuant to achieving the successful conclusion of the engagement. CLIENT will promptly provide CONSULTANT with the specific, general, financial, and technical information requested by VALUATION ANALYST necessary to facilitate the assignment. CLIENT agrees to: accept or return calls from CONSULTANT promptly; assist CONSULTANT in evaluating the reports presented by VALUATION ANALYST to CLIENT; respond on a timely basis to requests for conference calls, scheduling of meetings, and interviews.*

The *valuation engagement agreement* should clearly state the arrangements made and agreed to for the payment of the "*Professional Fees*" and expenses to the appraiser for the engagement, including the *amount* and *nature* of any required *retainer* (e.g., *nonrefundable* or *refundable* and under what circumstances it will be refunded), as well as the *hourly rate* for each individual performing services for the project. The treatment of any *additional expenses*, for example, any third-party *real estate* or *tangible personal property* (FF&E) appraisals that may be required and the *payment*

terms for them, should be clearly established in the engagement agreement. An example of the language for provisions of this type follows:

PROFESSIONAL FEES:

CLIENT agrees to pay CONSULTANT professional fees for this engagement as follows:

(a) ***RETAINER:*** *A nonrefundable retainer in the amount of _____ DOLLARS ($____,000.00) due and payable upon execution of this AGREEMENT. The retainer amount will be applied to CLIENT's account upon issuance of the final invoice(s) submitted by CONSULTANT to CLIENT;*

(b) ***HOURLY RATE:*** *CONSULTANT will invoice CLIENT for CONSULTANT'S time spent on behalf of CLIENT during this engagement at CONSULTANT'S hourly rates as listed on the SCHEDULE OF PROFESSIONAL FEES, which is attached hereto and incorporated herein. Based upon initial conversations between CLIENT and CONSULTANT and their preliminary assessment as to the scope of the engagement, it is estimated that the required professional fees to complete the engagement should not exceed _____ DOLLARS ($_____.00). Should CONSULTANT determine at any time during the engagement that the requirements of the engagement will cause CONSULTANT'S professional fees to exceed the estimate by more than ten percent (10%), CONSULTANT will so inform CLIENT and obtain CLIENT'S permission to proceed;*

(c) ***ADDITIONAL EXPENSES:*** *CONSULTANT will invoice CLIENT for agreed upon expenses incurred including real estate appraisals or appraisal updates, tangible personal property appraisals, travel, computer/research data, and miscellaneous expenses at CONSULTANT'S cost;*

(d) ***PAYMENT TERMS:*** *All fees and expenses billed under this AGREEMENT are due and payable upon receipt of invoice, unless a written extension has been provided by CONSULTANT. CONSULTANT reserves the right to defer rendering further services until payment is received for services rendered and invoiced. A fee of one and one-half percent (1½%) per month will be charged to CLIENT by CONSULTANT on all balances due after TEN (10) days past due. CLIENT agrees that it will pay any collection*

fees and reasonable attorney's fees incurred by CONSULTANT in collecting past due amounts owed under this AGREEMENT.

The valuation analyst may need to gain access to *sensitive client information* in the performance of a valuation assignment. To assuage any client concerns regarding the sharing of private information, the *Valuation Engagement Agreement* will typically include a confidentiality clause that limits the valuation analyst's ability to distribute information regarding the client's operating performance and financial status. An example of this confidentiality language is illustrated next:

CONFIDENTIAL INFORMATION: *During CONSULTANT'S engagement under this AGREEMENT, information regarding the professional, personal, and financial information may be shared by CLIENT and CONSULTANT (the "CONFIDENTIAL INFORMATION"). During the term of this AGREEMENT and thereafter, CONSULTANT and CLIENT shall hold such CONFIDENTIAL INFORMATION in the strictest confidence as fiduciaries, and shall not, voluntarily or involuntarily, sell, transfer, publish, disclose, display or otherwise make available to any third party any portion of the CONFIDENTIAL INFORMATION or related materials without the express written consent of the other party. CONSULTANT and CLIENT shall use their best efforts to protect the CONFIDENTIAL INFORMATION consistent with the manner in which they protect their most confidential business information.*

10.1.18 Identify the Project Team for the Engagement

The valuation firm will need to select and disclose to the client those analysts, researchers, and project manager(s) who will be committed to working in tandem with the client and its representatives to promptly establish scheduling and reporting objectives; efficiently gather the required data; clarify necessary information; analyze issues; as well as help the client understand the background and reasons for the valuation firm's efforts related to market research and the valuation process, as a whole, throughout the investigative and reporting stages of the engagement (PROJECT TEAM). The PROJECT TEAM should employ a project management structure for the development and implementation of the engagement that efficiently deploys internal resources, client management and such other consultants as the client may retain, audit and tax counsel, and strategic planning/organizational consultants in an interactive, time-efficient, cost-effective, and coordinated manner.

The PROJECT TEAM should be structured in a manner that will provide an experienced senior-level (perhaps a principal) analyst to lead the

PROJECT TEAM. The healthcare industry environment of constant change requires the skills of seasoned, certified professional business valuators, financial analysts, researchers, and technicians who have the experience and technical skills to competently, consistently, cost-effectively, and in a timely manner respond to client needs.

Consequently, the PROJECT TEAM should be based on a team of professionals who:

1. Have actual, hands-on experience as valuation consultants, financial analysts, intermediaries, and researchers in the healthcare industry;
2. Are experienced process technicians in these areas of valuation, analysis, transactions, and research;
3. Understand the healthcare transactional markets as they affect value;
4. Understand the culture and mechanisms that define the relationships between the various organizations that make up today's healthcare delivery systems, that is, physicians, hospitals, skilled nursing facilities sub-acute care services, ambulatory/outpatient centers, ancillary services, home health, patients, payors, and the community at large;
5. Understand the organizational, operational, and noneconomic issues pertinent to the management of healthcare systems, hospitals, and skilled nursing facility in specific;
6. Demonstrate expertise in legal aspects and programmatic and business operations of healthcare systems;
7. Are familiar with private and public funding streams, regulations, and mechanisms;
8. Understand state of the art development of structure and governance of healthcare system networks, both in design and in implementation; and
9. Inspire confidence that the valuation process has been accomplished in a manner that develops an atmosphere of integrity, trust, and corporation.

In addition to selecting and disclosing the PROJECT TEAM to the client, the valuation analyst should also establish a *vetting list* identifying all of the contact information for all external parties related to the project and specifying which *types* and *nature* of communications, for example, conference call schedules, review of documents, and so on, may and should be shared with each of them, making certain to obtain the e-mail address, firm name and address, direct phone line, cell phone, and optimal times of availability for each contact and his or her assistant (if applicable). Note that the party responsible for gathering the data may not be the client who retained the valuation analyst but may be any number of subject entity personnel or outside entities, for example, billing and accounting companies, attorneys, or tax counsel. Having this information available is often critical to the ensuring the "*success*" of the engagement.

10.2 DEVELOPING THE VALUATION OPINION

Even though preliminary work to establish relationships and determine requisite documents and information may have already begun, the valuation engagement "officially" begins when the signed Engagement Agreement is received from the client (often the legal counsel of one of the parties to the transaction).

10.2.1 Conducting Appropriate Due Diligence

Conducting a level of due diligence appropriate to the scope of a given assignment is critical to the development of the valuation opinion. First and foremost, the appraiser serves in the role of proxy for the *universe of typical investors and* buyers inherent in the requisite hypothetical transaction of the *fair market value* standard, See Chapter 3, "Regulatory Environment," for a more in-depth discussion of *fair market value*. Due diligence may be defined as:

> *A prospective buyer's or broker's investigation and analysis of a target company, a piece of property, or a newly issued security.*[5]

There are two distinct classes of information generally required for due diligence related to healthcare valuation: (1) *general research* and (2) *specific research*. *General research* typically consists of information and data related to *national and regional healthcare industry trends*, *reimbursement trends*, *competitive marketplace assessments*, *medical industry specialty and technological trends*, *transactional data*, and *investment risk/return data*, as well as other research not specifically related to, or obtained from, the subject enterprise, asset, or service being appraised. General research is obtained for the purpose of providing a context within which the analyst considers the *specific research* and information gathered.

S*pecific research* is related to information specific to the historical *operational performance* and *financial condition* of the subject enterprise, asset, or service, as well as the *pertinent clinical related data*. Specific research is typically obtained from the client or the appropriate contact designated by the client.

10.2.1.1 General Research *General research* may be obtained from a variety of sources, including:

1. Books and monographs;
2. Journals and periodicals;

[5] Bryan A. Gardner, ed., *Black's Law Dictionary*, 9th ed. (St. Paul, MN: Thomson Reuters, 2009), p. 523.

3. Government agencies;
4. Proprietary data aggregators and portals;
5. Professional societies and trade associations;
6. Conferences and webinars;
7. Online databases; and
8. Academic and industry "*think tanks*" and research foundations.

While the process of obtaining *general research* provides valuation analysts with an adequate grasp of the body of knowledge applicable to a particular property interest being appraised, it is the efficacy of the valuation analyst's subsequent application of generally accepted analytical methods to that data that determines the successful outcome of the assignment. The *technical tools that* the valuation analyst needs to employ to provide clients with the *observations*, *findings*, *conclusions*, and *opinions* that are to be deliverable under a particular engagement involve the *synthesis* of a substantial amount of *data* that may be pertinent to the valuation assignment, as well as the *appropriate analysis*, *calculations*, and *considerations* of the *various types and forms of that data*. Among the *technical tools* available to analysts is the *benchmarking* process, that is, a comparison of *specific research data* from the subject property interest to *industry-indicated benchmark norms*, and may include the performance of a *simple variance analysis* on a single characteristic, such as a patient outcome metric related to "*readmission within 30 days of discharge*," or may be comprehensive in scope, including the comparison of numerous *clinical*, *operational*, and *financial metrics*.

Benchmarking is used to establish an understanding of the *operational and clinical performance* and the *financial status* of a healthcare enterprise. Benchmarking techniques can also be used to illustrate the degree to which an organization *diverges* from *comparable healthcare industry norms*, as well as providing vital information regarding trends within the organization's *internal operational performance* and *financial status*. For example, benchmarking in the healthcare services sector serves several *purposes*:

1. Offers insight into the enterprise and practitioner performance as it relates to the rest of the market (e.g., allowing organizations to find where they "*rank*" among competitors, and as a means for *continuous quality improvement* [CQI]);
2. Objectively evaluates performance indicators on the enterprise and practitioner levels;
3. Indicates variability, extreme outliers, and prospects;
4. Identifies areas that require further attention and possible remediation (e.g., redistributing resources and staff and increasing operating room [OR] utilization);

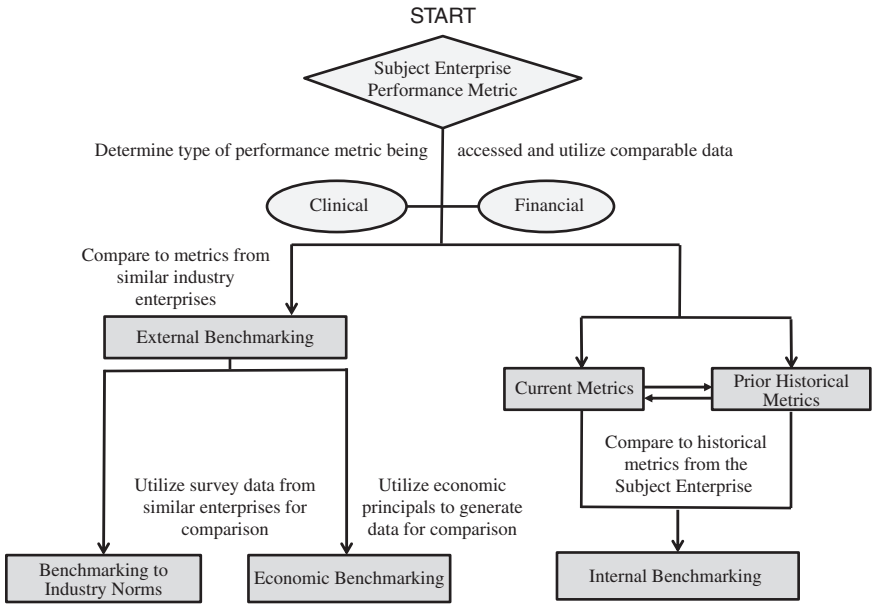


EXHIBIT 10.3 Variations in the Benchmarking Process
Source: © Health Capital Consultants

5. Promotes quality and efficiency improvement (e.g., improving average length of stay [ALOS] and other clinical efficiency measures); and
6. Provides enterprises with a *value-metric system* to determine if they comply with legal standards for *fair market value* and *commercial reasonableness*.[6]

An illustration of the benchmarking process is set forth in Exhibit 10.3 and is also described in more depth in Section 8.3.1, "Financial and Operational Benchmarking," in Chapter 8, "Valuation Approaches and Methods."

[6]Paul M. Schyve, MD, "The Joint Commission's Perspective," in Stephen C. Schoenbaum, MD, MPH, *Measuring Clinical Care: A Guide for Physician Executives* (Tampa, FL: American College of Physician Executives, 1995), p. 57; Aspen Health Law and Compliance Center, "The Physician Compensation Plan As an Instrument of Cultural Change," in Daniel K. Zismer, *Physician Compensation Arrangements* (Gaithersburg, MD: Aspen Publication, 1999), pp. 108–115; Bruce A. Johnson and Deborah Walker Keegan, "Measuring Physician Work and Effort," in *Physician Compensation Plans: State-of-the-Art Strategies FACMPE* (Englewood, CO: Medical Group Management Association, 2006), pp. 110–111; Healthcare Financial Management Association, "Financial and Clinical Benchmarking: The Strategic Use of Data" (Baltimore: HCIA, 1997), pp. 76–77.

For more information on the *key sources of benchmarking data* related to the appraisal of *enterprise*, *assets* and *services*, see Chapter 11, "Inpatient Enterprises," Chapter 12, "The Valuation of Outpatient Enterprises," Chapter 13, "Other Healthcare-Related Enterprises," Chapter 14, "The Valuation of Tangible and Intangible Assets," and Chapter 15, "Healthcare Services," as well as the *Key Sources* in these chapters.

10.2.1.2 Subject Enterprise–Specific Research In contrast to *general research*, *specific research* is information and data that is directly related to, or obtained from, the *subject enterprise*, *asset*, *or service* being valued. Specific research will often consist primarily of those documents received by the valuation analyst through the *information and data gathering process* (or *discovery process*, in the case of *litigation support engagements*) including, but not limited to, those *preliminary legal/organizational* and *transactional documents* set forth in Table 10.1 in Section 10.1.13, "Obtain Preliminary Legal/Organizational and Transaction Documents."

On the valuation professional's review and analyses of the preliminary documents and information provided, a supplemental request for documents and information should be developed, including the items set forth in Table 10.3.

TABLE 10.3 Typical Supplemental Document and Information Request

Financial statements (including Income and Expense Statements and Balance Sheets) for the last five full years, plus updates to the most recent quarter, or the month prior to the date of the valuation.
General ledger, of detailed transactions, for the twelve-month period following the "as of" date.
Tax returns (including detailed attachments and supplemental information) for the last five full years.
Fee schedules for the subject enterprise's current "as of" date of valuation, reflecting standard fee, Medicare fee, and other prenegotiated fixed fee for service or managed care fees.
Aged schedule of accounts receivable with payor detail for the period ending of each of the last five years and as of the date of the valuation.
Accounts payable with creditor detail for the period ending of each of the last five years and as of the date of the valuation.
Detailed inventory of medical equipment and office equipment (including furniture and fixtures) in use in the subject enterprise as of the date of valuation, with the date and cost of acquisition. Detailed depreciation schedules should be included from tax returns or accountants' records to verify the schedule.

TABLE 10.3 (*continued*)

Estimate of the number of days of each category of supplies on hand (categorized by medical supplies, lab supplies, and office supplies) as of the date of valuation.
Count of active patient charts that have experienced activity within the last 1½ to 2 years prior to the date of valuation. Also, an estimate of the total patient charts with the subject enterprise as of the date of valuation.
A CPT coded schedule of the number and type of major and minor procedures by payor, performed in the subject enterprise for each of the last five years and as of the most recent quarter, or the month prior to the date of the valuation. Please provide this information by provider and site of service.
A list of physicians and providers in the subject enterprise as of the date of valuation, including their productivity at the subject enterprise for each of the last five years and as of the most recent quarter, or the month prior to the date of the valuation (number of procedures, types of procedures, site[s] of service, charges, collections, etc.) and a Curriculum Vitae. Please also provide a list of former physicians and providers, including the dates of service at the subject enterprise.
A description and list of referral sources (including productivity, i.e., number of procedures and charges) as of the date of valuation.
Copy of all agreements or proposals for past transactions involving the transfer of an equity or ownership interest in the subject enterprise, prior to the date of valuation.
Any prior valuation reports, investment banking or venture capital, or other financial analyses that have been performed related to the subject enterprise since inception.
List of any insurance, Medicaid/Medicare, and/or third-party payor audits that have been performed or are pending for the subject enterprise, with date and outcome.
Summary and description of privileges at hospitals where staff privileges are held and the scheduling arrangement.
Copy of Declaration Page (cover page) of malpractice insurance.
A list of all patents and intellectual property rights owned by the subject enterprise.
Patient location/zip code distribution report (sorted by location/zip code).
Copies of all managed care contracts in use in the subject enterprise (or a summary of duration, reimbursement scenarios, etc.)
A copy of the organizational chart for the subject enterprise.
Roster of staff (including non-MD providers), indicating the type of employment (i.e., W-2 or Independent Contractor status), salary, title, duties, and years of service for the subject enterprise.
Copy of any practice protocols, operation manuals, employee policies, and procedure manuals in use for the subject enterprise.
Copies of all licenses, certifications, accreditations, permits, and other regulatory approvals, including, if applicable, Certificates of Need (CON).

(*continued*)

TABLE 10.3 Typical Supplemental Document and Information Request (*continued*)

Information on management information systems, including all software for accounting, coding, billing, reporting, patient records, and so forth, with the name of the manufacturer, product, modules, options, and so on, as well as the version, release, and update numbers.
Provide a summary and copies of documents related to any pending litigation in which the subject enterprise is presently involved.
Copy of any operating or capital budgets or forecasted statements prepared for the subject enterprise.
A description of the provider income distribution plan in place at the practice, including any periodic calculations.
Addresses, office hours, and physician and provider staffing for the main office and the satellite offices.
A description of all sites of services (fixed and/or mobile).
A description of the call/coverage rotation schedule (if applicable).
Marketing materials (e.g., brochures, description of commercials, website, etc.).
Floor plan or layout of each of the office locations.

An example of the application of subject entity specific research can be found online at http://www.wiley.com/go/healthcarevaluation. Additional subject-specific information may also be obtained through the *site visit/management interview*; an illustration of the types of information that may be collected during the *site visit/management interview* is set forth in Table 10.4.

As part of the requisite due diligence associated with a specific engagement, the valuation analyst should conduct independent research, specific to the subject enterprise, to supplement any information provided by the subject entity, in line with the old Russian proverb "*trust but verify.*"[7] For example, the valuation analyst may conduct a *Uniform Commercial Code* (UCC) search to determine if the subject enterprise has any undisclosed outstanding liabilities or whether the subject enterprise leases, rather than owns, its tangible personal property, that is, furniture, fixtures, and equipment. Similarly, a search for filings related to the subject enterprise with the Office of the Secretary of State in which the subject enterprise operates should

[7]Attributed to Vladimir Lenin and popularized by U.S. president Ronald Reagan. See President Reagan's "Remarks on Signing the Intermediate-Range Nuclear Forces Treaty," December 8, 1987, http://www.reagan.utexas.edu/archives/speeches/1987/120887c.htm (accessed February 18, 2013).

TABLE 10.4 Types of Subject Specific Information: Site Visit/Management Interview

History and Background Information	Managed Care Environment
Premise/Location/Building Description	Hospital Privileges and Facilities
Transition to Electronic Medical Records	Referral Sources and Patterns
Quality of Staff and Depth of Management	Strength of Financial Management and Credit Collections Policy
Competitive Trend Analysis	Operational Efficiency Assessment
Patient Base Trends	Future Plans, e.g., Growth, Transition to Value Based Reimbursement, etc.

be performed to identify pertinent information related to the actual legal organization of the subject enterprise, as well as performing a brief search of online legal databases, such as Public Access to Court Electronic Records for federal litigation and state litigation databases, such as Case.net in Missouri, to reveal any past and ongoing litigation involving the subject property interest, including shareholder disputes, commercial damages and liabilities, and malpractice cases.[8] Further information related to the subject enterprise, asset, or service, which might not have been disclosed, may be gleaned from state licensing and certifying agencies and disciplinary boards and may have an impact on the reputation, as well as the *clinical* and *operational performance* and *financial status* of the subject enterprise. It should be noted that *subsequent events*, that is, events that would *not* have been *known or knowable* as of the *valuation date*, but that may also have a deleterious effect on the value indication for the subject property, must be disclosed, within the valuation report, to the client. However, these *subsequent events* do not have an impact on the valuation opinion as of the valuation date and may require a decision by the client whether an updated valuation report, that is, with a valuation date after the *subsequent events*, should be undertaken.

The valuation analyst should also restate and adjust the subject enterprise–*specific* financial data received to (1) facilitate *industry benchmark comparisons* of the specific line item allocations of the subject entity's financial statements to comparable industry indicated benchmark norms for those line items and (2) reflect the *true economic operating performance* and *financial status* of the subject enterprise. Accordingly, the valuation analyst should carefully consider restating certain line items related to the revenue and expenses of the subject entity, for example, owner compensation and

[8] See http://www.pacer.gov; also see https://www.courts.mo.gov/casenet/base/welcome.do.

benefits, discretionary expenses not required to support the projected revenue of the subject enterprise, and extraordinary nonoperating income and expenses. Likewise, the valuation analyst should consider restating certain of the assets and liabilities of the subject entity, for example, removing nonoperating assets; adjusting tangible personal property (i.e., furniture, fixtures, and equipment) from book value to *economic fair market value*; and removing those assets excluded from the property interest being appraised, such as accounts receivable and cash.

Furthermore, the valuation analyst should consider restating the *cash and cost-based balance sheet* of the subject enterprise to include the *economic value* of all of the assets included in the property interest being appraised, such as:

1. Supplies;
2. Accounts receivable (if included); and
3. Those assets financed through operating leases that have been capitalized.

Similarly, the subject enterprise's balance sheet should be adjusted to account for those liabilities that exist but that were not included on the subject enterprise's balance sheet, for example, *capitalized lease obligations* and *accounts payable*. Typically, normalizing/control adjustments, such as adjustment of operating expense, capital items, and capital structure to industry norms, are made to the projected cash flow of the subject enterprise, as well as adjustments to the subject entity's *risk-adjusted required rate of return*. See Chapter 8, "Valuation Approaches and Methods," for a discussion of adjustments to the subject enterprise's historical financial statements.

10.2.2 Preparing the Analysis

10.2.2.1 Consideration and Selection of Valuation Approach(es), Method(s), and Technique(s) to Be Utilized Each valuation engagement should include consideration given of each of the three approaches to value, that is, the *Income Approach*, the *Market Approach*, and the *Cost Approach*.[9] The determination of applicable valuation *approaches*, *methods*, and *techniques* will depend primarily on:

1. The *purpose* of the valuation report;
2. The *objective* and *purpose* of the valuation engagement;

[9]Ian Ratner, Grant Stein, and John Weitnauer, *Business Valuation and Bankruptcy* (Hoboken, NJ: John Wiley & Sons, 2009), p. 26.

3. The *Standard of Value*;
4. The *Premise of Value*;
5. The *specific characteristics* of the subject property interest; and
6. The *availability* of *reliable data*.

As previously discussed in Section 7.2.2.1, "Value in Use," in Chapter 7, "Basic Valuation Tenets," *income approach–based methods* are typically premised on the ability of the enterprise to produce *sufficient net cash flow* in the *reasonably foreseeable future*. In the absence of the ability of the enterprise to generate an economic cash flow sufficient to support the value of the investment represented by the tangible and intangible assets used to generate its revenue stream, consideration should be given to changing the premise of value *as a going concern* to a *value in exchange* premise, for example, as *an orderly disposition of an assemblage of the assets in place*. For example, many *professional physician practice enterprises* do not produce a *positive net economic cash flow* once the value of the *physician compensation expense burden* is adjusted to reflect *Fair Market Value* for those services provided. This circumstance may indicate that the use of an *income approach–based valuation method* for appraisal of the entity, in its entirety, as a *going-concern enterprise* may not represent the *highest and best* use of the capital invested in the enterprise.

Basic steps in preparing the valuation analysis are set forth in Table 10.5. A more detailed discussion of the selection of appropriate valuation approaches and methodologies may be found in Chapter 8, "Valuation Approaches and Methods."

In order to avoid any *inadvertent factual errors of omission or commission*, the valuation analyst should consider submitting, for review of the management of the subject enterprise, those items of the appraiser's work product reflecting information related to the subject entity's *historical operational performance and financial status*, for example, historical financial statements, provider productivity calculations, payor mix determinations, staff rosters, and financial allocations between service lines. The valuation analyst should typically not submit for management review those schedules and work papers that reflect conclusions or opinions related to *operational* and/or *financial projections*, development of *risk-adjusted required rates of returns*, or determination of the type and amount of *discounts and premiums* to be applied. These elements of the analysis reflect the professional and independent judgment of the analyst, who must strive at all times to maintain that independence and objective perspective, when providing conclusions or opinions of value, which opinion should not be subject to debate.

After the historical data related to the subject enterprise has been verified for accuracy, and the analysis has been fully developed, the valuation

TABLE 10.5 Basic Steps in Applying Valuation Approaches and Methods

Income Approach–Based Valuation Methods	Applicable Chapter Reference	Applicable Section Reference
Project Revenue Stream(s)	Chapter 8, "Valuation Approaches and Methods"	Section 8.1.1.3, "Revenue Forecasts"
Project Economic Operating Expenses	Chapter 8, "Valuation Approaches and Methods"	Section 8.1.1.4.1, "Economic Operating Cost Burden"
Tax Affects Operating Profit (if necessary)	Chapter 8, "Valuation Approaches and Methods"	Section 8.1.1.5.1.1, "Tax Affecting Income"
Project Economic Capital Expenses	Chapter 8, "Valuation Approaches and Methods"	Section 8.1.1.4.3, "Economic Capital Cost Projections"
Calculate the Net Economic Benefit Accruing to the Owners of the Subject Enterprise	Chapter 8, "Valuation Approaches and Methods"	Section 8.1.1.6, "Projected Cash Flow"
Perform Risk Assessment	Chapter 8, "Valuation Approaches and Methods"	Section 8.3, "Risk Assessment"
Utilizing the Benchmark Analysis	Chapter 8, "Valuation Approaches and Methods"	Section 8.3.1, "Financial and Operational Benchmarking"
Select Appropriate Risk Adjusted Discount Rate	Chapter 9, "Costs and Sources of Capital"	Section 9.2, "Cost of Capital"
WACC for Total Invested Capital	Chapter 9, "Costs and Sources of Capital"	Section 9.2.1.4, "Weighted Average Cost of Capital (WACC)"
Cost of Equity for Equity Valuation	Chapter 9, "Costs and Sources of Capital"	Section 9.2.1.2, "Cost of Equity"
Capitalization Rate for Single Period Capitalization Method	Chapter 8, "Valuation Approaches and Methods"	Section 8.1.1.8, "Single Period Capitalization Method"
Risk-Free Rate for Monte Carlo Simulation Methods	Chapter 8, "Valuation Approaches and Methods"	Section 8.2.2, "Monte Carlo Simulation Analysis"
Discount/Capitalize Anticipated Net Economic Benefit	Chapter 8, "Valuation Approaches and Methods"	Section 8.1.1.7, "The Discounted Net Cash Flow Method," and Section 8.1.1.8, "Single Period Capitalization Method"
Apply Any Necessary Premiums and/or Discounts	Chapter 8, "Valuation Approaches and Methods"	Section 8.4, "Discounts and Premiums"

Market Approach–Based Methods	Applicable Chapter Reference	Applicable Section Reference
Collect Data on Market Comparable Transactions/Companies (i.e., Levin and Associates for Transactions, SEC Filings for Publicly Traded Companies)	Chapter 8, "Valuation Approaches and Methods"	Section 8.1.2, "Market Approaches"
Make Adjustments (as necessary)	Chapter 8, "Valuation Approaches and Methods"	Section 8.1.2, "Market Approaches"
Collect the Necessary Historical Performance Metrics for the Subject Enterprise	Multiple	Key Sources in Chapter 11, "Inpatient Enterprises," Chapter 12, "The Valuation of Outpatient Enterprises," and Chapter 13, "Other Healthcare-Related Enterprises"
Calculate the Indication of Value using Market Comparable Data and Historical Subject Enterprise Performance Metrics	Chapter 8, "Valuation Approaches and Methods"	Section 8.1.2, "Market Approaches"
Apply Any Necessary Premiums and Discounts	Chapter 8, "Valuation Approaches and Methods"	Section 8.4, "Discounts and Premiums"
Asset/Cost Approach–Based Methods	**Applicable Chapter Reference**	**Applicable Section Reference**
Identify Assets to Be Included (Both Tangible and Intangible)	Chapter 8, "Valuation Approaches and Methods"	Section 8.1.3, "Asset/Cost Approach–Based Methods"
Collect Historical Cost, Date of Acquisition, and Asset Condition Information Related to the Included Assets	Chapter 14, "The Valuation of Tangible and Intangible Assets"	Section 14.2.2.1.3, "Asset/Cost Approach for Valuing Tangible Personal Property"
Collect Data Regarding Industry Trends in Asset Costs (i.e., Marshall & Swift)	Chapter 14, "The Valuation of Tangible and Intangible Assets"	Section 14.4.1.3, "Cost Approach for Valuing Tangible Personal Property"
Calculate Current Value of Included Assets	Chapter 8, "Valuation Approaches and Methods"	Section 8.1.3, "Asset/Cost Approach–Based Methods"
Apply Any Necessary Premiums and Discounts	Chapter 8, "Valuation Approaches and Methods"	Section 8.4, "Discounts and Premiums"

analyst should review the results of each valuation method employed to ensure the sensibility and credibility of the results, a process commonly referred to as "*reasonableness testing*" (in slang terms often referred to as a "*smell test*"; however, this author does not subscribe to the efficacy of olfactory metrics). Elements to consider when performing a "*reasonableness test*" may include:

1. Recheck the logic and math used in each valuation method;
2. Compare various ratios of the company being valued to those of other companies;
3. Test the reasonableness of the value from a buyer's perspective by computing a payback period; and
4. Test the reasonableness from an adversary perspective.[10]

The selection of a particular "*reasonableness test*" to employ will be largely driven by the specific *facts* and *circumstances* surrounding the valuation engagement, including the *availability* of *data* and *information*, as well as the *purpose* and *use* of the appraisal. Once the "*reasonableness test*" has been completed for each of the methods employed, the indicated results are typically reconciled, correlated, and synthesized to derive the *final conclusion and opinion of value*, which results should then be subject to a further "*reasonableness test*."

10.2.2.2 Reconciliation, Correlation, and Synthesis of Approaches and Methods to Arrive at the Valuator's Final Conclusion of Value In order to reconcile the results derived from the valuation approaches, methods, and techniques used in the analysis, the valuation analyst should consider the significant elements of the analysis, including but not necessarily limited to, (1) comparability of data from normative industry benchmark sources to the subject enterprise, (2) the extent to which the indicated result from a specific method is based on future or past industry trends, and (3) reliability of the input to the method. Exhibit 10.4 sets forth an illustrative example of the weighting of each method employed.

While no specific or prescribed *mathematical model* may be substituted for the *informed*, *professional judgment* of the valuation analyst, a recapitulation of the *indicated value results* of each method employed and a

[10] Jay E. Fishman, Shannon P. Pratt, J. Clifford Griffith, and D. Keith Wilson, *Guide to Business Valuations*, Vol. 2 (Fort Worth, TX: Practitioners Publishing Company), p. 805.25.

EXHIBIT 10.4 Reconciliation, Correlation, and Synthesis of Approaches and Methods

Method	Value Indication	Weight	Indicated Results
Discounted Cash Flow Method	$3,258,578	80%	$2,606,862
Guideline Public Company Method	$3,409,407	10%	$340,941
Merged and Acquired Company Method	$3,953,770	10%	$395,377
Final Opinion of Fair Market Value of Subject Interest			$3,343,180
Final Opinion of Fair Market Value of Subject Interest (Rounded)			**$3,300,000**

summary discussion of the *weight of consideration* accorded by the valuation analyst in *correlating* each method as contributing to the *final conclusion of value* should be provided *only* for the purpose of illustrating, in a *clear and simple manner*, the valuation professional's *analysis* and *judgment* in arriving at the *final conclusion and opinion of value*, so that it might be better understood by the client.

In order to arrive at a *reconciliation* of these *indicated values* and an *overall final conclusion of value* for the *property interest*, the valuation analyst should carefully consider each method performed in terms of its *application* and the *quantity* and *quality* of the available data. Each method should then be accorded a weight of consideration, based on the valuation analyst's degree of confidence in the *appropriateness* and *accuracy* of each method, the *sufficiency* and *validity* of the data available for the method, and the *pertinence* to the circumstances of the engagement. An example of this reconciliation, correlation, and synthesis process is illustrated in Exhibit 10.4.

It should be noted that in some instances, it may be appropriate to present a range of value in contrast to a point estimate. In which case, the *boundaries* of the *range of value* may be set by the *minimum* and *maximum indications of value* derived from the methods employed.

10.2.3 Developing the Valuation Report

Following this first step of the healthcare valuation process, that is, development of the appraisal analysis, the *observations*, *findings*, *conclusions*, and *opinions* need to be presented, under Uniform Standards of Professional

Appraisal Practice (USPAP) standards, to the client in a manner that achieves the following:

> *Each written or oral appraisal report for an interest in a business enterprise or intangible asset must:*
>
> 1. *Clearly and accurately set forth the appraisal in a manner that will not be misleading;*
> 2. *Contain sufficient information to enable the intended user(s) to understand the report; and*
> 3. *Clearly and accurately disclose all assumptions, extraordinary assumptions, hypothetical conditions, and limiting conditions used in the assignment.*[11]

This second step in the healthcare valuation process, that is, *developing the valuation report*, is equally as important as the appraisal analysis itself.

10.2.3.1 Identify the Level of Report Required under the Uniform Standards of Professional Appraisal Practice The first step in developing the valuation report is to determine the level of detail required under USPAP, based on the range and scope of the assignment, as discussed in Section 10.1.7, "Identify the Scope of the Valuation Assignment."

10.2.3.2 Identify the Method of Report Transmittal The final report may be delivered to the client through several methods, that is, *hard copy*, *oral*, or, increasingly, clients are requesting that the final report be delivered *electronically.* Should the client request an electronic copy of a report that has been issued in hard copy, it is important that the electronic copy be a facsimile of the hard copy, that is, an exact duplicate of the hard copy. As such, this does not represent a second issuance of a report with a separate date of the report.

10.2.3.3 Prepare an Index of the Report The final report should be prepared in a disciplined, thorough manner with a systemic plan and not in an ad hoc manner. Toward that end, the valuation analyst should prepare a detailed *Index* or *Table of Contents* for the report, which identifies each of the elements of the report. See Table 10.6 for representative items typically included in the table of contents for a valuation report.

A more detailed illustration of a *Table of Contents* for a healthcare engagement can be found online at http://www.wiley.com/go/healthcarevaluation.

[11] USPAP 2012—2013 Edition, published by the Appraisal Foundation, p. U-75.

TABLE 10.6 Typical Items Included in the Table of Contents/Index of a Valuation Report

Transmittal Letter
Section 1: Description of the valuation assignment.
Section 2: History, background, and description of the subject enterprise.
Section 3: Economic and demographic conditions within which the valuation was considered.
Section 4: Condition and trends for the general healthcare industry.
Section 5: Conditions and trends for the subject enterprise's specialty.
Section 6: Financial data of the subject enterprise, including the recasting of historical accounting data and benchmarking to industry norms.
Section 7: Valuation approaches, methods, and techniques related to this valuation, including the development of the risk-adjusted required rate of return and applications of the methods used.
Section 8: Statement of the appraiser's findings, opinions, and conclusions.
Section 9: Certification of the appraiser.
List of Tables
List of Exhibits
Schedules
Appendices

10.2.3.4 Prepare Schedules, Narrative, and Appendices to Be Included in the Report

Once a preliminary table of contents for the report has been created, the valuation analyst can begin producing the appropriate schedules, narrative, and appendices related to the applicable valuation approaches, methods, and techniques selected for the engagement. Typically, the valuation analyst should begin the project by drafting the narrative section, which sets forth a description of the assignment, as well as the section that describes the history and background of the subject enterprise, prior to the development of financial models. In addition, the sections of the narrative that set forth the current and projected industry trends are a necessary input to any projections included in the financial models and therefore would need to be created at the outset of the engagement as well.

10.2.3.5 "Tick-and-Tie" and Quality Review Process

Of utmost importance to the preparation of the final report is the "*tick-and-tie*" and *quality review* process, a process that generally involves three steps: (1) "*tick and tie*" of

Tick and Tie

A correction of any errors in a report's narrative, schedules, or appendices.

Quality Review

The final review of a valuation report, checking for errors in the assemblage of the final reports, including printing errors, page layout errors, and quality assurance of the materials utilized.

the valuation schedules, (2) "*tick and tie*" of the valuation report narrative, and (3) *quality review* of the final report, either "*hard copy*" or *electronic*.

Once the *final conclusion of value* has been determined, an independent review of the accuracy, validity, and reasonableness of the indicated results should be performed. "*Tick and tie*" is jargon for the process of (1) verifying an amount (by placing a "*tick*" mark next to it), and (2) matching or balancing one amount to another ("*tie*" out). The objectives of this review should be to:

1. Verify the accuracy of the input;
2. Confirm that the valuation methods employed were used correctly;
3. Make certain that all backup documentation is appropriately referenced and stored; and
4. Ensure that the work product developed conforms to applicable valuation standards, including the requirement that the output derived from the valuation methods employed is replicable.

See Exhibit 10.5 for an illustrative example of a checklist that may be used in performing the "*tick and tie*" of the *valuation report schedules*:

It should be noted that most valuation engagements are an *iterative process* that may change as the engagement moves forward. Every *iteration* of the financial model should be subject to the "*tick and tie" process* prior to being submitted for review by the client.

Similarly, the narrative sections of the valuation report should be subjected to an independent review by a new "*set of eyes*," that is, a competent and trusted colleague who did not participate in drafting the narrative. The independent review should assist the valuation analyst in avoiding (1) errors in grammar, syntax, and spelling; (2) failures in logic, non sequiturs, and/or inconsistent statements; and (3) redundancies, lack of clarity, and other common editorial shortcomings and errors.

EXHIBIT 10.5 Schedules Tick-and-Tie Checklist

Checked By:	**Project Name:**
Date Reviewed:	**Project Agreement Number:**
Subject Interest (e.g., Total Invested Capital, Equity, Distinct Assets, etc.):	**Standard of Value:**
Level of Value: (e.g., minority, control, neither) [if applicable]:	**Premise of Value:**
Document File Path and File Name:	**Schedule Name and Number:**

Tick-and-Tie Checklist	Completed	Notes
General		
Ensure That the Appropriate Approaches, Methods, and/or Techniques Have Been Selected.		
Ensure That the Selected Approaches, Methods, and/or Techniques Are Correctly Applied and Result in the Desired Indication of Value.		
Perform a *"Reasonableness Test"* on All Calculated Results.		

(*continued*)

EXHIBIT 10.5 Schedules Tick-and-Tie Checklist (*continued*)

Tick-and-Tie Checklist	Completed	Notes
Worksheet Headers/Footers		
Filename and File Path—Footer (Draft Version Only)		
Schedule Author's Initials—Footer (Draft Version Only)		
Subject Entity Name—Footer		
Copyright Symbol with Valuation Firm's Name—Footer		
Column and Row Headings		
Column Headings and Row Numbers in Sequential Order		
Check Consistency and Order of Time Periods		
Check for Definitions of All Acronyms Utilized, e.g., TTM (Trailing 12 Months)		
Data Validity		
Ensure That All Facts and/or Assertions Are Supported by Sources Contained within the Appraiser's Work File.		
Confirm All Values Included in the Schedule Against the Appropriate Document in the Appraisers Workfile, i.e., *"Tick"* the Schedule.		
Check the Validity of All Connections between Schedules to Ensure Proper Links, i.e., *"Tie"* the Schedule.		
Check for Conclusory Statements without Sufficient Support, e.g., Nonsequiturs.		
Check for Use of Appropriate Data and Information, e.g., ASC Benchmarking Is Not Appropriate for a Cardiology Practice.		

Footnotes
Check for Spelling, Grammar, and Sense.
Ensure All "*Named Terms,*" e.g., SUBJECT ENTITY or CLIENT, Are Used Consistently.
Ensure All Sources Reference the Correct Document in the Appraiser's Workfile.
Confirm Footnote Number References Correct Cell in Schedule.
Formulas
Check for Calculation Errors.
Ensure All Complex Calculations Are Clearly Presented, i.e., the Calculations Are Replicable.
Ensure That the Correct Formula Is Utilized and Ensure the Calculation Result Is a Sensible Conclusion.
Ensure That All Formulas Reference the Correct Cells for Calculations.
Discounts and Premiums
Ensure That the Indicated Value (Including the Application of Any Discounts or Premiums) Results in the Desired Level of Value, i.e., Minority or Control Interest.
Ensure That the Selected Discount and/or Premium Is Supported by Empirical Evidence That Is Contained within the Appraiser's Workfile.

Exhibit 10.6 provides an illustration of those items that might typically be included in a *narrative review checklist*.

Once the schedules have been appropriately "*tick-and-tied*" and the narrative of the report has been subject to a *"tick-and-tie" review*, the final step in the valuation report development process is to "*quality review*" the final report to ensure:

1. That the *Table of Contents/Index* accurately reflects each section of the narrative report, as well as the page number on which each narrative section begins;
2. The *accuracy* of the *headers and footers* for each page, including the *project name* and the *client name*;
3. That formatting is consistent throughout the schedules and the report narrative, including font type, font size, and spreadsheet borders.
4. The *orientation* of both the *pages* and the *images* (e.g., map of the market service area) contained on each page is correct;
5. All pages are *numbered* and *intact*;
6. All pages have *appropriate margins* and are without "*widows and orphans*," *extraneous spaces*, *lines*, or *characters*; and
7. All pages are printed on the *correct paper type* and are free from *smudges* and *ink blurs*.

After the *final hard copy report* has been *quality reviewed* and *any and all errors* have been corrected, the report is ready to be *bound*. Each report should be made uniquely identifiable, perhaps by adding a document number, to maintain an accurate accounting of the total number of *original*, *bound*, *hard copy reports* that have been issued and who has received them. To ensure that *client confidentiality* is maintained, the cover of the report (and the packaging in which it is transmitted) should be stamped "*CONFIDENTIAL*." The valuation analyst should also confirm that the report has been received by the *appropriate party* on receipt of the delivery notice from the postal or courier service used. It should be noted that the quality review process is equally as important for *electronic versions* of the final valuation report. All of the quality concerns discussed earlier should be addressed, regardless of the *medium of transmission* for the report. An example of the application of the "tick-and-tie" and quality review process can be found online at http://www.wiley.com/go/healthcarevaluation.

10.2.3.6 Sign and Seal the Report for Transmittal to the Client The final step in preparing the report is for the valuation analyst to "*sign and seal*" the report with his or her *certification*. In the event that the final report is submitted electronically, the valuation analyst must nevertheless sign the report, either through insertion of an electronic signature or by scanning the certification page containing the valuation analyst's original signature for inclusion in the

EXHIBIT 10.6 Report Narrative Review Checklist

Report Section and Item	Verified "X"	Notes/Comments
Section 1: Description of the Valuation Assignment		
Overview of Valuation (e.g., Client, Subject Entity, Subject Interest identified, etc.)		
Summary—Final Conclusion of Value on first page		
Summary Description of REPORT (e.g., number of sections correct, number of pages, etc.)		
Summary Description of the SUBJECT ENTITY (check reference and correlation with full description)		
Hypothetical Conditions/Extraordinary Assumptions clearly defined		
Objective, Purpose, and Use of Valuation clearly defined		
Standard and Premise of Value clearly defined		
Assets and Liabilities Included clearly defined		
Date of Valuation stated		
Sources of Information clearly defined		
Summary of Contingent and Limiting Conditions (check reference to correct appendix and that appendix is relevant to the report)		
Section 2: History, Background, and Description of the Subject Entity		
Legal Organization and Structure of the SUBJECT ENTITY		
Description of SUBJECT ENTITY (e.g., history, locations, services provided, etc.)		
Description of SUBJECT ENTITY Ownership		
Description of SUBJECT ENTITY Staff		
Summary of Operations of the SUBJECT ENTITY (e.g., historical productivity, etc.)		
Description of Payor Base Profile		
Description of Market Service Area		
Competitive Environment (e.g., elements of Porter's Five Forces, etc.)		

(*continued*)

EXHIBIT 10.6 Report Narrative Review Checklist (*continued*)

Report Section and Item	Verified "X"	Notes/Comments
Section 2 *(continued)*		
Description of Relevant Licensure and Certifications		
Prior Transactions of Equity in the SUBJECT ENTITY		
Section 3: Economic and Demographic Conditions		
General Economic Overview		
Consumer Spending and Inflation		
Business and Manufacturing Productivity		
Industrial Production and Capacity Utilization		
The Financial Markets		
Housing Starts and Building Permits		
Unemployment		
Interest Rates		
Summary and Outlook		
Effect of State and Local Economy		
Implications for the SUBJECT ENTITY		
Section 4: Healthcare Industry Trends		
Healthcare and Hospital Industry Overview		
Regulatory Trends		
Reimbursement		
Competition		
Technology		
Industry Outlook		
Section 5: Specialty Trends		
Specialty Overview		
Regulatory Trends		
Reimbursement		
Competition		
Technology		
Industry Outlook		

Report Section and Item	Verified "X"	Notes/Comments
Section 6: Financial Data		
Recasting to Economic Basis—Income Statements clearly defined		
Recast Analysis and Restatement of Balance Sheet clearly defined		
Benchmarking and Ratio Analysis explained and defined		
Projection Assumptions clearly explained (e.g., revenue, expense, cash flow, etc.)		
Tax-Effecting Earnings adequately explained		
Section 7: Valuation Approaches and Methodology		
Basic Valuation Tenets clearly explained		
Valuation Approaches and Methodology clearly defined with examples of each method		
Method(s) Utilized clearly defined		
Methods not Utilized clearly defined		
Discounts and Premiums clearly explained and justified with supporting evidence		
Discount Rate/Cost of Equity methodology defined and inputs explained		
Weighted Average Cost of Capital (WACC) methodology defined and inputs explained		
Valuation Methodology		
Result from Valuation Method		
Section 8: Final Conclusion and Opinion of Value		
Conclusion clearly stated and matches other sections (e.g., Section 1, Summary Conclusion, Section 7, and Results)		
Section 9: Certification of Valuator		
Confirm appropriate certifications and team members included		

electronic report. In addition, the electronic final report should be password protected, requiring the client to use a password to "*open*" the electronic file that contains the report; this step helps prevent the contents of the report from being inadvertently disclosed. It should also be separately password protected, that is, not using the same password, to prevent changes from being made to the document without the analyst's knowledge.

10.2.4 Post-Engagement and Record Retention

Once the final report has been issued, and the engagement has concluded, the importance of a *timely* filing of the appraiser's work file containing all of the valuation analyst's work papers cannot be overemphasized. Accordingly, as with the appropriate "*ICSR*" of specific and external research related to the engagement, the valuation analyst must make certain that each document to be contained in the appraiser's work file is *identified ("I")*, *classified ("C")*, and *appropriately stored ("S")* so that it can be *retrieved ("R") in a timely and efficient manner,* in the event that it needs to be referenced in the future. Furthermore, the valuation analyst must ensure that his work file is maintained and stored in a manner that is consistent with a predetermined document retention policy. This policy should be developed and implemented to ensure that the appraiser's work file is maintained in accordance with the requirements mandated under professional valuation standards, as well as those requirements of law and regulation, for example, rules of the court, healthcare regulatory specifications, taxing authority regulation, and the requirements of the appraiser's professional liability insurance policy. Often an outside law firm is retained to ensure that the valuation firm's document retention policy is in compliance with these concerns. See Exhibit 10.7 for an illustrative example of a valuation analyst's document retention policy.

POST-ENGAGEMENT REVIEW

An evaluation of the appraiser's and the staff's performance during the engagement and of the quality of final work product.

RECORDS RETENTION

The safekeeping of all work papers, data sources, and other engagement-related documents for potential future uses or disputes.

EXHIBIT 10.7 Valuation Analyst's Client-Related Record Retention Policy

	State Law[1]	Professional Standards[2]	Federal Government Contract[3]	Healthcare Regulatory Specifications[4]
Prospective Correspondences	NA	NA	NA	NA
Client Reports	Retain one copy permanently	5 Years	3 Years	4 Years
Client Report Drafts	NA	5 Years	3 Years	4 Years
Case Documents	NA	5 Years	3 Years	4 Years
Correspondences/Faxes	1 Year	5 Years	3 Years	4 Years
E-mails	1 Year	5 Years	3 Years	4 Years
E-mail Receipts	1 Year	5 Years	3 Years	4 Years
Telecommunications Log	1 Year	5 Years	3 Years	4 Years
Phone Call Transcripts		5 Years	3 Years	4 Years
Oral Reports or Testimony	Retain one copy permanently	5 Years	3 Years	4 Years
Client Medical Records		NA		10 years
Client Contracts	3 years after expiration	NA	4 Years	4 Years

1. Missouri General Record Retention Schedule authorized under § 109.255 R.S.Mo. (2011).
2. USPAP 2010–2011 Ethics Rule, http://www.uspap.org/USPAP/frwrd/ETHICS_RULE.htm#record.kpg.
3. Federal Acquisition Regulation, Subpart 4.7, Contractor Records Retention, http://www.acquisition.gov/far/current/html/Subpart%204_7.html.
4. 42 CFR 420.301, Public Health, Centers for Medicare & Medicaid Services, Department of Health and Human Services—Program Integrity: Medicare, Access to Books, Documents, and Records of Subcontractors.

10.3 CONCLUSION

As discussed throughout this chapter, in order to survive the risk inherent in undertaking a healthcare valuation assignment, the development and observance of a well-thought-out plan and discipline of process are required. This discipline of this process involves:

1. Concisely identifying the property being appraised, the parties to the transaction, and the scope of the engagement, as well as the purpose and use of the appraisal report;
2. Establishing and maintaining confidentiality, attorney-client privilege, and the appraiser's independence;
3. Providing strict oversight of the project, including maintaining tracking summaries and budgets;
4. Conducting the appropriate due diligence to minimize the risk to the client, as well as to the appraiser;
5. Providing a thorough and complete analysis of the property interest being appraised, including consideration of all applicable approaches, methods and techniques; and
6. Developing clear and concise appraisal report that sets forth, in a clear and concise manner, all of the relevant information required by professional standards, including but not limited to the purpose and use of the appraisal report; any contingent and limiting conditions; the valuation approaches, methods and techniques considered and used; and the appraiser's findings, opinions, and conclusions.

Recall that the appraiser's role is that of serving as a *proxy* for a *universe of typical investors* or *buyers*. The goal of each valuation report is ultimately to demonstrate and establish both the competence of the appraiser and the credibility of the appraiser's opinion. These goals can best be achieved by a strict adherence to a well-conceived plan, as well as a disciplined, consistently monitored, and appropriately documented valuation process for the healthcare valuation engagement.

10.4 KEY SOURCES

Uniform Standards of Professional Appraisal Practice and Advisory Opinions **(USPAP)**

A business valuation quality control resource published annually by the Appraisal Foundation.

Uniform Standards of Professional Appraisal Practice, Appraisal Standards Board, 2012–2013 Edition, (Annapolis Junction, MD: Appraisal Foundation, 2011)

AHA Hospital Statistics

An annual survey and comprehensive reference for analysis and comparison of hospital trends.

AHA Hospital Statistics, 2012 Edition American Hospital Association, 2011

Almanac of Hospital Financial and Operating Indicators

An annual and comprehensive review of national hospital benchmarks.

Almanac of Hospital Financial and Operating Indicators, Ingenix (Eden Prairie, MN: OptumInsight, 2012)

Essentials of Managed Health Care

A comprehensive text regarding health insurance, managed care, payments, quality and utilization management, and finance.

Essentials of Managed Health Care, 6th ed., by Peter R. Kongstvedt (Burlington, MA: Jones & Bartlett Learning, 2012)

Health, United States

An annual survey and a comprehensive report of patient health statistics and metrics, including morbidity, mortality, insurance, utilization, prevention, and expenditures.

Health, United States, 2011: With Special Feature on Socioeconomic Status and Health, National Center for Disease Statistics (Washington, DC: US Government Printing Office, 2012)

http://www.cdc.gov/nchs/hus.htm

HIMSS Leadership Survey

An annual survey of leading U.S. HIT professionals that reports trends regarding HIT priorities, technology utilization, and other issues that affect the healthcare industry.

"2012 HIMSS Leadership Survey," Healthcare Information and Management Systems Society, February 2012

Ibbotson Cost of Capital Yearbook

An annual, comprehensive source for cost of capital statistical information by industry.

Ibbotson Cost of Capital 2012 Yearbook, Morningstar, Inc. (Chicago: Morningstar, 2012)

IBIS World Industry Reports

IBISWorld's Industry Reports cover 700 different industries. Each industry report is presented in an objective, easy-to-understand format and is used for understanding market size, competitors, benchmarking, forecasting, business valuations, and litigation support.

http://www.ibisworld.com/

Long Term Care Market March 2012

A report offering information regarding demographics, quality of care, U.S. health expenditures, fees, and payments of long-term care provider enterprises

Long Term Care Market March 2012, by Alison Sahoo, Kalorama Information, March 2012

Report to Congress: Medicare Payment Policy

An annual report of Medicare payments and policy recommendations.

Report to the Congress: Medicare Payment Policy, Medicare Payment Advisory Commission (Washington, DC: MedPAC, March 2012)

http://medpac.gov/documents/Mar12_EntireReport.pdf

Standard Industrial Classification Manual 1987

A statistical classification standard underlying all establishment-based federal economic statistics classified by industry.

Standard Industrial Classification Manual 1987, Executive Office of the President, Office of Management and Budget (Springfield, VA: National Technical Information Service, 1987)

The Health Care M&A Report

A quarterly publication that details all mergers and acquisitions in the healthcare industry

The Health Care M&A Report: Second Quarter 2012, Irving Levin Associates, Norwalk, CT, 2012

United States Department of Health and Human Services (HHS)

"The Department of Health and Human Services (HHS) is the United States government's principal agency for protecting the health of all Americans and providing essential human services." HHS has 11 agencies, among which are the Centers for Medicare and Medicaid Services (CMS), Indian Health Services (IHS), the Office of the Inspector General (OIG), and the National Institutes of Health (NIH).

"About HHS," Department of Health and Human Services, http://www.hhs.gov/about/ (accessed October 6, 2009).

http://www.hhs.gov/

Centers for Medicare and Medicaid Services (CMS)

The Centers for Medicare and Medicaid Services administer the Medicare, Medicaid, and CHIP programs. CMS is responsible for setting reimbursement rates under Medicare and Medicaid. The CMS website contains important information for beneficiaries of these programs, as well as guidelines for providers.

"Mission, Vision & Goals: Overview," Centers for Medicare and Medicaid Services, U.S. Department of Health and Human Services, http://www.cms.hhs.gov/MissionVisionGoals/ (accessed September 22, 2009)

http://www.cms.hhs.gov

United States Department of Health and Human Services (HHS) Office of Inspector General (OIG)

The Office of the Inspector General of the United States Department of Health and Human Services oversees all HHS programs in order to protect the integrity of the programs and the health and welfare of beneficiaries.

"Office of the Inspector General," U.S. Department of Health and Human Services, http://oig.hhs.gov/ (accessed September 22, 2009)

http://oig.hhs.gov/

CHAPTER 11

Inpatient Enterprises

Hospitals in the United States have always been intimately engaged with their communities. From Benjamin Franklin starting Pennsylvania Hospital to shipbuilder Jean Louis leaving his fortune to create Charity Hospital in New Orleans to Mother Joseph establishing hospitals throughout the Pacific Northwest, leaders have known that hospitals are essential to the well-being of the community.[1]

—Connie J. Evashwick and Eileen L. Barsi

[1] Connie J. Evashwick and Eileen L. Barsi, "Community Connections: An Expanding Hospital Role Includes Community Well-Being," *Futurescan 2012*, Society for Healthcare Strategy and Market Development of the American Hospital Association (2012), p. 26.

Hospitals and their inpatient-related services have had a significantly changing role during the long history of their existence as part of the U.S. healthcare delivery system. As the provision of inpatient healthcare services has evolved in the United States, due to *technological advances* and the *corporatization of healthcare*, inpatient enterprises have had to adapt to *changing market conditions*. The acceleration of the growth of hospitals focused on inpatient care in the decades subsequent to the passage of the *Hill Burton Act of 1946* were followed by a pronounced shift in setting from the provision of *inpatient care* to *outpatient care*. In response to burgeoning hospital admissions, as well as increasing *financial pressures* to control spiraling costs, the prospective payment system (PPS) in the early 1980s has forced inpatient enterprises to adapt to these market forces in order to remain viable in the dynamic healthcare competitive landscape.[2]

This chapter focuses on the two major classifications of inpatient facilities: (1) *hospitals* (classified into several categories and subcategories, as set forth in Table 11.1) and (2) *long-term care enterprises* (classified into several categories and subcategories, as set forth in Table 11.22). This text will also describe the market for these types of enterprises, as well as the particular *value drivers* that may be attributed to each, and the *typical valuation approaches, methodologies, and techniques for valuing these enterprises*.

Prospective Payment System (PPS)

A system used by Medicare to pay medical providers, hospitals, and clinics a set amount of money per diagnostic related group (DRG).

Dictionary of Health Economics and Finance, *by David Edward Marcinko (New York: Springer, 2007), p. 293.*

Hospitals

Institutions where the sick or injured are given medical or surgical care.

Merriam-Webster's Collegiate Dictionary, *10th ed. (Springfield, MA: Merriam–Webster, 1999).*

[2] See Chapter 1, "The Chronology of U.S. Healthcare Delivery."

11.1 HOSPITALS

Hospitals may be described, in the most basic sense, as "*institutions where the sick or injured are given medical or surgical care*" and are typically classified by several categories: (1) *duration of patient stay*, for example, short-term or long-term; (2) *types of conditions treated*, such as acute or chronic care; (3) *tax status*, for example, tax-exempt or for-profit; (4) *service line*, such as general or specialty; and (5) *location*, that is, urban or rural.[3]

The hospital sector generated $850 billion in annual GDP in 2011, representing the single *largest expenditure for healthcare in the United States* and accounting for 31.5 percent of all healthcare spending.[4] While hospitals may provide *outpatient services* or own/participate in *outpatient enterprises*, e.g., (1) *pharmacy departments*, (2) *medical practices*, (3) *ambulatory surgery centers*, and (4) *diagnostic imaging centers*, this chapter focuses on the *inpatient services* provided at hospitals, which may be categorized as set forth in Table 11.1.

In addition, hospitals may be *owned* by several different types of entities, as set forth in Exhibit 11.1.

Centers for Medicare and Medicaid Services (CMS)

An agency within the U.S. Department of Health and Human Services responsible for the administration of Medicare, Medicaid, and other programs.

"Centers for Medicare and Medicaid Services- CMS," U.S. Department of Health and Human Services, 2011, http://www.healthfinder.gov/orgs/HR0033.htm (accessed May 25, 2012).

[3] *Merriam-Webster's Collegiate Dictionary*, 10th ed. (Springfield, MA: Merriam-Webster, 1999); MedPAC, "Chapter 5: Defining Long-Term Care Hospitals," in *Report to the Congress: New Approaches in Medicare*, June 2004; "Long-Term Acute Care Hospitals," American Hospital Association, 2012, http://www.aha.org/advocacy-issues/postacute/ltach/index.shtml (accessed April 25, 2012).

[4] "Table 2: National Health Expenditures; Aggregate and Per Capita Amounts, Annual Percent Change and Percent Distribution, by Type of Expenditure: Selected Calendar Years 1960–2011," in *National Healthcare Expenditure Tables*, Centers for Medicare and Medicaid Services, 2012.

TABLE 11.1 Classification of Hospitals

	Acute Care		Chronic Care				
	Short-Term	Long-Term	Sub-Acute	Long-Term			
Type of Inpatient Services and Enterprises	Inpatient care received for serious injuries that require treatment options less than 25 days	Inpatient care received for serious injuries that require treatment options more than 25 days	Comprehensive inpatient care for acute illness or injury to treat an underlying long-term condition. Typically between acute and long-term chronic care	Care provided for both medical and nonmedical needs for patients whose chronic condition or demographic requires care for long periods of time	Facility Description	Size of the Market (in billions)	Number of Facilities in United States
All Hospitals	X	X	X	NA	"… institutions where the sick or injured are given medical or surgical care."	785.7[1]	5754[2]
Short-Term Acute Care Hospital	X	NA	NA	NA	Has facilities, medical staff, and all necessary personnel to provide diagnosis, care, and treatment of a wide range of acute conditions, including injuries.		4985[2]

For-Profit Hospital	X	NA	NA	NA	Provide "*... a full range of ... health care services in the most cost-effective way possible*" to maximize wealth for their shareholders.	1013[2]
Not-for-Profit Hospital	X	NA	NA	NA	Primary mission is to "*improve health and access to care in the communities they serve.*"	2904[2]
Secular Hospital	X	NA	NA	NA	Nonprofit hospitals not affiliated with a sect, or group, of the population.	2483[3]
Sectarian Hospital	X	NA	NA	NA	Are hospitals not affiliated with a particular religious sect or group.	483[3]
Academic Hospital	X	NA	NA	NA	Those institutions that include allopathic or osteopathic medical schools or one or more other health professional schools or programs.	940[3]

(*continued*)

TABLE 11.1 Classification of Hospitals (*continued*)

	Acute Care		Chronic Care				
	Short-Term	Long-Term	Sub-Acute	Long-Term			
Rural Hospital	X	NA	NA	NA	Rural hospitals are those hospitals located outside of a Census Bureau metropolitan statistical area and often serve their communities as the only source of care.	NA	1987[2]
Critical Access	X	NA	NA	NA	Limited service hospitals located in remote rural areas.	NA	1327[4]
Sole Community Hospital	X				A hospital located at least 35 miles from another like hospital.	NA	450[5]
Public or Governmental Hospital	X	NA	NA	NA	A governmental hospital is owned by either the federal or state government that provides for the location in which it resides.	NA	1068[2]

Specialty Hospital	X	NA	NA	NA	A hospital that is primarily or exclusively engaged in the care and treatment of one of the following: (1) patients with a cardiac condition; (2) patients with an orthopedic condition; (3) patients receiving a surgical procedure; or (4) any other specialized category of patient (or case that the secretary designates as inconsistent with the purpose of permitting physician ownership and investment interests in a hospital under this section.	$30.69[(6)]	500[7]
Children's Hospital	X	NA	NA	NA	Offers traditional healthcare services to children, in addition to promoting public health by pioneering new vaccines and treatments for common conditions.	$5.05[6]	51[8]
Women's Hospital	X	NA	NA	NA	Women's hospitals are frequently established and owned by physicians and focus on delivery of surgical, orthopedic, spinal, or cardiac services.	$1.12[6]	9[8]

(*continued*)

TABLE 11.1 Classification of Hospitals (*continued*)

	Acute Care		Chronic Care				
	Short-Term	Long-Term	Sub-Acute	Long-Term			
Surgical Hospital	X	NA	NA	NA	Surgical hospitals are frequently established and owned by physicians and focus on delivery of surgical, orthopedic, spinal, or cardiac services.	$4.11[6] (cardiac and orthopedic)	74[8]
Psychiatric Hospital	X	NA	NA	NA	Inpatient facilities with medical staff trained to provide diagnostic, medical treatment, and monitoring care to mentally ill or substance-abusing patients.	$20.40[6]	435[2]
Long-Term Acute Care Hospital		X	NA	NA	A hospital that has an average inpatient length of stay of greater than 25 days.	$14.59[6]	111[2]

1. "Hospitals in the US," by Nikolas Hulewsky, *IBISWorld Industry Report 62211*, December 2012. 2. "Fast Facts on US Hospitals," *American Hospital Association*, January 3, 2012, http://www.aha.org/research/rc/stat-studies/fast-facts.shtml (accessed December 7, 2012). 3. *Almanac of Hospital Financial and Operating Indicators: A Comprehensive Benchmark of the Nation's Hospitals*, Ingenix, OptumInsight, 2012, pp. 552–553. 4. "Critical Access Hospitals Frequently Asked Questions," Rural Assistance Center, http://www.raconline.org/topics/hospitals/cahfaq.php#howmany (accessed August 8, 2012). 5. "Sole Community Hospitals (SCI)—Calendar Year 2012, 4th Quarter," TRICARE Management Activity, http://www.tricare.mil/hospitalclassification/ (accessed December 7, 2012). 6. "Specialty Hospitals in the US," by Anna Son, *IBISWorld Industry Report 62231*, September 2012. 7. *The 2011 Healthcare Business Market Research Handbook*, Richard K. Miller and Kelli Washington (Loganville, GA: Richard K. Miller & Associates, 2011), p. 204. 8. *Hospital Statistics: 2012 Edition* (Chicago: American Hospital Association, 2012), p. 8.

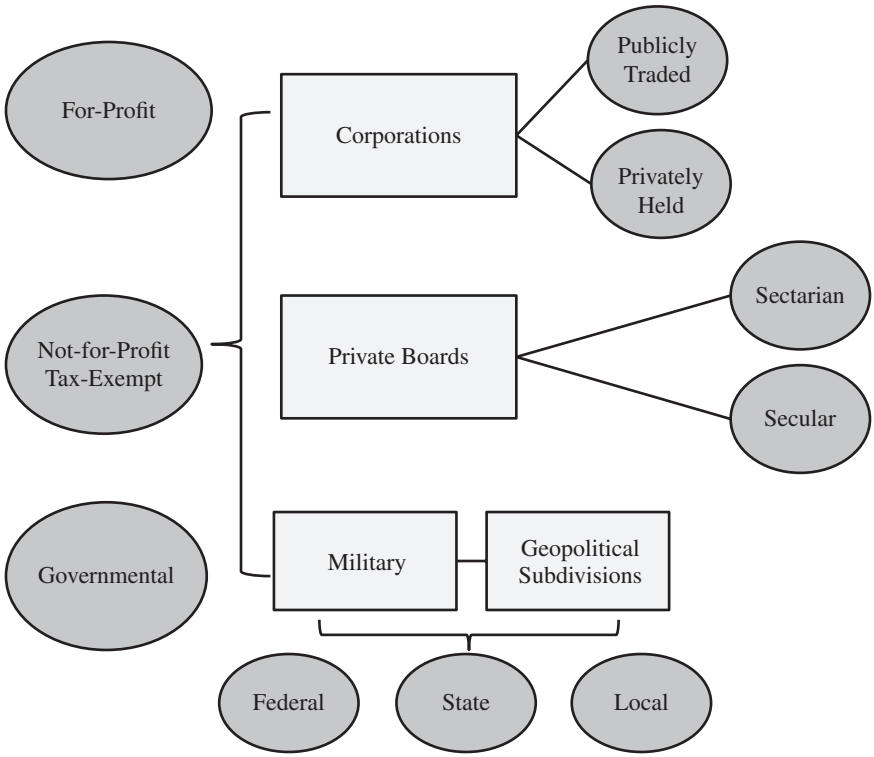


EXHIBIT 11.1 Types of Hospital Ownership[5]

Each of the classifications may be owned by one or more of the types of organizations depicted in Exhibit 11.1.

11.1.1 Short-Term Acute Care Hospitals

Acute healthcare services may be defined as involving the treatment of patients suffering from *severe episodes of illness* due to *trauma* or *disease*. Accordingly, "an acute hospital is defined as a short-term hospital that has facilities, medical staff and all necessary personnel to provide diagnosis, care and treatment of a wide range of acute conditions, including injuries."[6]

[5]The ACA created many restrictions on physician-owned hospitals, but, to date, they still exist. These restrictions are discussed in Chapter 3, "Regulatory Environment," and Chapter 13, "The Valuation of Other Healthcare-Related Enterprises."

[6]"Hospitals Today," Connecticut Office of Health Care Access Website, http://www.ohca.state.ct.us/Publications/Hospital%20Study/HospToday.pdf (accessed October 15, 2002).

For-profit acute care hospitals are owned by *investors*, and accordingly, their *operating objective* is to offer high-quality care, while maximizing the monetary return to their investors. As of 2012, there were 1,013 *for-profit acute care hospit*als in the United States.[7] The largest *for-profit national hospital chain* in the United States, *Hospital Corporation of America* (HCA), was founded in 1968 and owned 163 *hospitals* and 110 *freestanding surgery centers* as of 2012.[8] The success of HCA has resulted in significant *profits for investors*; however, *margin-oriented business practices* also appear to have prompted claims that *patient care may suffer*, due to HCA's *cost-cutting strategies*.[9] In contrast, *not-for-profit acute care hospitals* are typically owned by private exempt organizations or the geopolitical subdivision in which they operate. These not-for-profit hospitals must meet the regulatory requirements set forth in Section 501(c)(3) of the IRS code for *tax-exempt*

COMMERCIAL REASONABLENESS

An agreement between a healthcare organization and a physician should be "commercially reasonable," such that the agreement "appears to be a sensible, prudent business agreement, from the perspective of the particular parties involved, even in the absence of any potential referrals." CMS noted in 2004 that this standard introduced an "unwarranted subjective element" into the test for commercial reasonableness and redefined the standard as follows: "if the arrangement would make commercial sense if entered into by a reasonable entity of similar type and size and a reasonable physician (or family member or group practice) of similar scope and specialty, even if there were no potential DHS referrals."

"Medicare Program; Physicians' Referrals to Health Care Entities with Which They Have Financial Relationships (Phase II)," Federal Register *69, no. 59 (March 26, 2004): 16093.*

[7] "Fast Facts on US Hospitals," American Hospital Association, January 3, 2012, http://www.aha.org/research/rc/stat-studies/fast-facts.shtml (accessed December 7, 2012).

[8] Hospital Corporation of America, "About Our Company," http://hcahealthcare.com/about/ (accessed December 29, 2012).

[9] Julie Creswell and Reed Abelson, "A Giant Hospital Chain Is Blazing a Profit Trail," *New York Times*, August 14, 2012.

organizations, in addition to reporting their operating activities by filing an IRS Form 990, as discussed in Chapter 3, "Regulatory Environment." As of 2012, there were 2,904 *not-for-profit acute care hospitals* in the United States, nearly double the number of *for-profit acute care hospitals*.[10]

Sectarian acute care hospitals are those *not-for-profit hospitals* affiliated with a particular *religious sect* or *group*, for example, *Catholic*, *Baptist*, *Jewish*, or *Adventist Churches*, and may be required to conform to a specific set of *religious doctrines*.[11] Officers of a *sectarian acute care hospital* may require the approval of a *church leadership*, for example, a local bishop, before making significant financial or policy decisions.[12] In contrast, *secular acute care hospitals* are those *not-for-profit acute care hospitals* that are *not* affiliated with a specific *religious sect* or *group* but that instead focus on a particular aspect of *charitable healthcare services*, for example, *community health*, *teaching*, or *research*.[13]

Academic health centers (AHC), also known as *academic medical centers* (AMC), are those acute care hospital institutions that include *allopathic medical schools*, *osteopathic medical schools*, and/or one or more other *health professional schools* or *programs*, for example, *nursing*, *public*

Factoid

While outpatient surgery centers and specialty hospitals compete with short-term acute care hospitals, the short-term acute care hospitals deal more frequently with patients who have more complicated conditions.

Report to the Congress: Medicare Payment Policy, *Medicare Payment Advisory Commission (Washington, DC: MedPAC, March 2012), p. 74.*

[10] American Hospital Association, "Fast Facts on US Hospitals," January 3, 2012, http://www.aha.org/research/rc/stat-studies/fast-facts.shtml (accessed December 7, 2012).

[11] "Hospital Mergers: The Hidden Crisis," Religious Pro-Choice Americans Speak Out, 2012, http://www.rcrc.org/pdf/Hospital_Mergers.pdf (accessed August 21, 2012).

[12] "Saint Clare's Health System Board Recommends Ascension Health Care Network," Saint Clare's Health System, March 16, 2012, http://www.saintclares.org/saint-clare-s-health-system-board-recommends-ascension-health-care-network/ (accessed December 6, 2012).

[13] Elizabeth Sanders, "Catholic, Sectarian Hospital Merger Raises Issues: Columbia St. Mary's, Froedtert Must Sort Out Religious Rules On Care," *Milwaukee Business Journal*, April 29, 2007; "May Clinic Mission and Values," Mayo Clinic, 2012, http://www.mayoclinic.org/about/missionvalues.html (accessed August 21, 2012).

Factoid

AHCs represent 14.8 percent of all Medicare discharges.

"Section 6: Acute Inpatient Services for Short-Term Hospitals and Specialty Psychiatric Facilities," in A Data Book: Health Care Spending and the Medicare Program, *MedPAC, June 2012, p. 64.*

Factoid

AHCs account for 55 percent of all uncompensated care.

"Teaching Hospitals: Their Impact on Patients and the Future Health Care Workforce," in TrendWatch, *American Hospital Association, September 2009, p. 2.*

health, or *pharmacy*. These institutions typically have a unique mission that includes (1) *clinical services*, (2) *research*, and (3) *teaching*. Funding for AHCs is often tied to the *budgets* of their affiliated educational institutions. AHCs typically have *lower margins* than other *nonacademic health systems*, due, in part, to *higher operating expenses*, for example, *higher wages*, *capital for research*, and higher *exposure to Medicaid populations*.[14]

11.1.2 Rural Hospitals

Rural acute care hospitals are those hospitals located outside of a *metropolitan statistical area,* as defined by the U.S. *Census Bureau*, which often serve their communities as the sole or primary *source of care*.[15] As of 2012,

[14] Sandra Kim and Susan Benz, "The Changing Academic Medical Center/University Relationship," Treasury Institute for Higher Education, pp. 2, 3, 4.

[15] A "geographic entit[y] defined by the Office of Management and Budget (OMB) for use by Federal statistical agencies in collecting, tabulating, and publishing Federal statistics . . . [with] a core urban area of 50,000 or more population." "Metropolitan and Micropolitan Statistical Areas Main," United States Census Bureau, http://www.census.gov/population/metro/ (accessed December 27, 2012); "IRS Exempt Organizations Hospital Compliance Project Final Report," Internal Revenue Service, February 1, 2012, p. 3; "Small or Rural Hospitals," American Hospital Association, p. 1.

Factoid

The Census Bureau projects that the portion of the American population over age 65 will increase from 39 million in 2010 to more than 69 million in 2030. The most rapidly growing broad age group is projected to be the 85-year-old and older population, doubling its current size by 2025 and increasing fivefold by 2050.

"Changing Demographics: Implications for Physicians, Nurses, and Other Health Workers," Health Resources and Services Administration, 2003, pp. 7–8.

approximately 90 percent of *rural acute care hospitals* were designated as either (1) *critical access hospitals* (CAH), 59 percent; (2) *sole community hospitals* (SCH), 17 percent; (3) *rural Medicare-dependent hospitals* (MDH), 9 percent; or (4) *rural referral centers*, 5 percent.[16] As of 2011, there were approximately 2,000 *rural acute care community hospitals* in the United States, providing care to approximately 72 million individuals.[17] Approximately 97 percent of *rural acute care hospitals* have fewer than 200 beds; 84 percent of *rural acute care hospitals* have fewer than 100 beds; 64 percent of *rural acute care hospitals* have fewer than 50 beds; and 47 percent of *rural acute care hospitals* have fewer than 25 beds.[18] While the number of *rural acute care hospitals* has declined slightly since the early 1990s, as urban areas have grown, "*swallowing up*" existing *rural acute care hospitals*, the prevalence of *rural acute care hospitals* has remained largely unchanged since 2004.[19]

With average occupancy rates of 49 percent, *rural acute care hospitals* had an *average profit margin* of 5.5 percent in 2010, lower than the 6.4 percent profit margin experienced by hospitals overall.[20] However, during

[16] "Section 6: Acute Inpatient Services for Short-term Hospitals and Specialty Psychiatric Facilities," in *A Data Book: Health Care Spending and the Medicare Program*, MedPAC, June 2012, p. 64; Medicare Payment Advisory Commission, "Critical Access Hospitals Payment Basics," *Payment Basics*, September 2012, p. 2.

[17] American Hospital Association, "The Opportunities and Challenges for Rural Hospitals in an Era of Health Reform," *Trendwatch*, April 2011.

[18] Ibid.

[19] American Hospital Association, "Organizational Trends," *Trendwatch Chartbook 2012*, 2012.

[20] "Section 6: Acute Inpatient Services in Short-Term Hospitals and Specialty Psychiatric Facilities," in *A Data Book: Health Care Spending and the Medicare Program*, MedPAC, June 2012, pp. 71, 77, 78.

Factoid

On average, for-profit short-term acute care hospitals earn a 0.1 percent profit margin on their Medicare patients.

Medicare Payment Policy: Report to the Congress, *MedPAC, Washington, DC: March 2012.*

Factoid

On average, not-for-profit hospitals earned a –5.7 percent profit margin on Medicare patients.

Medicare Payment Policy: Report to the Congress, *MedPAC, Washington, DC, March 2012, p. 58.*

the last decade, the *average profit margin* for *rural acute care hospitals* has varied between 2.4 percent and 6.0 percent, which is similar to the range for hospitals overall, that is, 1.8 percent to 6.4 percent.[21]

Critical Access Hospitals (CAHs) are *limited service hospitals* located in *remote rural areas*; they operate up to 15 beds for *general acute care* and up to an additional 10 *swing beds*, for a *total capacity* of 25 beds.[22] Although

TELEMEDICINE

The transfer of electronic medical data (high-resolution images, sounds, live video, and patient records) from one location to another, in order to enhance the quality and efficiency of patient comfort and care.

"Telemedicine 101: A Brief History of Telemedicine," by Nancy Brown, Telemedicine Information Exchange, American Telemedicine Association, http://tie.telemed.org, May 30, 1995.

[21] Ibid., pp. 77, 78.

[22] Kathleen Dalton et al., "Choosing to Convert to Critical Access Hospital Status," *Health Care Financing Review* 25, no. 1 (Fall 2003): 115.

TELEHEALTH

Closely related to telemedicine, the term is used to describe the broader definition of remote healthcare that does not always involve clinical services, although the two terms are often used interchangeably.

"Telemedicine Defined?" American Telemedicine Association, http://www.@americantelemed.org/i4a/pagees/index.cfm?pageid=3333 (accessed June 30, 2009).

CAHs represented 59 percent of all rural hospitals in 2012, they received only 30 percent of the Medicare payments made to rural hospitals during the same time period, in contrast to *Sole Community Hospitals* (SCHs), which represented 17 percent of all rural hospitals in 2012 and which received 31 percent of the total Medicare payments made to all *rural hospitals*.[23]

CAH status was established in 1997, when the *Balanced Budget Act of 1997* merged the *Rural Primary Care Hospital* (RPCH) *program* and the *Medical Assistance Facility* (MAF) *Demonstration* to create the *Medicare Rural Hospital Flexibility Program* (*Flex Program*), which provides states with the opportunity to establish a state *Medicare Rural Hospital Flexibility Program*, under which a state must designate "at least 1 facility in the State … as a critical access hospital."[24] Administered by CMS, the *Flex Program* awards certain grants to states in order to improve *rural health systems*.[25] As of September 2011, only five states, (1) *Connecticut*, (2) *Delaware*, (3) *Maryland*, (4) *New Jersey*, and (5) *Rhode Island*, did *not* have a *Flex Program* in place or any CAHs.[26]

---

[23] Medicare Payment Advisory Commission, "Critical Access Hospitals Payment Basics," *Payment Basics*, September 2012, p. 2.

[24] Medicare Payment Advisory Commission, "Critical Access Hospitals Payment Basics," *Payment Basics*, September 2012, p. 1; "Balanced Budget Act of 1997," Pub. Law 105-33, 111 Stat. 340 (August 5, 1997).

[25] Health Resources and Services Administration, "Medicare Rural Hospital Flexibility," http://www.hrsa.gov/ruralhealth/about/hospitalstate/medicareflexibility_.html (accessed December 6, 2012); American Hospital Association, "CAH Legislative History," http://www.aha.org/advocacy-issues/cah/history.shtml (accessed December 6, 2012).

[26] Centers for Medicare and Medicaid Services, "Critical Access Hospital: Rural Health Fact Sheet Series," January 2012, p. 2.

Factoid

Rural hospitals had an average profit margin of 5.5 percent in 2010.

"Section 6: Acute Inpatient Services for Short-term Hospitals and Specialty Psychiatric Facilities," in A Data Book: Health Care Spending and the Medicare Program, *MedPAC, June 2012, p. 78.*

As amended under the *Medicare Prescription Drug, Modernization, and Improvement Act of 2003* (MMA 2003), hospitals, including *academic hospitals*, currently participating in the Medicare program must meet each of the following criteria to be classified as CAHs under Medicare:[27]

1. The hospital must be located in a state with an established *Medicare Rural Flexibility Program*.
2. The hospital must be located in a rural location or be defined as rural under a special Medicare provision.
3. The hospital must be compliant with the specific conditions of participation (CoP) established under the Medicare program for CAH.[28]
4. The hospital must be located more than a 35-mile drive from another hospital or CAH (15 miles in a mountainous area), unless designated by the state as a "*necessary provider*" prior to January 1, 2006.
5. The hospital must offer round-the-clock emergency care services.
6. The hospital must have no more than 25 beds (15 acute beds and 10 swing beds with SNF level care).
7. The hospital must have an average *length of stay* (LOS) of less than 96 hours.[29]

Length of Stay (LOS)

The number of consecutive days a patient is hospitalized.

Dictionary of Health Insurance and Managed Care, *by David Marcinko (New York: Springer, 2006), p. 168.*

[27] "Medicare Prescription Drug, Modernization and Improvement Act of 2003," *Pub. L.* 108-173 117 Stat 2266 (December 8, 2003)

[28] The CoP for CAH are set forth in 42 CFR, Part 485, subpart F.

[29] Centers for Medicare and Medicaid Services, "Critical Access Hospital: Rural Health Fact Sheet Series," January 2012, p. 2.

In addition, hospitals participating in Medicare that ceased operating after November 29, 1989, or health clinics that were previously a hospital before being downsized, may also be eligible for CAH status, as long as they meet the CoP for CAH.[30]

While obtaining CAH status is voluntary, there may exist certain *reimbursement advantages* for those hospitals with higher than expected *costs*, due to their *case mix* and *wage levels*.[31] A 2003 study of CAHs revealed that (1) they provided fewer *specialty services*; (2) were more dependent on *swing bed patients* for sustaining revenue than larger rural hospitals; and (3) had *higher than average Medicare costs per case*, relative to other low-volume providers.[32] A later 2009 study of CAHs indicated that three years after converting to CAH status, CAHs typically experienced 9.78 percent *higher revenues* and 5.43 percent *higher operating margins* than they had received prior to the hospital's conversion.[33] However, despite the apparent increase in margins that follows a hospital's conversion to CAH status, a survey of CAHs by the *Rural Policy Research Institute* identified four primary reasons why an eligible hospital may choose *not* seek to obtain CAH status: (1) the hospital may have incurred *negative financial impacts*; (2) the hospital may have to close certain *units*, in order to meet the mandated bed limit requirements established by CMS; (3) the hospital has an *average length of stay* (ALOS)

Capitation

A reimbursement system in which providers are paid a set amount up front for each patient they treat (i.e., a "per head" basis).

Bundled Payment: AHA Research Synthesis Report, *by American Hospital Association Committee on Research (May 2010), p. 3.*

[30] Rural Assistance Center, "Critical Access Hospitals Frequently Asked Questions," http://www.raconline.org/topics/hospitals/cahfaq.php#howmany (accessed August 8, 2012).

[31] Kathleen Dalton et al., "Choosing to Convert to Critical Access Hospital Status," *Health Care Financing Review* 25, no. 1 (Fall 2003): 116.

[32] Ibid., p. 130.

[33] Pengxiang Li, John Schneider, and Marcia Ward, "Converting to Critical Access Status: How Does it Affect Rural Hospitals' Financial Performance?" *Inquiry* 46, no. 1 (Spring 2009): 52–53.

CAPITATION

Capitation is a prepaid reimbursement method that pays a provider a set price for providing medical services to a defined population for a defined set of services, regardless of service utilization. Providers must manage the financial risk of providing adequate care by calculating the expected volume of referrals, the average cost, and their ability to control utilization.

The Complete Capitation Handbook: How to Design and Implement At-Risk Contracts for Behavioral Healthcare, *by Gayle L. Zieman (Tiburon, CA: CentraLink Publications, 1995), pp. 30, 294.*

beyond the CMS limits for CAHs; and (4) the community is opposed to the hospital obtaining CAH status.[34]

As of June 30, 2012, there were 1,327 CAHs in the United States, the majority of which were located in the center of the United States.[35] See Table 11.2 for a breakdown of those states with the largest number of operating CAHs.

A *sole community hospital* (SCH) is a *short-term acute care hospital* participating in the *Inpatient Prospective Payment System* (IPPS) program that meets one of the following four criteria:

1. The hospital is located at least 35 miles from another *like hospital*, where a "*like hospital*" is defined as any hospital that also participates in the *IPPS*; provides short-term, acute care; is not paid under any other Medicare prospective payment system; and does not qualify as a CAH (discussed earlier).[36]
2. The hospital is located between 25 to 35 miles from other *like hospitals* and no more than 25 percent of the hospital's *inpatients* or Medicare *beneficiaries* are admitted to other *like hospitals* in a 35-mile radius area,

[34] Rural Policy Research Institute, "Chapter 6—Small Rural Hospitals That Have Chosen Not to Convert to CAH Status," http://www.rupri.org/rhfp-track/year2/chapter6.html (accessed March 22, 2005).

[35] Rural Assistance Center, "Critical Access Hospitals Frequently Asked Questions," http://www.raconline.org/topics/hospitals/cahfaq.php#howmany (accessed August 8, 2012).

[36] "Special Treatment: Sole Community Hospitals," 42 CFR § 412.92(c)(2) (October 1, 2012).

TABLE 11.2 Number of Critical Access Hospitals by State

	A	B		C	D
	State	Number of CAH		State	Number of CAH
1	Kansas	83	26	North Carolina	23
2	Iowa	82	27	West Virginia	19
3	Texas	80	28	Tennessee	17
4	Minnesota	79	29	Maine	16
5	Nebraska	65	30	Wyoming	16
6	Wisconsin	58	31	Arizona	14
7	Illinois	51	32	Alaska	13
8	Montana	48	33	Florida	13
9	South Dakota	38	34	New Hampshire	13
10	Washington	38	35	New York	13
11	Michigan	36	36	Pennsylvania	13
12	Missouri	36	37	Nevada	11
13	North Dakota	36	38	Utah	11
14	Indiana	35	39	Hawaii	9
15	Georgia	34	40	New Mexico	8
16	Ohio	34	41	Vermont	8
17	Oklahoma	34	42	Virginia	7
18	Mississippi	32	43	South Carolina	5
19	California	31	44	Massachusetts	3
20	Arkansas	29	45	Alabama	2
21	Colorado	29	46	Connecticut	0
22	Kentucky	29	47	Delaware	0
23	Idaho	27	48	Maryland	0
24	Louisiana	27	49	New Jersey	0
25	Oregon	25	50	Rhode Island	0

"Number of Critical Access Hospitals per State," Flex Monitoring Team, September 30, 2012, http://www.flexmonitoring.org/documents/StateCounts_CAH+DPU_09_30_12.xls (accessed December 3, 2012).

Factoid

An urban hospital participating in the IPPS program may be reclassified as a rural hospital and qualify as an SCH, if it meets all of the SCH criteria except being located in a rural area.

"Special Treatment: Hospitals Located in Urban Areas and That Apply for Reclassification as Rural," 42 CFR § 412.103(a)(3) (October 1, 2009).

or, if larger, in the hospital's service area. (Of note is that rural hospitals may qualify as SCHs if they have fewer than 50 beds and w*ould be able* to meet the 25 percent *inpatient criteria*, if not for the *unavailability of specialized services* and patients seeking these services elsewhere.)[37]

3. The hospital is located between 15 and 25 miles from other *like hospitals*, but those hospitals are *inaccessible* for at least 30 days for two out of three years, due to local topography or severe weather.[38]
4. The hospital is at least 45 minutes of travel time from the nearest *like hospital*, either due to *speed limits*, *typical weather*, or *distance*.[39]

Similar to an SCH, a *Rural Medicare-Dependent Hospital* (MDH) is a rural hospital that operates fewer than 100 beds and has at least 60 percent of its patient population attributed to Medicare but does not meet the requirements to be classified as an SCH.[40]

11.1.3 Government Hospitals

The primary function of *governmental hospitals* is to ensure that the *medical needs of the community* are met, regardless of the hospital's profitability or the patient's ability to pay.[41] *State governmental hospitals* are government hospitals owned by the state in which they are located, while *county governmental hospitals* are owned by the county in which they are located,

[37] Ibid.

[38] Ibid.

[39] Ibid.

[40] Medicare Payment Advisory Commission, "Critical Access Hospitals Payment Basics," *Payment Basics*, September 2012, p. 2.

[41] Nancy Kane, et al., "Strained Local and State Government Finances among Current Realities That Threaten Public Hospitals' Profitability," *Health Affairs* 31, no. 8 (August 13, 2012): 1680.

TABLE 11.3 Decline of State and Local Government-Owned Hospitals

Year	Number of Government Hospitals	Change in Government Hospitals	% Change in Government Hospitals
1975	1,761	N/A	N/A
1976	1,760	(1)	–0.06%
1979	1,785	25	1.42%
1980	1,778	(7)	–0.39%
1981	1,744	(34)	–1.91%
1982	1,715	(2)	–1.66%
1983	1,679	(36)	–2.10%
1984	1,622	(57)	–3.39%
1985	1,578	(44)	–2.71%
1986	1,521	(57)	–3.61%
1987	1,509	(12)	–0.79%
1988	1,501	(8)	–0.53%
1989	1,466	(35)	–2.33%
1990	1,444	(22)	–1.50%
1991	1,429	(15)	–1.04%
1992	1,396	(33)	–2.31%
1993	1,390	(6)	–0.43%
1994	1,371	(19)	–1.37%
1995	1,350	(21)	–1.53%
1996	1,330	(20)	–1.48%
1997	1,260	(70)	–5.26%
1998	1,218	(42)	–3.33%
1999	1,197	(21)	–1.72%
2000	1,163	(34)	–2.84%
2001	1,156	(7)	–0.60%
2002	1,136	(20)	–1.73%
2003	1,121	(15)	–1.32%
2004	1,117	(4)	–0.36%
2005	1,110	(7)	–0.63%
2006	1,119	9	0.81%
2007	1,111	(8)	–0.71%

(*continued*)

TABLE 11.3 Decline of State and Local Government-Owned Hospitals (*continued*)

Year	Number of Government Hospitals	Change in Government Hospitals	% Change in Government Hospitals
2008	1,105	(6)	–0.54%
2009	1,092	(13)	–1.18%
2010	1,068	(24)	–2.20%
Average Annual Change		(20)	–1.42%
Total Change		(693)	–39.35%

AHA Hospital Statistics: 2012 Edition, American Hospital Association, 2012, p. 7.

and *municipal governmental hospitals* are owned by the municipality in which they are located.

As set forth in Table 11.3, the number of state and local government-owned hospitals has shown a 39.35 percent decrease, which is an average of 1.42 percent per annum between 1975 and 2010.[42]

11.1.4 Specialty Hospitals

The term "*specialty hospital*" is defined in the *Prescription Drug and Medicare Improvement Act of 2003* as "a hospital that is primarily or exclusively engaged in the care and treatment of one of the following:

> *(i) patients with a cardiac condition;*
> *(ii) patients with an orthopedic condition;*
> *(iii) patients receiving a surgical procedure; or*
> *(iv) any other specialized category of patients or cases that the Secretary designates as inconsistent with the purpose of permitting physician ownership and investment interests in a hospital under this section."*[43]

The *specialized category of patients* often characterizing the patient population of a particular specialty hospital may include, but is not limited to, (1) *children*, (2) *women*, and (3) *psychiatric patients*.

[42] American Hospital Association, *AHA Hospital Statistics: 2012 Edition*, 2012, p. 7.

[43] "Clarifications to Certain Exceptions to Medicare Limits on Physician Referrals," excerpted from "Prescription Drug and Medicare Improvement Act of 2003," U.S. Senate, S.1 §453(a)(7).

The AHA broadly defines niche providers to include "heart hospitals, orthopedic hospitals, surgical hospitals, ASCs, cancer hospitals and centers, dialysis clinics, pain centers, imaging centers, mammography centers, and a host of other narrowly focused providers."[44] The AHA does not include other types of specialty and niche services, such trauma and intensive care, which require extensive specialization and are provided solely within the traditional inpatient hospital setting. The definition of "*niche provider*" changes, depending on who is attempting to classify providers within the broad range of *limited service providers*. The definition may be broad and may include surgical hospitals, ASCs, specialty hospitals, and virtually all providers that provide a specialized service outside of a hospital setting. Alternatively, the definition may be narrow and may include only providers treating patients with either a cardiac or an orthopedic condition or those performing surgical procedures.

It should be noted that facilities characterized as "*surgical hospitals*" are, in fact, licensed as general acute care hospitals. Their licensed status requires that they provide a varying range of services, which may limit their ability to truly focus on the surgical specialty they have selected as their objective. Because of these difficulties, surgical hospitals resist clear definition. This ambiguity has in turn led to misconceptions about their objectives, the benefits, their role in the communities they serve, and their appropriate place in the continuum of healthcare delivery in the United States.

In its 2003 report on specialty hospitals, the GAO defined a surgical hospital as a private, short-term acute care hospital where "two-thirds

Factoid

Artificial hip demand is expected to increase 174 percent, while artificial knees will skyrocket by 673 percent.

"Government Transparency Mandates Improve Hospital Orthopedics Supply Chain," by Scott Crandall, Healthcare Cost Containment, Healthcare Financial Management Association, August 2009 Web Exclusive, http://www.hfma.org/Publications/Newsletters/Healthcare-Cost-Containment/Archives/2008/August/Government-Transparency-Mandates-Improve-Hospital-Orthopedics-Supply-Chain/ (accessed November 8, 2012).

[44] American Hospital Association, "Promises Under Pressure," www.hospitalconnect.com/aha/annual_meeting/content/03mtgpaper_Niche.pdf (accessed February 27, 2005).

Factoid

Short-term acute care hospitals offer the largest range of services of any health care enterprise.

AHA Hospital Statistics, *American Hospital Association, 2011, pp. 155–169.*

Factoid

In general, surgical hospitals are "focused factories" that are able to "achieve higher quality, greater efficiency, and lower costs" than general short-term acute care hospitals.

"Specialty Hospitals, Ambulatory Surgery Centers, and General Hospitals: Charting a Wise Public Policy Course," by David Shactman, Health Affairs *24, no. 3 (May/June 2005): 868.*

or more of its inpatient claims were for surgical diagnosis-related group (DRGs)," excluding:

1. Government-owned hospitals;
2. Hospitals where the majority of inpatient claims were for MDCs that related to rehabilitation, psychiatry, alcohol and drug treatment, children, or newborns; and
3. Hospitals with fewer than 10 claims per bed per year.

The *Breaux Amendment* provides yet another definition of specialty hospitals that is inconsistent with the GAO's definition of surgical hospitals: *"[T]he term 'specialty hospital' means a hospital that is primarily or exclusively engaged in the care and treatment of one of the following*:

(**i**) patients with a cardiac condition;
(**ii**) patients with an orthopedic condition;
(**iii**) patients receiving a surgical procedure; or
(**iv**) any other specialized category of patients or cases that the Secretary designates as inconsistent with the purpose of permitting physician ownership and investment interests in a hospital under this section."

For the purposes of evaluating the attack on specialty and niche providers, this term may be broadly defined to include any healthcare provider who

Factoid

Physicians in Fresno opened the first modern surgical hospital in the United States in 1988 by adding beds to their existing ASC. This facility, Fresno Surgery Center, is still in operation today, now operating as a fully licensed hospital.

"Inside the First Surgical Hospital," Outpatient Surgery, *www.outpatientsurgery.net/builders/2003/first_surgical_hospital.php (accessed October 3, 2003).*

provides a specialized level of care and/or medical treatment outside of a traditional inpatient hospital setting. Specialty and niche providers focus on a group of conditions or diseases and often offer a "multidisciplinary" approach, where specialists and related paraprofessionals treat patients in a facility specifically designed for and dedicated to the treatment of those conditions. Such providers include ASCs, which perform surgical procedures on an outpatient basis, as well as surgical and specialty hospitals and all healthcare providers possibly affected by attempts to prohibit physician investment in facilities and medical equipment. A broad, inclusive definition of specialty and niche providers is also necessary because nontraditional healthcare providers increasingly compete with traditional healthcare providers.[45]

As of 2011, there were approximately 200 freestanding *children's hospitals* in the United States, serving approximately 12 percent of *all hospitalized children* and training approximately 25 percent of U.S. pediatricians.[46]

Physician Hospital Organization (PHO)

Organizations that unite a hospital or a group of hospitals and a physician organization through a contractual relationship for the purpose of contracting with managed care organizations.

The Managed Health Care Handbook*, 3rd ed., edited by Peter R. Kongstvedt (Gaithersburg, MD: Aspen Publishers, 1996), p. 999.*

[45] Robert James Cimasi, "Presenting the Truth: The Attack on Niche Providers," American Surgical Hospital Association 5th Annual Conference and Exhibits, San Francisco, CA, October 27, 2005, p. 17.

[46] Richard K. Miller and Kelli Washington, *The 2011 Healthcare Business Market Research Handbook* (Loganville, GA: Richard K. Miller & Associates, 2011), p. 84.

In addition to offering *traditional healthcare services* to children, *children's hospitals* are often the pioneers of new vaccines and treatments for childhood conditions, such as asthma, and may serve as a resource for *public health education*, *injury prevention*, and *access to appropriate healthcare* for children and their families.[47]

Specialty *women's hospitals* focus on providing the *continuum of care* for women during the course of an *entire lifetime*, including (1) *chronic care*, e.g., cancer, obesity, and other age-associated diseases; (2) *preventive and primary care*, e.g., gynecological exams and cancer screening; and (3) *acute care*, for example, childbirth.[48] As of 2012, there were only nine *specialty hospitals* in the United States that focused solely on *women's care*.[49]

Psychiatric hospitals are inpatient facilities with medical staff trained to provide (1) *diagnostic services*, (2) *medical treatment*, and (3) *monitoring* to *mentally ill* or *substance-abusing* patients.[50] The range of *behavioral health services* offered at *psychiatric hospitals* are often categorized by the *type of patient or patient condition* being treated, e.g., (1) *geropsychiatric*, (2) *general adult*, (3) *substance abuse*, and (4) *adolescent*. As of 2012, there were 435 *specialty hospitals* in the United States that solely focused on providing *psychiatric care,* thereby representing the *largest* classification group of specialty hospitals.[51]

Factoid

In 2011, the United States spent more than $100 billion to treat mental disorders and another $12 billion to treat drug and alcohol abuse.

The 2011 Healthcare Business Market Handbook*, by Richard K. Miller and Kelli Washington (Loganville, GA: Richard K. Miller & Associates, 2011), p. 391.*

[47] National Association of Children's Hospitals and Related Institutions, "About Children's Hospitals," 2009, http://www.childrenshospitals.net/AM/Template.cfm?Section=About_children_s_Hospitals1&Template=/CM/HTMLDisplay.cfm&ContentID=56943 (accessed August 10, 2012).

[48] "Forsyth Center for Women's Health Named After Angelou," *Winston-Salem Journal*, May 16, 2012.

[49] American Hospital Association, *Hospital Statistics: 2012 Edition*, 2012, p. 8.

[50] Sophia Snyder, "62221—Psychiatric Hospitals in the US," IBIS World, May 2012.

[51] American Hospital Association, "Fast Facts on US Hospitals," January 3, 2012, http://www.aha.org/research/rc/stat-studies/fast-facts.shtml (accessed December 7, 2012).

Patient Protection and Affordable Care Act (ACA)

Landmark U.S. healthcare reform legislation passed on March 23, 2010.

"Patient Protection and Affordable Care Act," Pub. L. *111–148 (March 23, 2010).*

Surgical hospitals are commonly considered a *hybrid* of *general acute care hospitals* and *ambulatory surgery centers* (ASCs).[52] These hospitals are frequently *established* and *owned* by *physicians* and focus on the delivery of *surgical*, *orthopedic*, *spinal*, or *cardiac* services.[53] The first *modern surgical hospital* in the United States, Fresno Surgery Center, was converted from an ASC in 1988 after a California bill was passed allowing ASCs to add an additional 20 beds to their surgery centers for an extended stay up to 72 hours.[54] The various types of *surgical hospitals* in the United States are set forth in Table 11.4.

Of note is that a significant lobbying and advocacy campaign by the AHA and FHA culminated in the 2010 healthcare reform legislation, composed of the *Patient Protection and Affordable Care Act* (ACA) and the *Health Care and Education Reconciliation Act of 2010*, that placed significant restrictions on the growth and development of *physician-owned hospitals*, including *specialty hospitals*, as discussed in detail in Section 3.3.2, "Stark Law," in Chapter 3, "Regulatory Environment."[55]

11.1.5 Long-Term Acute Care Hospitals

Medicare defines *Long-Term Acute Care Hospitals* (LTCHs) as "*a hospital which has an average inpatient length of stay (as determined by the Secretary*

[52] "Inside the First Surgical Hospital," *Outpatient Surgery*, 2003, www.outpatientsurgery.net/builders/2003/first_surgical_hospital.php (accessed August 30, 2011); Office of Inspector General, "Physician-Owned Specialty Hospitals' Ability to Manage Medical Emergencies," Department of Health and Human Services, January 2008, p. 13.

[53] Office of Inspector General, "Physician-Owned Specialty Hospitals' Ability to Manage Medical Emergencies," Department of Health and Human Services, January 2008, p. 1.

[54] "Inside the First Surgical Hospital," *Outpatient Surgery*, 2003, www.outpatientsurgery.net/builders/2003/first_surgical_hospital.php (accessed August 30, 2011)).

[55] Robert James Cimasi, "Presenting the Truth: The Attack on Niche Providers," American Surgical Hospital Association 5th Annual Conference and Exhibits, San Francisco, October 27, 2005, p. 17.

TABLE 11.4 Types of Surgical Hospitals in the United States in 2010

Type of Hospital	Number of Hospitals in U.S.
Orthopedic	23
Cancer	13
Obstetrics and Gynecology	9
Surgical	9
Heart	8
Chronic Disease	6
Eye, Ear, Nose, and Throat	4
Tuberculosis and Other Respiratory Diseases	2
Total	74

Hospital Statistics: 2012 Edition, American Hospital Association, 2012, p. 7.

of Health and Human Services [the Secretary]) of greater than 25 days."[56] LTCHs can be either *freestanding* or exist within an *acute hospital facility.* LTCHs within an existing hospital are typically smaller in size than a *freestanding LTCH*, averaging 36 beds, in comparison to an average of 111 beds in *freestanding LTCHs*. As of 2009, there were 432 *long-term care hospitals* in the United States.[57]

Long-Term Care Hospital

A Medicare term for a hospital whose average length of stay (LOS) is more than 25 days and is not otherwise a mental health or rehabilitation hospital.

Dictionary of Health Insurance and Managed Care, *by David Marcinko (New York: Springer, 2006), p. 171.*

[56] Centers for Medicare and Medicaid Services, "Medicare Proposes Payment Changes for Long-Term Care Hospitals for Rate Year 2006," January 28, 2005, http://www.cms.hhs.gov/apps/media/press/release.asp?Counter=1339 (accessed June 5, 2006).

[57] American Hospital Association, "Maximizing the Value of Post-Acute Care," *TrendWatch*, November 2010, p. 1.

*LTCH*s located within *short-term acute care hospitals* are required to have their own separate *governing body*, *chief financial officer*, *chief medical officer*, and *medical staff*.[58] In addition, LTCHs located within *short-term acute care hospitals* must either (1) perform basic functions *independently* of the affiliated *short-term acute care hospital*, (2) incur no more than 15 percent of the *total inpatient operating costs* for the related *short-term acute care hospital*, or (3) receive at least *75 percent of their patients from sources other than the affiliated short-term acute care hospital*.[59] The passage of the *Medicare, Medicaid, and SCHIP Extension Act of 2007* had imposed a moratorium on new *LTCH* facilities, which restricted expansion and new market entrants until it expired on December 29, 2012.[60]

LTCHs play a vital role in the *continuum of care*, in that they provide care to patients who are too ill for *skilled nursing facilities* but who no longer need short-term acute care.[61] LTCH patients typically require *medically complex* and *coordinated services* from various types of providers, including *nurses*, *therapists*, and *physicians specializing* in (1) *occupational medicine*, (2) *physical and rehabilitative medicine*, (3) *radiology*, and (4) *internal medicine*. In addition, an LTCH requires *technicians and paraprofessionals* for such services as (1) *lab sciences and phlebotomy*, (2) *pharmacy*, (3) *dietetics*, (4) *billing and coding*, (5) *nursing aids*, (6) *respiratory care*, (7) *radiology and imaging*, and (8) *supply chain management*.

Factoid

The number of LTCHs located within acute hospitals has grown at almost three times the rate of long-term care hospitals in general.

"Chapter 5: Defining Long-Term Care Hospitals," in Report to the Congress: New Approaches in Medicare, *MedPAC, June 2004, p. 125.*

[58] MedPAC, "Chapter 5: Defining Long-Term Care Hospitals," in *Report to the Congress: New Approaches in Medicare*, June 2004, p. 133.

[59] Ibid.

[60] MedPAC, "Chapter 10: Long-Term Care Hospital Services," in *Report to the Congress: New Approaches in Medicare*, March 2012, p. 268.

[61] MedPAC, "Chapter 5: Defining Long-Term Care Hospitals," in *Report to the Congress: New Approaches in Medicare*, June 2004, p. 125.

Factoid

LTCHs lower readmissions to short-term acute care hospitals by 26 percent per episode of care.

"Chapter 5: Defining Long-Term Care Hospitals," in Report to the Congress: New Approaches in Medicare, *MedPAC, June 2004, p. 127.*

11.1.6 Current and Future Trends: Regulatory, Reimbursement, Competition, and Technology

11.1.6.1 Regulatory All hospitals are subject to numerous *federal*, *state*, and *local regulations,* including *licensure*, *certification*, and *accreditation* requirements. All 50 states require hospitals to be licensed and typically require a hospital to maintain an organized governing board, medical and nursing staff, and administration staff, as well as minimum services (e.g., radiology, pharmacy, laboratory, and emergency services).[62] Other facility and equipment standards also require sufficient levels of safety, sanitation and infection control, and record management and retention.[63] In order to maintain *licensure*, facilities may need to meet certain building requirements, as well as comply with limits on the number of beds allowed in a given facility.[64]

Durable Medical Equipment (DME)

Durable medical equipment (DME) is medical equipment designed to improve the quality of life of patients with illnesses or injuries and must be able to withstand repeated use, must primarily serve a medical purpose, and, generally, must not be useful to a person lacking an injury or illness.

"Durable Medical Equipment Payment System," MedPAC, October 2011, http://www.medpac.gov/documents/MedPAC_Payment_Basics_11_DME.pdf (accessed November 5, 2012).

[62] Thomson Reuters, "State Licensure of Facilities," *50 State Regulatory Surveys: Health Care: Long Term Care*, June 2012; Robert D. Miller and Rebecca C. Hutton, *Problems in Health Care Law*, 8th ed. (Mississauga, ON: Jones and Bartlett Publishers, 2004), p. 61.

[63] Ibid., p. 62.

[64] "Excluded Hospital Units: Common Requirements," 42 CFR 412.25, Centers for Medicare and Medicaid Services.

The Joint Commission on Accreditation of Healthcare Organizations (*Joint Commission*) is the largest and most prestigious private accrediting agency for hospitals in the United States, including psychiatric hospitals. *The Joint Commission* is an *independent*, *not-for-profit organization* that maintains standards for *clinical*, *administrative*, and *organizational performance*. JCAHO conducts on-site reviews of the *quality* and *safety of care* for accreditation and renewals every three years for more than 19,000 healthcare organizations.[65] Most states require hospitals to participate in Medicare as a *condition of licensure*, which required *certification* through CMS and *accreditation* by a national accrediting agency, for example, the Joint Commission.[66] (See Section 3.8.1.2, "Medicare and Medicaid Certification," in Chapter 3, "Regulatory Environment.")

In addition to those regulatory requirements that are mandated for all hospitals, *government-owned hospitals* are subject to all of the regulatory requirements and restrictions of other governmental organizations.[67] The degree to which a given government's electoral and political process influences hospital operations depends on the governance structure of the hospital board.[68]

Factoid

TJC conducts on-site reviews of the quality and safety of care for accreditation and renewals every three years for more than 19,000 healthcare organizations.

"Facts about the Joint Commission," Joint Commission, January 13, 2012, http://www.jointcommission.org/facts_about_the_joint_commission/ (accessed November 28, 2012).

[65]The Joint Commission, "Facts about the Joint Commission," January 13, 2012, http://www.jointcommission.org/facts_about_the_joint_commission/ (accessed November 28, 2012).

[66]"Agreements with States," 42 U.S.C. § 1395aa (2010); "Effect of Accreditation," 42 U.S.C. § 1395bb (2010).

[67]Nancy Kane, et al., "Strained Local and State Government Finances among Current Realities That Threaten Public Hospitals' Profitability," *Health Affairs* 31, no. 8 (August 13, 2012): 1680–1681.

[68]Ibid., p. 1682.

Factoid

The three main hospital accrediting bodies with CMS "*deeming status*" are the Joint Commission, the American Osteopathic Association, and Det Norske Veritas Healthcare.

"Medicare and Medicaid Programs; Approval of the Application by the Joint Commission for Continued Deeming Authority for Hospitals," Federal Register *74, no. 227 (November 27, 2009): 62334; "Medicare and Medicaid Programs; Application of the American Osteopathic Association for Continued Deeming Authority for Hospitals,"* Federal Register *74, no. 166 (August 28, 2009): 44370; "Medicare and Medicaid Programs; Continued Approval of Det Norske Veritas Healthcare's (DNVHC's) Hospital Accreditation Program,"* Federal Register *77, no. 165 (August 24, 2012): 51537.*

Government-owned hospitals can be directly governed by either (1) *elected officials or their appointees* or (2) *independent boards*.[69]

In addition to the various *fraud and abuse* restrictions that may be applicable to all hospitals, for example, the Stark Law's prohibition against self-referrals for *designated health services*, the "exception" to the self-referral prohibition for rural hospitals under *Stark II* is of significant note. This *exception* to the *ownership or investment prohibition* against referrals for *designated health services* (DHS) of Medicare patients to an entity in which the physician has an ownership or investment interest applies to rural hospitals, provided that *substantially all* of the services (i.e., a continued level of 75 percent or more) are furnished to individuals residing in a *rural area*.[70]

Factoid

Approximately 72 million individuals, 23 percent of the U.S. population, are living in rural areas.

"The Opportunities and Challenges for Rural Hospitals in an Era of Health Reform," Trendwatch, *American Hospital Association, April 2011.*

[69] Ibid., p. 1682.

[70] Advisory Opinion No. CMS-AO-98-001, pp. 4–5; Social Security Act §1877(d)(2)(A).

TABLE 11.5 Methods of Hospital Reimbursement Used by Commercial Payors

Elements of Reimbursement		Elements of Reimbursement
Discounts	11	Percentage of Premium Revenue
Per Diems	12	Bed Leasing
Sliding Scales for Discounts and Per Diems	13	Periodic Interim Payments or Cash Advances
Differential by Day in Hospital	14	Performance-Based Incentives
Diagnosis-Related Groups (DRGs)	15	Penalties and Withholds
Differential by Service Type	16	Quality and Services Incentives
Case Rates	17	Outpatient Procedures
Institutional Only	18	Package Pricing or Bundled Rates
Package Pricing or Bundled Rates	19	Ambulatory Patient Group
Capitation	20	Episodes of Care/Value-Based Purchasing

See Chapter 3, "Regulatory Environment," for a general discussion of *Fraud and Abuse* provisions applicable to hospital enterprises.

11.1.6.2 Reimbursement Hospitals are reimbursed by Medicare for inpatient services on an *inclusive per diem* or *per case basis*, using Medicare's *diagnostic related group (DRG)* payment system under the IPPS.[71] In contrast, commercial payors may reimburse hospitals under a variety of reimbursement methods (despite typically being based on Medicare payment methodologies and rates), as set forth in Table 11.5.

IPPS payments are determined according to the "operating and capital costs that efficient facilities are expected to incur in furnishing covered inpatient services."[72] IPPS payments are calculated by applying a series of *adjustments* to two separate *base payments*, that is, (1) the *capital base payment rate* and (2) the *operating base payment rate*, each of which is set as a *prospectively determined federal payment rate per discharge*. These *federal*

[71]The inclusive nature of Medicare's inpatient hospital benefits is that coverage for Medicare beneficiaries under the IPPS includes those outpatient services rendered within three days prior to admission for the inpatient stay being billed. This is known as the 72-hour rule. Medicare Payment Advisory Commission, "Hospital Acute Inpatient Services Payment System," *Payment Basics*, October 2012, pp. 2–3.

[72]Centers for Medicare and Medicaid Services, "Acute Care Hospital Inpatient Prospective Payment System," Payment System Fact Sheet Series, February 2012, p. 3.

payment rates are adjusted based on three factors: (1) the *patient's condition* and *related treatment strategy* (see *DRG Relative Weight* in the equation later in this chapter); (2) the *market conditions in the facility's geographic location,* based on the *area wage index*; and (3) *policy adjustments for qualifying hospitals* (see IME payment and *disproportionate share hospital* (DSH) payment adjustments).[73] This equation is illustrated in Exhibit 11.2.

Capital payments are intended to cover the costs associated with *depreciation*, *interest*, *rent*, and *property-related insurance* and *taxes*, while *operating payments* are intended to cover *labor* and *supply costs*.[74]

The per discharge standard *federal rates* are each updated on an annual basis. "CMS determines the standard Federal rate by adjusting the [past year's] national average cost per discharge by a factor so that estimated aggregate payments based on the standard Federal rate adjusted by the payment adjustments described in § 412.312(b) equal estimated aggregate payments based solely on the national average cost per discharge."[75] The *Capital Standard Federal Payment Rates* from 1999 to 2013 are set forth in Table 11.6.

In addition, the *National Adjusted Operating Standardized Amounts* from 1999 to 2013 for both *large urban areas* and *other areas* are set forth in Table 11.7.

In addition to the *policy adjustments* available to all hospitals, for example, IME and DSH, as discussed earlier, academic health centers (AHCs) are *explicitly* reimbursed by Medicare above and beyond the *payment rate* designated for the *clinical services* they provide through two different payment adjustments: (1) *indirect medical education* and (2) *direct graduate medical education.*[76] *Indirect medical education* is designed to reimburse AHCs for the *higher cost* of providing patient care at an AHC, due, in part, to the costs of using innovative, advanced technologies, and is calculated as an *add-on figure* to an AHC's DRG payment.[77] In contrast, *direct graduate medical education* is designed to reimburse AHCs for the *costs directly associated*

---

[73] Medicare Payment Advisory Commission, *Report to the Congress: Medicare Payment Policy*, March 2002, pp. 11–15.

[74] Centers for Medicare and Medicaid Services, "Acute Care Hospital Inpatient Prospective Payment System," Payment System Fact Sheet Series, February 2012, p. 3.

[75] "Determining and Updating the Federal Rate," 42 USC 412.308 (October 1, 2006).

[76] American Hospital Association, "Teaching Hospitals: Their Impact on Patients and the Future Health Care Workforce," *TrendWatch*, September 2009, p. 3.

[77] Christiane Mitchell, et al., "Medicare Indirect Medical Education (IME) Payments," Association of American Medical Colleges, https://www.aamc.org/advocacy/gme/71150/gme_gme0002.html (accessed February 11, 2013); American Hospital Association, "Teaching Hospitals: Their Impact on Patients and the Future Health Care Workforce," *TrendWatch*, September 2009, p. 3.

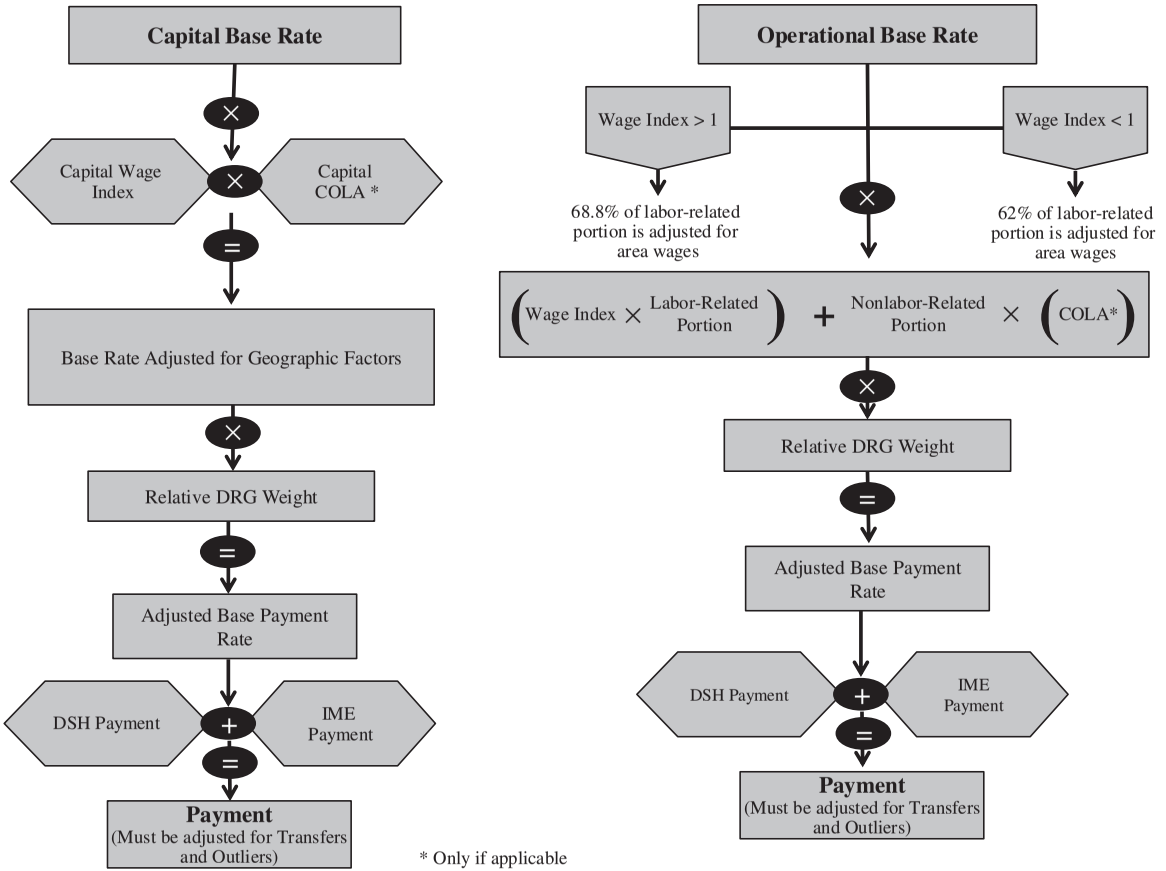


EXHIBIT 11.2 Determination of IPPS Capital and Operating Payments for Hospital Reimbursement

"Acute Care Hospital Inpatient Prospective Payment System," Centers for Medicare and Medicaid Services, Payment System Fact Sheet Series, February 2012, p. 4; "Hospital Acute Inpatient Services Payment System," Medicare Payment Advisory Commission, *Payment Basics*, October 2012, p. 2.

TABLE 11.6 The Capital Standard Federal Payment Rates, 1999–2013[78]

Fiscal Years	National Rate	Year over Year % Change
1991	$378.05	N/A
2000	$377.03	–0.27%
2001	$382.03	1.33%
2002	$390.74	2.28%
2003	$407.01	4.16%
2004	$414.18	1.76%
2005	$416.53	0.57%
2006	$420.65	0.99%
2007	$427.03	1.52%
2008	$426.14	–0.21%
2009	$424.17	–0.46%
2010	$430.20	1.42%
2011	$429.56	–0.15%
2012	$421.42	–1.89%
2013	$425.49	0.97%

[78]"Medicare Program; Hospital Inpatient Prospective Payment Systems for Acute Care Hospitals and the Long-Term Care Hospital Prospective Payment System and Fiscal Year 2013 Rates; Hospitals' Resident Caps for Graduate Medical Education Payment Purposes; Quality Reporting Requirements for Specific Providers and for Ambulatory Surgical Centers," *Federal Register* 77, no. 170 (August 31, 2012): 53718 [2013]; "Medicare Program; Hospital Inpatient Prospective Payment Systems for Acute Care Hospitals and the Long-Term Care Hospital Prospective Payment System and FY 2012 Rates; Hospitals' FTE Resident Caps for Graduate Medical Education Payment," *Federal Register* 76, no. 160 (August 18, 2011): 51804 [2012]; "Medicare Program; Hospital Inpatient Prospective Payment Systems for Acute Care Hospitals and the Long-Term Care Hospital Prospective Payment System Changes and FY2011 Rates," *Federal Register* 75, no. 157 (August 16, 2010): 50451 [2011]; *Federal Register* 74, no. 165 (August 27, 2009): 44031 [2010]; *Federal Register* 73, no. 193 (October 3, 2008): 57892. [2009]; *Federal Register* 72, no. 227 (2007): 66888. [2008]; Centers for Medicare and Medicaid Services, "Medicare Program; Hospital Inpatient Prospective Payment Systems and Fiscal Year 2007 Rates: Final Fiscal Year 2007 Wage Indices and Payment Rates after Application of Revised Occupational Mix Adjustments to Wage Index," Department of Health and Human Services, CMS-1488-N, p. 60 [2007]; "Medicare Program; Changes to the Hospital Inpatient Prospective Payment Systems and Fiscal Year 2006 Rates,"

TABLE 11.7 The National Adjusted Operating Standardized Amounts, 1999–2013[79]

	Large Urban Areas		Other Areas	
Fiscal Year	**Labor Related**	**Nonlabor Related**	**Labor Related**	**Nonlabor Related**
1999	$2,783.42	$1,311.38	$2,739.36	$1,113.47
2000	$2,809.18	$1,141.85	$2,764.70	$1,123.76
2001	$2,864.19	$1,164.21	$2,818.85	$1,145.78
2002	$2,955.44	$1,201.30	$2,908.65	$1,182.27
2003	$3,022.60	$1,228.60	$2,974.75	$1,209.15
2004	$3,136.39	$1,274.85	$3,086.73	$1,254.67
2005*	$3,238.07	$1,316.18	$2,823.64	$1,730.62
2006*	$3,297.84	$1,433.63	$2,933.52	$1,797.95
2007*	$3,397.52	$1,476.97	$3,022.18	$1,852.31
2008*	$3,478.45	$1,512.15	$3,094.17	$1,896.43
2009*	$3,723.07	$1,618.50	$3,311.77	$2,029.80
2010*	$3,593.52	$1,629.62	$3,238.35	$1,984.79
2011*	$3,552.91	$1,611.20	$3,201.75	$1,962.36
2012	$3,584.30	$1,625.44	$3,230.04	$1,979.70
2013	$3,679.95	$1,668.81	$3,316.23	$2,032.52

*2005–2011 amounts are the full market basket updates, where the amounts listed under "Large Urban Areas" are those for which the Wage Index is greater than 1, and those listed under "Other Areas" are those for which the Wage Index is less than or equal to 1.

Footnote 78 (*continued*)

Federal Register (August 12, 2005): 47507 [2006]; "Medicare Program; Changes to the Hospital Inpatient Prospective Payment Systems and Fiscal Year 2005 Rates; Final Rule," *Federal Register* 68, no. 154 (August 11, 2004): 49289 [2005]; "Medicare Program; Changes to the Hospital Inpatient Prospective Payment Systems and Fiscal Year 2004 Rates," *Federal Register* 68, no. 148 (August 1, 2003): 45485 [2004]; "Medicare Program; Changes to the Hospital Inpatient Prospective Payment Systems and Fiscal Year 2003 Rates," *Federal Register* 67, no. 148 (August 1, 2002): 50134 [2003]; "Medicare Program; Changes to the Hospital Inpatient Prospective Payment Systems and Rates and Costs of Graduate Medical Education: Fiscal Year 2002 Rates; Provisions of the Balanced Budget Refinement Act of 1999; and Provisions of the Medicare, Medicaid, and SCHIP Benefits Improvement and Protection Act of 2000," *Federal Register* 66, no. 148 (August 1, 2001): 39954 [2002]; "Medicare Program; Changes to the Hospital Inpatient Prospective Payment Systems and Fiscal Year 2001 Rates," *Federal Register* 65, no. 148 (August 1, 2000):

(*continued*)

Footnote 78 (*continued*)

47127 [2001]; "Medicare Program; Changes to the Hospital Inpatient Prospective Payment Systems and Fiscal Year 2000 Rates," *Federal Register* 64, no. 146: 41558 [2000]; "Medicare Program; Changes to the Hospital Inpatient Prospective Payment Systems and Fiscal Year 1999 Rate," *Federal Register* 63, no. 147 (July 31, 1998): 41019 [1999].

[79] "Medicare Program; Hospital Inpatient Prospective Payment Systems for Acute Care Hospitals and the Long-Term Care Hospital Prospective Payment System and Fiscal Year 2013 Rates; Hospitals' Resident Caps for Graduate Medical Education Payment Purposes; Quality Reporting Requirements for Specific Providers and for Ambulatory Surgical Centers," *Federal Register* 77, no. 170 (August 31, 2012): 53699 [2013]; "Medicare Program; Hospital Inpatient Prospective Payment Systems for Acute Care Hospitals and the Long-Term Care Hospital Prospective Payment System and FY 2012 Rates; Hospitals' FTE Resident Caps for Graduate Medical Education Payment," *Federal Register* 76, no. 160 (August 18, 2011): 51797 [2012]; "Medicare Program; Hospital Inpatient Prospective Payment Systems for Acute Care Hospitals and the Long-Term Care Hospital Prospective Payment System Changes and FY2011 Rates," *Federal Register* 75, no. 157 (August 16, 2010): 50451 [2011]; *Federal Register* 74, no. 165 (August 27, 2009): 44031 [2010]; *Federal Register* 73, no. 193 (October 3, 2008): 57891 [2009]; *Federal Register* 72, no. 227 (2007): 66888 [2008]; Centers for Medicare and Medicaid Services, "Medicare Program; Hospital Inpatient Prospective Payment Systems and Fiscal Year 2007 Rates: Final Fiscal Year 2007 Wage Indices and Payment Rates after Application of Revised Occupational Mix Adjustment to Wage Index," Department of Health and Human Services, CMS-1488-N, p. 17 [2007]; "Medicare Program; Changes to the Hospital Inpatient Prospective Payment Systems and Fiscal Year 2006 Rates," *Federal Register* (August 12, 2005): 47507 [2006]; "Medicare Program; Changes to the Hospital Inpatient Prospective Payment Systems and Fiscal Year 2006 Rates," *Federal Register* 70, no. 155 (August 12, 2005): 47507. [2006]; "Medicare Program; Changes to the Hospital Inpatient Prospective Payment Systems and Fiscal Year 2005 Rates; Final Rule," *Federal Register* 68, no. 154 (August 11, 2004): 49294 [2005]; "Medicare Program; Changes to the Hospital Inpatient Prospective Payment Systems and Fiscal Year 2004 Rates," *Federal Register* 68, no. 148 (August 1, 2003): 45488 [2004]; "Medicare Program; Changes to the Hospital Inpatient Prospective Payment Systems and Fiscal Year 2003 Rates," *Federal Register* 67, no. 148 (August 1, 2002): 50134 [2003]; "Medicare Program; Changes to the Hospital Inpatient Prospective Payment Systems and Rates and Costs of Graduate Medical Education: Fiscal Year 2002 Rates; Provisions of the Balanced Budget Refinement Act of 1999; and Provisions of the Medicare, Medicaid, and SCHIP Benefits Improvement and Protection Act of 2000," *Federal Register* 66, no. 148 (August 1, 2001): 39954 [2002]; "Medicare Program; Changes to the Hospital Inpatient Prospective Payment Systems and Fiscal Year 2001 Rates," *Federal Register* 65, no. 148 (August 1, 2000): 47126 [2001]; "Medicare Program; Changes to the Hospital Inpatient Prospective Payment Systems and Fiscal Year 2000 Rates," *Federal Register* 64, no. 146: 41558 [2000]; "Medicare Program; Changes to the Hospital Inpatient Prospective Payment Systems and Fiscal Year 1999 Rate," *Federal Register* 63, no. 147 (July 31, 1998): 41019 [1999].

with educating residents, including, but not limited to, (1) *resident salary*, (2) *resident benefits*, (3) *overhead*, and (4) *supervision of residents*.[80]

In addition, the IPPS includes an *outlier adjustment* for *extraordinarily high cost services* and "*pass-through*" payments for *new technologies*.[81] (See Chapter 2, "Reimbursement Environment.")

While a discussion of those *value drivers* pertinent to hospital outpatient departments will be provided in Chapter 12, "The Valuation of Outpatient Enterprises," the basic methodology by which hospital outpatient departments are reimbursed is discussed within this section, due to the interrelationship between *inpatient* and *outpatient services* provided by an overall hospital enterprise. Medicare payments for *outpatient services* are based on the *Hospital Outpatient Prospective Payment System* (HOPPS), under which o*utpatient payments* are determined by *Ambulatory Payment Classifications* (APCs), a reimbursement system implemented by CMS on August 1, 2000.[82] CMS groups outpatient procedures into approximately 750 distinct APCs, based on a set of *relative weights*. Similar to the IPPS, the HOPPS reimbursement methodology also includes a *conversion factor* and an *adjustment for geographic* differences in input prices. For a full discussion of the implementation and current methodology used for the HOPPS, see Section 2.4.1.3.1.2, "Hospital Outpatient Reimbursement," in Chapter 2, "Reimbursement Environment."

The 750 APC groups are based on services and items that are *clinically similar* and *use comparable resources*. Each APC is "*bundled*," meaning it encompasses both the *primary service* being classified and many *services integral to the provision of the primary service*. Like the IPPS, reimbursement under the HOPPS is intended to cover the hospital's *operating* and *capital* costs and is determined by multiplying the *relative weight* for the APC by a conversion factor.[83] Every year, the APC groupings and their *relative weights* are

Value

The present worth of all the rights to future benefits arising from ownership of the thing valued (i.e., the expectation of future benefit).

Dictionary of Health Insurance and Managed Care, *by David Marcinko (New York: Springer, 2006), p. 293.*

[80] American Hospital Association, "Teaching Hospitals: Their Impact on Patients and the Future Health Care Workforce," *TrendWatch*, September 2009, p. 3.

[81] MedPAC, *Report to Congress: Medicare Payment Policy* (March 2002), p. 18.

[82] Healthcare Financial Management, "Success with APCs," September 2002, p. 68.

[83] Centers for Medicare and Medicaid, "Hospital Outpatient Prospective Payment System," Payment System Fact Sheet, December 2012, p. 5.

AMBULATORY PAYMENT CLASSIFICATION (APC)

A system for Medicare reimbursement to acute care facilities for outpatient services (e.g., HOPPS), launched by CMS on August 1, 2000.

"Success with APCs," Healthcare Financial Management *(September 2002): 68.*

reviewed by the *Ambulatory Payment Classification Groups Advisory Panel*, which advises CMS on updates to relative weights given to each group.[84] Beginning July 1, 2010, the *market basket update* for both *inpatient* and *outpatient* hospital services started being reduced by (1) 0.25 percent for FY 2010–2011, (2) 0.1 percent for FY 2012–2013, (3) 0.3 percent for FY 2014, (4) 0.2 percent for FY 2015–2016, and (5) 0.75 percent for FY 2017–2019.[85]

Of note is that the conversion factor for IPPS and HOPPS is *directly* associated with the *sustainable growth rate* (SGR) formula, which has been a topic of heated debate in recent years, as related to its calculation. For further discussion of the implementation and current methodology used for the HOPPS and the SGR, see Chapter 2, "Reimbursement Environment."

The two subclassifications of *rural hospitals*, that is, (1) *critical access hospitals* (CAH) and (2) *sole community hospitals* (SCH), are each reimbursed by Medicare using methods different from other hospitals. CAHs are reimbursed using a *cost-plus based method* for (1) *professional services*, (2) *outpatient services*, (3) *inpatient services*, and (4) *swing-bed services*. Under this method, payments to CAHs are determined as a *percentage* of the *hospital's predicted reasonable costs*, as set forth in its submitted *Medicare Cost Report*, plus a *markup* of 1 percent.[86] These percentages are set forth in Table 11.8.

[84] MedPAC, *Report to Congress: Medicare Payment Policy* (March 2002), p. 20.

[85] Medical Group Management Association, "The Patient Protection and Affordable Care Act Summary Implementation Timeline," April 1, 2010, pp. 1–8.

[86] Medicare Cost Reports are required under the Medicare program CoP and contain information regarding facility characteristics, utilization data, cost and charges by cost center (in total and for Medicare), Medicare settlement data, and financial statement data that must be submitted by participating facilities on an annual basis. Centers for Medicare and Medicaid Services, "Cost Reports," January 30, 2013, http://www.cms.gov/Research-Statistics-Data-and-Systems/Files-for-Order/CostReports/index.html (accessed February 11, 2013); Centers for Medicare and Medicaid Services, *Critical Access Hospital Manual*, June, 2012, http://www.trailblazerhealth.com/publications/training%20manual/cahmanual.pdf (accessed August 20, 2012); "Section 6: Acute Inpatient Services for Short-Term Hospitals and Specialty Psychiatric Facilities," in *A Data Book: Health Care Spending and the Medicare Program*, MedPAC, June 2012, p. 84.

TABLE 11.8 CAH Reimbursement Payments by Type of Service as a Percentage of Their Medicare Cost Report

Type of Service	Percent of Cost
Inpatient Care	101.0%
Swing-Bed Care	17.2%
Professional Services under the "*standard payment method*"	Lesser of (1) 80% of the 101% reasonable costs for CAH services, which is up to 100% of reasonable costs for CAH; or (2) 101% of the reasonable cost in furnishing CAH services less the applicable Part B deductible and coinsurance amount.
Professional Services under the "*optional payment method*"	Sum of (1) the lesser of 80% of 100% of the reasonable cost of the CAH in furnishing CAH services or 101% of the outpatient services less applicable Part B deductible and coinsurance amounts; and (2) 115% of the allowable amount, after applicable deductions, under the Medicare Physician Fee Schedule for professional services. Payment for nonpractitioner professional services is 115% of 85% of the allowable amount under the Medicare Physician Fee Schedule.
Outpatient Care	Lesser of (1) 80% of the 101% reasonable costs in providing the service; or (2) 101% of reasonable cost for providing the service less applicable Part B deductible and co-insurance amounts.

"Critical Access Hospitals Medicare Rural Hospital Flexibility Program," Centers for Medicare and Medicaid Services, http://www.ihaonline.org/cah/ruralflex.pdf (accessed March 22, 2005); "Fact Sheet—Critical Access Hospital Program," Centers for Medicare and Medicaid Services, May 2004, http://www.cms.hhs.gov/medlearn/cahfactsheet.pdf (accessed March 22, 2005).

Market Basket

A varied combination of health care products, goods, and services.

Dictionary of Health Economics and Finance*, by David Edward Marcinko (New York: Springer, 2007), p. 225.*

In contrast, *sole community hospitals* (SCH) are reimbursed by Medicare at the maximum of the following:

1. The current IPPS payment for the hospital;
2. The updated hospital-specific rate based on fiscal year 1982 costs per discharge;

3. The updated hospital-specific rate based on fiscal year 1987 costs per discharge;
4. The updated hospital-specific rate based on fiscal year 1996 costs per discharge; or
5. The updated hospital-specific rate based on fiscal year 2006 costs per discharge.[87]

Market Basket Index

An index of the annual change in the prices of goods and services providers used to produce health or other goods and services. There are separate market baskets for prospective payment systems (PPSs), hospital operating input and capital input, skilled nursing facilities (SNFs), and outpatient services and facilities.

Dictionary of Health Economics and Finance, *by David Edward Marcinko (New York: Springer, 2007), p. 225.*

Likewise, *rural Medicare-dependent hospitals* (MDH) are reimbursed in a similar manner to an SCH; however, these enterprises are also eligible for a PPS rate weighted 25 percent from the current PPS rate and 75 percent from an individual MDH's historical costs.[88] Of note is that the *Medicare Dependent Hospital Program*, which allowed for the blended reimbursement methodology described earlier, expired in September 2012, and while there is legislation in Congress to extend the program until

Factoid

Critical access hospitals account for 3.6 percent of all Medicare hospital discharges.

"Section 6: Acute Inpatient Services for Short-term Hospitals and Specialty Psychiatric Facilities," in A Data Book: Health Care Spending and the Medicare Program, *MedPAC, June 2012, p. 64.*

[87] Centers for Medicare and Medicaid Services, "Sole Community Hospital—Rural Health Fact Sheet Series," November 2011, p. 2.

[88] Medicare Payment Advisory Commission, "Critical Access Hospitals Payment Basics," *Payment Basics*, September 2012, p. 2.

Factoid

Sole community hospitals represent 5.5 percent of all Medicare discharges.

"Section 6: Acute Inpatient Services for Short-term Hospitals and Specialty Psychiatric Facilities," in A Data Book: Health Care Spending and the Medicare Program, *MedPAC, June 2012, p. 64.*

October 1, 2013, to date, MDH's are currently reimbursed at the prevailing PPS rate.[89]

In an attempt to alleviate financial pressures from recent *Medicare reimbursement reductions* and a *higher proportion of uninsured patients* receiving care at *rural hospitals*, several programs have been established to *optimize reimbursement* for these providers, for example, the ACA expanded the definition of "*low-volume hospital"* for FY 2011 and 2012, increasing the number of *rural hospitals* eligible for payment adjustments under Medicare's PPS.[90] In addition, the ACA, as modified by the *Medicare and Medicaid Extenders Act of 2010*, extended many of the temporary provisions that had been enacted prior to the ACA, including (1) the *outpatient hold harmless provision* for small rural hospitals, which was set to expire in 2010; (2) *reasonable cost payments for clinical diagnostic lab services* for select rural hospitals, which was

Factoid

The ACA expanded the definition of "low-volume hospital" for FY 2011 and 2012, increasing the number of rural hospitals eligible for payment adjustments under Medicare's PPS.

"The Opportunities and Challenges for Rural Hospitals in an Era of Health Reform," Trendwatch, *American Hospital Association, April 2011.*

[89] "Rural Hospital Access Act of 2012," H.R. 5943, 112th Congress (June 8, 2012); "Rural Hospital Access Act of 2012," S. 2620, 112th Congress (May 7, 2012).

[90] See Chapter 2, "Reimbursement Environment," as well as Chapter 4, "Competition." American Hospital Association, "The Opportunities and Challenges for Rural Hospitals in an Era of Health Reform," *Trendwatch*, April 2011.

set to expire July 1, 2011; and (3) the *Medicare-Dependent Hospital program*.[91]

Since October 2002, LTCHs have been reimbursed by Medicare under a PPS and have received reimbursement based on the M*edicare severity long-term care diagnosis related groups* (MS–LTC–DRG) since 2008.[92] The MS–LTC–DRGs are updated *annually* by CMS, and as of 2013, there were 751 MS–LTC–DRG classifications.[93] In 2010, Medicare spent approximately $5.2 billion on reimbursements to LTCH.[94] While LTCHs are typically one of the

[91]The outpatient hold harmless provision provided additional payments under the OPPS to rural hospitals with fewer than 100 beds and SCHs and was extended through 2011. This provision was further extended through December 31, 2012, under the Temporary Payroll Tax Cut Continuation Act of 2011. Centers for Medicare and Medicaid Services, "October 2012 Update of the Hospital Outpatient Prospective Payment System (OPPS)," MLN Matters Number: MM8031, August 24, 2012, p. 4. The Medicare reasonable cost payments for clinical diagnostic lab services reimburse hospitals with fewer than 50 beds based on reasonable costs for clinical diagnostic laboratory services, in contrast to the typical fee schedule reimbursement method, and was extended through July 1, 2012. The Medicare-Dependent Hospital program allows MDH's to be reimbursed through a blend of 25 percent PPS rate and 75 percent historical costs and was extended through October 2012. However, in May and June of 2012, the Rural Hospital Access Act of 2012 was introduced to Congress (H.R. 5943 and S. 2620). As of the publication of this book, this act had not been enacted. If passed, this legislation would extend the program until October 1, 2013. "Rural Hospital Access Act of 2012," H.R. 5943, 112th Congress (June 8, 2012); "Rural Hospital Access Act of 2012," S. 2620, 112th Congress (May 7, 2012). American Hospital Association, "The Opportunities and Challenges for Rural Hospitals in an Era of Health Reform," *Trendwatch*, April 2011; McDermott Will & Emery, "Medicare and Medicaid Extenders Act: Significant Changes for Health Care Providers," December 22, 2010, p. 4, http://www.mwe.com/info/news/wp1210b.pdf.

[92]"Long-Term Care Hospital Services," in *Report to the Congress: New Approaches in Medicare*, MedPAC, March 2012, p. 261; "Medicare Program; Hospital Inpatient Prospective Payment Systems for Acute Care Hospitals and the Long-Term Care Hospital Prospective Payment System and Fiscal Year 2013 Rates; Hospitals' Resident Caps for Graduate Medical Education Payment Purposes; Quality Reporting Requirements for Specific Providers and for Ambulatory Surgical Centers: Final Rule," *Federal Register* 77, no. 170 (August 31, 2012): 53458.

[93]"Medicare Program; Hospital Inpatient Prospective Payment Systems for Acute Care Hospitals and the Long-Term Care Hospital Prospective Payment System and Fiscal Year 2013 Rates; Hospitals' Resident Caps for Graduate Medical Education Payment Purposes; Quality Reporting Requirements for Specific Providers and for Ambulatory Surgical Centers: Final Rule," *Federal Register* 77, no. 170 (August 31, 2012): 53460.

[94]MedPAC, "Long-Term Care Hospital Services," in *Report to the Congress: New Approaches in Medicare*, March 2012, p. 257.

most *expensive* options for *post-acute care*, they also tend to treat the most *medically complex patients*, for example, those patients requiring *prolonged mechanical ventilation* or who are experiencing *multiple organ failure*.[95]

A significant trend in reimbursement for healthcare services, including those provided by hospital enterprises, is the implementation of *episode of care payment*s, which refers to a *single reimbursement payment* made to providers for at least a portion of the medical services provided within a *particular course of treatment*. *Episode of care payment* models are designed to lower the overall *cost of care* and promote the shift away from *volume-based reimbursement* to *value-based reimbursement*. Two models of *episode of care payments* have gained popularity in recent years: (1) *bundled payments* (*episodes of care* as defined by a series of services) and *value-based purchasing* (*episodes of care* as defined by a population, either patients or providers).[96]

Bundled payments include the *combining*, or *bundling* of, multiple *related procedures or diagnoses* into *one reimbursement payment* for the entirety of a single *episode of care*.[97] *Bundled payments* share the *financial risk* between the *payer* and *provider*, that is, if the *cost of care* for a certain treatment exceeds the *bundled payment received*, healthcare providers *absorb the loss*; however, if a portion of the *bundled payment* remains after treatment, *providers keep the savings*.[98] Of note, the scope of the various bundled payments models is broad and may range from covering a *single acute episode* (e.g., stenting) to payment *for all services* involved in *managing a patient's heart disease* for an entire year.[99] For more information on the bundled payment initiatives through CMS, see Section 2.7.1.1.1, "Bundled Payments," in Chapter 2, "Reimbursement Environment."

In addition, the *Hospital Value-Based Purchasing Program* is one of the various implementations of *value-based purchasing* (VBP) by CMS. VBP encompasses any model of *provider payments* that links *reimbursement* or *incentive bonus payments* to the *quality* and the *cost of care* that a provider can achieve for a *defined patient population*. Most often, these *rewards* are offered to providers who meet (1) established standards for *patient health outcomes* and (2) set *percentage reductions* in actual *patient*

---

[95] Ibid., p. 262.

[96] Robert James Cimasi, *Accountable Care Organizations: Value Metrics and Capital Formation* (Boca Raton, FL: Taylor and Francis Group, 2013).

[97] American Hospital Association Committee on Research, *Bundled Payment: AHA Research Synthesis Report*, (May 2010), p. 3.

[98] Ibid., p. 4.

[99] Ibid., p. 3.

expenditures.[100] For more information on the most recent value-based purchasing initiatives through CMS that may affect hospital reimbursement, see Section 2.7.1.1.2, "Value-Based Purchasing," in Chapter 2, "Reimbursement Environment."

11.1.6.3 Competition Competition between *short-term acute care hospitals* and *specialty and surgical hospitals* grew rapidly over the decades of the 1990s and the 2000s as the number of *specialty and surgical hospitals* has increased, and the perception that reimbursement rates for *specialty procedures*, particularly *surgical procedures*, are relatively *profitable* in comparison to other services. This margin differential has led to (often unsubstantiated) claims that *specialty hospitals* strive to treat only the most *profitable patients*, leaving the *less profitable patients* for *general short-term acute hospitals*, a practice referred to as "*cream-skimming*" or "*cherry picking*."[101] It should be noted that while *outpatient surgery centers* and *specialty hospitals* compete with *short-term acute care hospitals*, their patient populations do not always overlap, as *short-term acute care hospitals* more frequently care for patients with *complicated conditions* and *comorbidity factors* than specialty hospitals do.[102]

Factoid

Specialty and surgical hospitals are licensed in all states as general acute care hospitals.

"Trendwatch: Physician Ownership and Self-Referral in Hospitals: Research on Negative Effects Grows," by the American Hospital Association, April 2008, http://www.aha.org/aha/trendwatch/2008/twapr2008selfreferral.pdf (accessed August 26, 2009); U.S. Gen. Accounting Off., Specialty Hospitals: Information on National Market Share, Physician Ownership, and Patients Served *16 (2003).*

[100] Lyle Nelson, "Lessons from Medicare's Demonstration Projects on Disease Management, Care Coordination and Value-based Payment," Congressional Budget Office, January 2012, p. 1.

[101] Sameer Kumar and William Nunne, "Measuring Technical Efficiency of Specialty Hospitals in the US," *Journal of Revenue and Pricing Management* 7, no. 2 (July 2008): 143; Robert James Cimasi, "Presenting the Truth: The Attack on Niche Providers," American Surgical Hospital Association 5th Annual Conference and Exhibits, San Francisco, October 27, 2005.

[102] Medicare Payment Advisory Commission, *Report to the Congress: Medicare Payment Policy*, Washington, DC, MedPAC, March 2012, p. 74.

The ACA strictly *limits* the ability of *physician-owned hospitals* (POHs) to *expand* and *develop* by (1) prohibiting the *addition of new beds and surgical units* and (2) prohibiting physicians from *increasing their percentage of ownership* in a hospital, which effectively *eliminates the whole-hospital exception under Stark* and essentially *prohibits* the opening of *new* POHs after 2011. Some commentators have suggested that the prohibition against POH expansion will damage the value of or ultimately entirely *eliminate* this type of healthcare provider entity from the market.[103] However, those POHs that have *grandfathered status* may still be able to compete with other inpatient hospital enterprises.[104] See Chapter 3, "Regulatory Environment," for more information on the *Stark Law* and the *Whole Hospital Exception*.

FAIR MARKET VALUE

The policy, under current law, that physicians must be compensated at fair market value for the services they provide.

"Financial Relationships between Physicians and Entities Furnishing Designated Health Services," Vol. 42, CFR, Section 411.357 (October 10, 2010).

[103] Robert James Cimasi, "The Valuation of Physician-Owned Hospitals in a Changing Reimbursement and Regulatory Environment," *PHA Pulse* (Winter 2007/2008): 13–16; David W. Hilgers and Sidney Welch, "Physicians Post-PPACA: Not Going Bust at the Healthcare Buffet (Part 1 of 2)," *Physician News Digest*, March 15, 2012, http://www.physiciansnews.com/2012/03/15/physicians-post-ppaca-not-going-bust-at-the-healthcare-buffet-part-1-of-2/ (accessed November 3, 2012).

[104] POHs in operation, or in the process of expansion, prior to March 23, 2010, may continue their operations under the whole hospital exception; however, the circumstances under which they may expand is significantly limited to when the POH (1) is located in a county with a population growth rate of at least 150 percent of the state's population growth over the last 5 years, (2) has a Medicaid inpatient admission percentage of at least the average of all hospitals in the county, (3) is located in a state with below-national-average bed capacity, or (4) has a bed occupancy rate greater than the state average. Furthermore, any expansion is subject to an application process through HHS. "Patient Protection and Affordable Care Act, Sec. 6001," *Pub. L.* 111-148, 124 Stat 684-689 (March 23, 2010), as amended by "Health Care and Education Reconciliation Act, Sec. 1106," *Pub. L.* 111-152, 124 Stat 1049-1050 (March 30, 2010).

LTCHs compete with both *short-term acute care hospitals* and *skilled nursing facilities* (discussed later).[105] In 2006, of all of the Medicare *intensive care unit* (ICU) patients receiving mechanical ventilation, 16 percent received treatment from an LTCH, while 46 percent received treatment at a *skilled nursing facility.*[106] LTCHs are typically significantly more *expensive* than *skilled nursing facilities*, due, in part, to the *types and levels of services offered*, which generally cost 3 to 12 times more than when performed at a *skilled nursing facility.*[107] Additionally, LTCHs have been shown to reduce the *length of stay* required in *short-term acute care hospitals* by an average of seven days and lower readmissions to *short-term acute care hospitals* by 26 percent per *episode of care*.[108]

Skilled Nursing Facility (SNF)

An institution that has a transfer agreement with one or more hospitals to provide 24-hour skilled nursing and rehabilitative care on an inpatient basis.

Dictionary of Health Insurance and Managed Care*, by David Marcinko (New York: Springer, 2006), p. 267.*

Factoid

Skilled nursing facilities account for the largest portion (43%) of long-term care Medicaid expenditures.

A Report on Shortfalls in Medicaid Funding for Nursing Home Care*, American Health Care Association, December 15, 2011.*

[105] MedPAC, "Chapter 5: Defining Long-Term Care Hospitals," in *Report to the Congress: New Approaches in Medicare*, June 2004, p. 121.

[106] MedPAC, "Chapter 10: Long Term Care Hospital Services," in *Report to the Congress: New Approaches in Medicare*, June 2004, p. 122.

[107] MedPAC, "Chapter 5: Defining Long-Term Care Hospitals," in *Report to the Congress: New Approaches in Medicare*, June 2004, p. 122.

[108] Ibid., pp. 125, 127.

11.1.6.4 Technology Technological advances continue to have a significant impact on hospitals, including (1) *reducing recovery times and improving quality of care through minimally invasive technologies*, (2) *coordinating care and improving quality through an increased utilization of electronic health records* (EHR) *and computerized prescription order entry* (CPOE), and (3) allowing an *increasing number of procedures to be performed in an outpatient setting.*[109]

Although EHR implementation by hospitals is progressing at a relatively *slow rate*, it has continued to increase steadily since 2003.[110] The benefits of EHR have been shown to improve quality by (1) *increasing adherence to guidelines*, (2) *enhancing disease surveillance*, and (3) *decreasing medication errors relative to primary and secondary care.*[111] In addition,

ELECTRONIC HEALTH RECORDS (EHR)

A longitudinal collection of electronic health information about individual patients and populations.

T. D. Gunter and N. P. Terry, "The Emergence of National Electronic Health Record Architectures in the United States and Australia: Models, Costs and Questions," Journal of Medical Internet Research *(2005), http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1550638/ (accessed May 24, 2012).*

Factoid

The first electronic health record (EHR) was adopted in the 1960s.

"Electronic Health Records Overview," National Institutes of Health: National Center for Research Resources, April 2006, p. 2.

[109] Robert James Cimasi, "Emerging Issues in Healthcare Valuation in Divorce Cases," AICPA/AAML National Divorce Conference, Las Vegas, May 6, 2010.

[110] Chun-Ju Hsiao et al., "Electronic Medical Record/Electronic Health Record Use by Office-Based Physicians: United States, 2008 and Preliminary 2009," Centers for Disease Control and Prevention, National Center for Health Statistics, December 2009, p. 4.

[111] Basit Chaudhry, et al., "Systematic Review: Impact of Health Information Technology on Quality, Efficiency, and Costs of Medical Care," *Annals of Internal Medicine* (May 16, 2006): 742–752, http://www.annals.org/content/144/10/742.full (accessed July 15, 2010).

COMPUTERIZED PHYSICIAN ORDER ENTRY (CPOE)

An electronic system that allows physicians and providers to electronically order laboratory, pharmacy, and radiology services.

"Electronic Health Records Overview," by the National Institute of Health, National Center for Research Resources, April 2006, p. 7.

Factoid

More than one million serious medication errors occur every year in the United States.

"Fact Sheet: Computerized Physician Order Entry," by the Leapfrog Group, March 3, 2009; "To Err Is Human: Building a Safer Health System," *by Institute of Medicine, November 1999, p. 1.*

CPOE, a technology often included within an EHR system, has been shown to minimize error by reducing the *inefficiencies* and *ambiguities* associated with *hand-written orders.*[112]

Healthcare technology is more than just medical devices, pharmaceuticals, hardware, and software. It is, first and foremost, how disease is acknowledged and perceived, affecting how the therapy protocols developed

HEALTH INFORMATION TECHNOLOGY (HIT)

Associated with improving "the health of individuals and the performance of providers, yielding improved quality, cost savings, and greater engagement by patients in their own healthcare.

"The Benefits of Health Information Technology: A Review of the Recent Literature Shows Predominantly Positive Results," by Melinda Beeuwkes Buntin, Health Affairs *30, no. 3 (March 2011): 464.*

[112] Oregon Health and Science University, "Welcome to CPOE.org," http://www.ohsu.edu/academic/dmice/research/cpoe/index.php (accessed June 22, 2009).

for its treatment are implemented. The various types of medical technologies are discussed in greater detail in Chapter 5, "Technology."

11.1.7 Value Drivers of Hospitals

As noted in Chapter 7, "Basic Valuation Tenets," the *value* of a healthcare enterprise is based on the enterprise's ability to generate an anticipated *net economic benefit* in the future, in excess of the *economic operating* and *economic capital expense* burdens required to produce the revenue stream of the enterprise, to those that own an interest in that benefit or the rights to control it. Some of the *value drivers* identified for healthcare inpatient enterprises are (1) *Scope of Services*, (2) *Capacity*, (3) *Revenue Stream*, (4) *Payor Mix*, (5) *Operating Expense*, (6) *Capital Structure*, (7) *Suppliers*, (8) *Market Rivalries and Competitors*, and (9) *Subject Entity Non-Systematic Risk*, as discussed further later.

11.1.7.1 Scope of Services *Value* can be created for a hospital by *diversifying the range of services provided*. At any given time, a specific service will be subject to certain *supply* and *demand* conditions. For example, the *demand for*, and *revenue generated* from, a *particular* surgical service may be *adversely affected* by the introduction of a new *noninvasive treatment* that is *preferable* to patients. By expanding the *scope of services* provided and *diversifying the sources* of revenue for an inpatient enterprise, the *risks* specific to a *particular* service may potentially be mitigated, and the *aggregate revenue* produced by the enterprise will have enhanced stability. This improved stability may reduce the perception of uncertainty by potential investors and may provide *value* gains through lowered *capital costs*.

Expanding the *scope of services* provided may also provide a hospital with *economies of scope*, that is, *fixed costs* may be spread across various *service lines*. In addition, certain *synergies* may be allocated across *service lines*, as well as the *spill-over benefits* of housing several different specialties within the same organization. *General hospitals* may be capable of *cross-subsidizing* less profitable *service lines* by using the excess returns generated by a more profitable service line. These effects have the potential to act *in concert* to allow the subject enterprise to operate with a lower *economic cost burden*, thereby increasing the *value* that may be attributed to that enterprise. It should be noted that hospitals may also face *diseconomies of scale* and *scope*, as governmental regulations require certain minimum levels of *standby capacity* to meet exigencies that may arise during emergency situations.[113]

[113] MedPAC, *Medicare Payment Policy: Report to the Congress*, Washington, DC, March 2012, p. 74.

Homogeneous Enterprise

An enterprise that is similar or uniform in structure and quality to a subject enterprise.

"Homogeneous," Merriam-Webster Dictionary, *2012, http://www.merriam-webster.com/dictionary/homogeneous (accessed October 4, 2012).*

Factoid

Hospitals are required to maintain standby capacity for handling emergencies and to comply with government regulations.

Medicare Payment Policy: Report to the Congress, *MedPAC (Washington, DC, March 2012), p. 74.*

See Table 11.9 for a description of the range of services provided by U.S. hospitals.

It should be noted that many of the hospital services described in Table 11.9 are offered on an *outpatient basis*, for example, *hospital-based outpatient care center services* (71 percent of hospitals) and *outpatient surgery services* (80.2 percent), as discussed further in Chapter 12, "The Valuation of Outpatient Enterprises."

Approximately 64 percent of admissions to *for-profit, short-term, acute care hospitals* followed a visit to the *emergency department*, while 67 percent of *not-for-profit short-term acute care hospitals* inpatient admissions were preceded by a visit to the *emergency department.*[114] A 2012 MedPAC report found that the number of *points of contact* controlled by a single organization along the *continuum of care* correlated with the *profitability of a hospital* or a *health system* because the hospital or healthcare system had *firsthand knowledge* of its capabilities and was able to match its capabilities with the needs of the patient.[115] In light of this correlation, hospitals have been expanding their *outpatient services* during the last decade, with *outpatient spending* rising from 16 percent

[114] "Section 6: Acute Inpatient Services in Short-Term Hospitals and Specialty Psychiatric Facilities," in *A Data Book: Health Care Spending and the Medicare Program*, MedPAC, June 2012, p. 69.

[115] MedPAC, *Medicare Payment Policy: Report to the Congress*, Washington, DC, March 2012, p. 59.

TABLE 11.9 Percentage of All U.S. Hospitals That Offer Various Services

Service	Percentage of U.S. Hospitals That Offer Service	Service	Percentage of U.S. Hospitals That Offer Service
Adult Day Care	84.2%	Computer-Assisted Orthopedic Surgery	54.8%
Airborne Infection Isolation Room	84.1%	Crisis Prevention	54.6%
Alcohol Abuse Inpatient Care Units	83.9%	Dental Services	54.2%
Alcohol Abuse Outpatient Care Units	80.2%	Enabling Services	54.1%
Alzheimer Centers	73.1%	Enrollment Assistance Services	51.2%
Ambulance Centers	73.0%	Extracorporeal Shock Wave Lithotripter	50.0%
Arthritis Treatment Centers	72.9%	Fertility Clinic	49.8%
Assisted Living Facilities	72.8%	Fitness Center	48.9%
Bariatric Services	71.5%	Genetic Testing	47.6%
Labor Delivery Room	71.0%	Geriatric Services	47.1%
Blood Donor Center	69.7%	Health Fair	47.0%
Breast Cancer Screening	69.4%	Community Health Education	45.9%
Burn Care Units	67.1%	Health Research	42.2%
Case Management Services	65.2%	Health Screenings	37.6%
Chaplaincy Services	65.2%	Hemodialysis	37.4%
Chemotherapy	65.0%	HIV/AIDS Services	37.3%
Children's Wellness Programs	64.7%	Home Health Services	36.1%
Chiropractic Services	62.8%	Hospice	33.6%
Community Outreach	61.9%	Hospital-Based Outpatient Care Center Services	31.5%
Complementary and Alternative Medicine Services	61.9%	Immunization Program	30.7%

(*continued*)

TABLE 11.9 Percentage of All U.S. Hospitals That Offer Various Services (*continued*)

Service	Percentage of U.S. Hospitals That Offer Service	Service	Percentage of U.S. Hospitals That Offer Service
Indigent Care Clinic	30.3%	Primary Care Department	15.4%
Linguistic Translation Services	29.3%	Psychiatric Inpatient Care Units	14.9%
Meals on Wheels	27.9%	Robotic Surgery	14.7%
Mobile Health Services	27.7%	Sleep Center	13.7%
Neonatal Intermediate Care Units	26.0%	Social Work Services	12.9%
Neurological Services	23.6%	Sports Medicine	12.7%
Nutrition Programs Center	23.3%	Support Groups	10.2%
Obstetrics Inpatient Care Units	23.2%	Swing Bed Services	9.7%
Occupational Health Services	22.4%	Teen Outreach Services	9.2%
Oncology Services	21.2%	Tobacco Treatment Program	6.7%
Orthopedic Services	21.2%	Urgent Care Center	5.7%
Outpatient Surgery	21.2%	Virtual Colonoscopy	5.0%
Pain Management Programs	20.7%	Volunteer Services Department	4.9%
Palliative Care Program	19.1%	Women's Health Services	4.3%
Patient-Controlled Analgesia	17.1%	Wound Management Services	4.1%
Patient Education Center	16.8%	Adult General Medical Surgical Care	3.6%
Patient Representative Services	15.8%	Pediatric General Medical Surgical Care	2.7%
Physical Rehabilitation Inpatient Care Units	15.4%		

"AHA Hospital Statistics," American Hospital Association, 2011, pp. 155–169.

Factoid

Sixty-four percent of all for-profit, short-term, acute care hospital admissions followed a visit to the emergency department.

"Section 6: Acute Inpatient Services in Short-Term Hospitals and Specialty Psychiatric Facilities" in "A Data Book: Health Care Spending and the Medicare Program," MedPAC, June 2012, p. 69.

of all hospital spending in 1999 to 20 percent of all hospital spending in 2010.[116]

A February 2012 report by the *Internal Revenue Service* (IRS), titled *IRS Exempt Organizations Hospital Compliance Project: Final Report*, suggested that *not-for-profit hospitals* spend approximately 9 percent of their revenues on *community benefit* activities, including, but not limited to, (1) *research*, (2) *education*, and (3) *free medical care*.[117] The IRS report provided the following distribution of those activities making up a *not-for-profit hospital's community benefit* activities: (1) *uncompensated care* (56 percent), (2) *medical training* (23 percent), (3) *medical research* (15 percent), and (4) *community programs* (6 percent).[118] The IRS report added that *not-for-profit hospitals* located in *low insurance coverage areas* spent, on average, 11.1 percent of revenue on *community benefit* activities, while *not-for-profit hospitals* located in *high insurance areas* spent approximately 7.2 percent of revenue on *community benefit* activities.[119] The study also found that CAHs provided the *lowest* level of *community benefit* of any s*hort-term acute care hospital* and typically did not provide *medical education* or *training*.[120]

Sectarian not-for-profit hospitals may decline to offer certain services on the basis of their *religious doctrine*; for example, the services provided

[116] "Section 6: Acute Inpatient Services in Short-Term Hospitals and Specialty Psychiatric Facilities," in *A Data Book: Health Care Spending and the Medicare Program*, MedPAC, June 2012, p. 63.

[117] Stephanie Strom, "IRS Study Tries to Assess If Hospitals Earn Tax Breaks," *New York Times*, February 13, 2009.

[118] Internal Revenue Service, *IRS Exempt Organizations Hospital Compliance Project Final Report*, February 1, 2012, p. 7.

[119] Ibid., p. 115.

[120] Stephanie Strom, "IRS Study Tries to Assess If Hospitals Earn Tax Breaks," *New York Times*, February 13, 2009; Internal Revenue Service, *IRS Exempt Organizations Hospital Compliance Project Final Report*, February 1, 2012, p. 45.

Factoid

Not-for-profit hospitals spend about 9 percent of their revenues on community benefit activities.

"IRS Study Tries to Assess If Hospitals Earn Tax Breaks," by Stephanie Strom, New York Times*, February 13, 2009.*

by *Catholic hospitals* must be in compliance with the *Ethical and Religious Directives for Health Care Services*, promulgated by the *United States Conference of Catholic Bishops*, a list of directives specifying what procedures *are* and *are not* allowed to be performed in a Catholic hospital.[121] Limitations on the *scope of services* provided at these facilities have the potential to limit their *market reach*, as patients may seek treatment from a *secular hospital* located in the same market service area.

While many *government hospitals* are licensed to provide all of the same services as those available at other *short-term acute care hospitals*, in an attempt to fulfill the medical needs of low-income residents that may otherwise go unmet, the *scope of services* provided by these institutions often includes "*unprofitable procedures*," for example, *regional trauma* and *inpatient mental health services*.[122] Certain service lines are typically more profitable than others, due, in part, to (1) *the stability of reimbursement payments for the procedures provided within the service line*, (2*) the insurance status or health status of those patients who generally use the services*, and (3) *whether the service line is able to operate as a loss leader in the market*, that is, services reimbursed for less than it costs to provide them in order to improve patient volumes in other, more profitable, services. For example, a *cardiology service line* typically has a higher reimbursement yield than an *emergency room*

[121] "Hospital Mergers: The Hidden Crisis," Religious Pro-Choice Americans Speak Out, 2012, http://www.rcrc.org/pdf/Hospital_Mergers.pdf (accessed August 21, 2012); Susan Berke Fogel and Lourdes A. Rivera, "Saving Roe Is Not Enough: When Religion Controls Healthcare," *Fordham Urban Law Journal* 31, no. 3 (2003): 732; United States Conference of Catholic Bishops, *Ethical and Religious Directives for Catholic Health Care Services*, 5th ed., November 17, 2009, http://www.usccb.org/issues-and-action/human-life-and-dignity/health-care/upload/Ethical-Religious-Directives-Catholic-Health-Care-Services-fifth-edition-2009.pdf (accessed November 20, 2012).

[122] Nancy Kane, et al., "Strained Local and State Government Finances among Current Realities That Threaten Public Hospitals' Profitability," *Health Affairs* 31, no. 8 (August 13, 2012): 1680.

Factoid

Not-for-profit, short-term, acute care hospitals outnumber for-profit hospitals almost 3 to 1 (2,904 hospitals to 1,013).

"Fast Facts on US Hospitals," American Hospital Association, January 3, 2012, p. 2.

department, which may provide services to a higher proportion of uninsured patients.[123] As noted earlier, *emergency room departments* also account for a large portion of admissions, including highly profitable cardiology patients. Accordingly, the losses in the *emergency room department* may be *cross-subsidized* by the profits from potentially increased *cardiology admissions*.

In contrast, *political pressure* from elected officials to provide those services that may benefit certain constituencies could have the potential to influence *government short-term acute care hospitals* to offer services that fail to enhance the *social benefit* typically provided by *government hospital* operations.[124] One study found that prior to the *Great Recession*, those public hospitals *directly governed by elected officials* were more profitable than *independent safety net hospitals*.[125]

Compared to the *comprehensive services* approach taken by *general acute care hospitals*, some hospitals offer *specialized services* to better

Factoid

Government hospitals represent 12.3 percent of all Medicaid discharges.

"Section 6: Acute Inpatient Services for Short-Term Hospitals and Specialty Psychiatric Facilities," in A Data Book: Health Care Spending and the Medicare Program*, MedPAC, June 2012, p. 64.*

[123] Health and Human Services, "New Data Say Uninsured Account for Nearly One-Fifth of Emergency Room Visits," news release, July 15, 2009, http://www.hhs.gov/news/press/2009pres/07/20090715b.html (accessed February 5, 2013).

[124] Nancy Kane, et al., "Strained Local and State Government Finances among Current Realities That Threaten Public Hospitals' Profitability," *Health Affairs* 31, no. 8 (August 13, 2012): 1680.

[125] Ibid., 1686.

capture *gains of specialization* and realize *cost reductions* by *efficiently using certain resources*. *Children's hospitals*, *academic health centers*, and *long-term care hospitals* all focus of providing *specialized services*. For example, *children's hospitals* are increasingly being used by other hospitals as a resource for *treating* and *protecting* abused children, offering (1) *advocacy*, (2) *public health education*, (3) *injury prevention*, and (4) *access to care*.[126] In addition to providing *clinical services*, children's hospitals train the majority of *pediatricians* and *pediatric specialists* in the United States.[127]

Due to their unique focus on training *physicians*, *nurses*, and other *allied health professionals*, AHCs typically offer more specialized and *medically intense* services than do other *short-term acute care hospitals*.[128] For example, a 2009 survey indicated that

1. 58 percent of AHCs *have certified neonatal intensive care units*, while only 13 percent of *nonteaching hospitals* include the same *in-house department*;
2. AHCs treat approximately 96 percent of the *burn victims* in the United States and approximately 91 percent of the *pediatric intensive care patients* in the United States;
3. 66 percent of AHCs offer *geriatric services*, whereas only 35 percent of *nonacademic hospitals* provide the same services;
4. 63 percent of AHCs provide services related to the treatment of AIDS, as compared to 16 percent of *nonacademic hospitals*; and
5. 35 percent of all AHCs offer *substance abuse outpatient services*, as compared to only 9 percent of *nonacademic hospitals*.[129]

---

[126] Children's Hospital Association, "2012 Survey Findings Children's Hospitals Child Abuse Services," September 2012, http://www.childrenshospitals.net/AM/Template.cfm?Section=Child_Abuse_and_Neglect&Template=/CM/ContentDisplay.cfm&ContentID=64502 (accessed November 20, 2012); Children's Hospital Association, "About Children's Hospitals," http://www.childrenshospitals.net/AM/Template.cfm?Section=About_children_s_Hospitals1&Template=/CM/HTMLDisplay.cfm&ContentID=56943 (accessed November 20, 2012).

[127] Children's Hospital Association, "About Children's Hospitals" http://www.childrenshospitals.net/AM/Template.cfm?Section=About_children_s_Hospitals1&Template=/CM/HTMLDisplay.cfm&ContentID=56943 (accessed November 20, 2012).

[128] American Hospital Association, "Teaching Hospitals: Their Impact on Patients and the Future Health Care Workforce," *TrendWatch*, September 2009, p. 1.

[129] Association of American Medical Colleges, "Key Facts about Teaching Hospitals," February 2009, https://www.aamc.org/download/82452/data/keyfactsaboutth.pdf (accessed November 19, 2012), pp. 4–6.

TABLE 11.10 Characteristics of the Patients and Services Present at an LTCH

Patient Conditions	Services Offered
Respiratory disorders	Skilled nursing
Brain injury	Physical, occupational, and recreational therapy
Major multiple traumas	Respiratory therapy
Infections	Speech therapy
Wound care	Radiology and lab services
Related conditions	Pharmacy

"Maximizing the Value of Post-Acute Care," in *TrendWatch*, American Hospital Association, November 2010, p. 2.

In addition, AHCs tend to treat a significant percentage of the uninsured population, serving as a key *healthcare safety net provider.*[130]

As mentioned earlier, LTCHs typically provide clinical services to *medically complex patients*, for a variety of primary care services, as set forth in Table 11.10.

Factoid

Profit margins at AHC averaged 5.3 percent in 2010.

"Section 6: Acute Inpatient Services for Short-term Hospitals and Specialty Psychiatric Facilities," in A Data Book: Health Care Spending and the Medicare Program, *MedPAC, June 2012, p. 79.*

11.1.7.2 Capacity The *capacity* of a particular hospital may be defined as the availability of those *resources* needed to treat the *patient volume* and manage the *throughput* of patient care. The *sufficiency* of a particular inpatient enterprise's *resources* may be examined by comparing measures of *capacity.* The valuation analyst should include a capacity analysis as part of the performance of his or her valuation due diligence and revenue projection.

A commonly used measurement of hospital *capacity* is *occupancy rate*, that is, the *actual utilization of inpatient beds* over a specific period of time (i.e., utilized hospital bed days ÷ available hospital bed days). Typically, higher occupancy rates suggest that a hospital's available beds are being

[130] American Hospital Association, "Teaching Hospitals: Their Impact on Patients and the Future Health Care Workforce," *TrendWatch*, September 2009, p. 2.

TABLE 11.11 Occupancy Rate by Ownership, 1975 to 2009

	1975	1980	1990	1995	2000	2008	2009
All Hospitals	**76.7%**	**77.7%**	**69.5%**	**65.7%**	**66.1%**	**68.2%**	**67.8%**
By Ownership							
Federal	80.7%	80.1%	72.9%	72.6%	68.2%	67.9%	69.1%
Nonfederal	76.3%	77.4%	69.2%	65.1%	65.9%	68.2%	67.8%
Community	75.0%	75.6%	66.8%	62.8%	63.9%	66.4%	65.5%
Not-for-Profit	77.5%	78.2%	69.3%	64.5%	6.5%	68.4%	67.4%
For-Profit	65.9%	65.2%	52.8%	51.8%	55.9%	57.8%	57.7%
State/Local Government	70.4%	71.1%	65.3%	63.7%	63.2%	66.1%	65.0%
By Size							
6–24 Beds	48.0%	46.8%	32.3%	36.9%	31.7%	33.8%	33.6%
25–49 Beds	56.7%	52.8%	41.3%	42.6%	41.3%	46.7%	46.0%
50–99 Beds	64.7%	64.2%	53.8%	54.1%	54.8%	56.6%	55.9%
100–199 Beds	71.2%	71.4%	61.5%	58.8%	60.0%	61.9%	61.3%
200–299 Beds	77.1%	77.4%	67.1%	63.1%	65.0%	66.4%	65.5%
300–399 Beds	79.7%	79.7%	70.0%	64.8%	65.7%	69.4%	67.9%
400–499 Beds	81.1%	81.2%	73.5%	68.1%	69.1%	74.2%	70.1%
500 Beds or More	80.9%	82.1%	77.3%	71.4%	72.2%	74.9%	74.0%

Health, United States, 2011: With Special Feature on Socioeconomic Status and Health, Centers for Disease Control and Prevention, (Hyattsville, MD: National Center for Health Statistics, 2012), p. 357.

used efficiently. In addition, *increased occupancy rates* are generally associated with *higher profits* for hospitals, where *incremental revenues* related to increased *bed days* typically exceed *incremental costs*. *Occupancy rates* may be improved by either (1) *increasing admissions* or (2) *reducing the number of staffed beds*.[131] The average *occupancy rates* during the last 30 years for various types of hospital enterprises are set forth in Table 11.11.

The scope of a *capacity* assessment may focus on the entirety of hospital services or may be limited to a specific department or service line, for example, *available OR time*. *Focused capacity* assessments allow hospitals to monitor and improve the efficiency of various departments or service

[131] Ingenix, *Almanac of Hospital Financial and Operating Indicators: A Comprehensive Benchmark of the Nation's Hospitals* OptumInsight, 2012, p. 211.

lines.[132] For a discussion of how capacity may affect a valuation analysis, see Section 8.1.1.3.5.2, "Market Demand/Utilization Growth," in Chapter 8, "Valuation Approaches and Methods."

11.1.7.3 Revenue Stream The *revenue* generated by a hospital is largely dependent on the *volume* of services provided and is driven by the *reimbursement yield* for those services, which varies based on (1) the *type of service being billed for*, and (2) the *type of payor supplying the reimbursement*. Typically, the reimbursement yield for a given service is based on the reimbursement rate for the diagnostic related group (DRG) related to that service. As discussed in Section 2.4.1.3, "Reimbursement and Billing," in Chapter 2, "Reimbursement Environment," hospitals are reimbursed under the IPPS based on an *average*, *qualified*, *predetermined* amount for each patient treated with a similar diagnosis, as defined by a specific DRG. Each DRG payment is *prospectively* assigned based on the *anticipated capital* and *operating costs* associated with treating a given condition and is also adjusted for certain *geographic factors* and *patient characteristics*, for example, outlier payments, *treatments involving new technologies*, and *DSH* and *IME adjustments*.[133] An example of the application of the revenue stream can be found online at http://www.wiley.com/go/healthcarevaluation.

The *revenue* generated from *patient volumes* may also be affected for hospitals where a large percentage of the care is provided to the *uninsured* (particularly in community hospitals). Other considerations when assessing hospital revenue include recent initiatives to shift reimbursement toward *value-based purchasing methodologies*. In addition to affecting the revenue generated by patient care, these new reimbursement models, for example, the *hospital value-based purchasing program*, *bundled payments*, and other epi*sode of care–based reimbursement models*, may also change the unit of productivity used to measure and project revenues for a particular hospital enterprise.

The projection of revenue for the subject hospital enterprise should include a consideration of some of the following variables set forth in Table 11.12 (each of these variables is discussed in detail further on).

Revenue for the hospital industry is expected to increase an average of 4 percent annually from 2012 to 2017.[134] An example of an application

---

[132] Franklin Dexter, "Operating Room Staffing and Allocation," University of Iowa, January 1, 2013.

[133] Discussed in Section 11.1.6.2, "Reimbursement." Centers for Medicare and Medicaid Services, "Acute Care Hospital Inpatient Prospective Payment System," Payment System Fact Series, February 2012, pp. 2–4.

[134] Nikolas Hulewsky, *Hospitals in the U.S.*, IBISWorld, Industry Report 62211, December 2012, p. 4.

TABLE 11.12 Variables to Consider for Hospital Revenue Projections

Type of Variable	Examples Found in Hospitals
Changes in the Regulatory Environment	New Licensing Restrictions; Changes to CON Laws; Moratoriums of Facilities
Changes in Reimbursement Yield	Changes in Per Diem Rates; Changes in DRGs; Changes in CPT Codes; Changes to Conversion Factor
Changes in the Competitive Environment	Changes in Skilled Nursing Facility Services; Change in Ambulatory Centers; Changes in Surgical and Specialty Hospitals
Changes in Technology	EHR; Minimally Invasive Surgery; Improvements to Medical Devices; New Pharmaceutical Products
Changes in Demand for Services	Shifts in Population Demographics; Growth in Population; Increase in Market Service Area Wages; Improvements in Transportation; Changes in Employment; Changes in Population; Changes in Demographics
Changes in Rivalry and Market Share	Opening/Closing of Rival Hospitals; Acquisitions by Rival Hospitals; Changes in ER Department Size
Changes in Payor Mix	Changes in Out of Pocket Expenses; Changes to Medicare Rates; Changes in Commercial Payor Coverage

of the revenue stream can be found online at http://www.wiley.com/go/healthcarevaluation.

11.1.7.4 Payor Mix In addition to the ability to *negotiate* more *favorable contracts* in low competition markets, hospitals that *employ physicians* are often capable of *negotiating higher reimbursement rates* from private payors, typically resulting in anywhere from a 5 percent to a 40 percent increase over hospitals that do *not employ physicians*.[135] Each type of hospital has specific historical trends related to its *payor mix* (which directly affect revenue) and therefore has its own expectations regarding revenue. The payor mix generally attributed to short-term acute care hospitals is set forth in Table 11.13.

As the two primary payors for *short-term acute care hospitals*, Medicare and Medicaid discharges have a significant impact on the overall revenues and resulting margins for all hospital types. The percentage of discharges

[135] Anna Mathews, "Hospitals Raise Fees after Buying Physician Practices," *Wall Street Journal*, August 27, 2012.

TABLE 11.13 Payor Mix for Short-Term Acute Care Hospitals

Payor	Percent of Mix
Medicare	40.9%
Medicaid	17.2%
Private Insurance	16.5%
HMOs and PPOs	14.0%
Self-Pay	4.9%
Workers' Compensation	20.0%

National Hospital Discharge Survey 2009, Centers for Disease Control and Prevention, http://www.cdc.gov/nchs/data/nhds/6expectedsoruce/2009expec6_numberprincipal.pdf (accessed December 6, 2012).

attributable to Medicare and Medicaid patients by hospital type is set forth in Table 11.14.

Although declining reimbursement trends during the last decade have resulted in most *short-term acute care hospitals* experiencing negative margins from treating Medicare patients, as indicated in Table 11.14, Medicare margins overall have increased since 2008, as illustrated in Exhibit 11.3.

Further, these negative trends are somewhat skewed, as in 2010 when 25 percent of hospitals experienced Medicare margins of 4.6 percent or higher, while another 25 percent experienced margins below –15.8 percent.[136]

The nature of the patient base in a given *market service area* is significantly dependent on the *geographic location* and associated *demographics*. Of the 41 million *uninsured individuals* in the United States, approximately 20 percent live in *rural areas* and are, on average, *older*, *poorer*, and *less healthy* than those living in urban areas, which may likely have a significant impact on the *patient populations*, *payor mix*, and *associated revenue streams* of *rural community hospitals*.[137] In 2010, *sole community hospitals* (SCHs) received $5.147 billion (4.63 percent of all Medicare inpatient payments) for inpatient services.[138] In addition,

[136] "Section 6: Acute Inpatient Services for Short-Term Hospitals and Specialty Psychiatric Facilities," in *A Data Book: Health Care Spending and the Medicare Program*, Medicare Payment Advisory Commission, June 2012, p. 75

[137] Kaiser Commission on Medicaid and the Uninsured, "The Uninsured in Rural America," April 2003, http://www.kff.org/uninsured/upload/The-Uninsured-in-Rural-America-Update-PDF.pdf (accessed August 11, 2012).

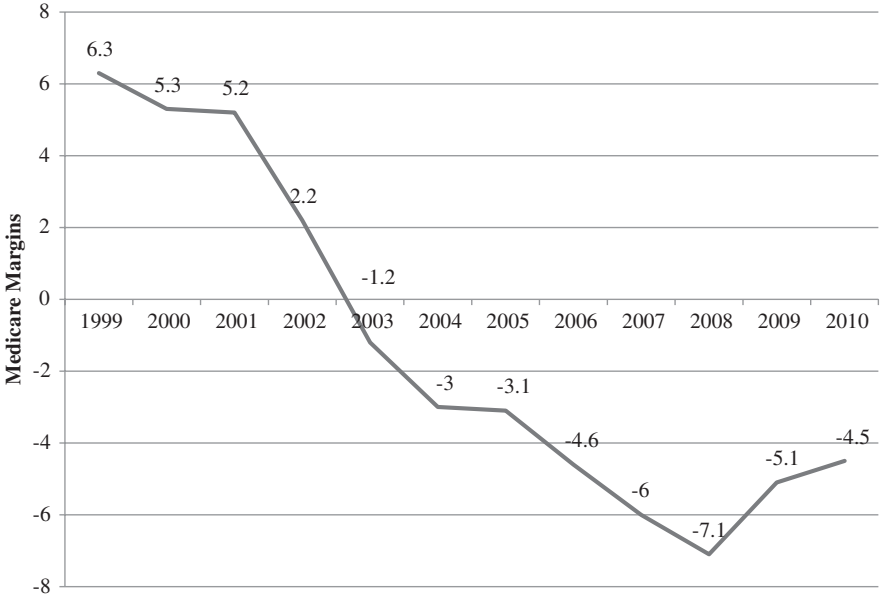
[138] MedPAC, "Section 6: Acute Inpatient Services for Short-term Hospitals and Specialty Psychiatric Facilities," in *A Data Book: Health Care Spending and the Medicare Program*, June 2012, p. 72.

TABLE 11.14 Medicare and Medicaid Discharge Statistics by Hospital Type, 2010

Type of Hospital	Percentage of Medicare Discharges from Hospital Type[1]	Medicare Margins[2]	Percentage of Medicaid Discharges from Hospital Type[1]
All Hospitals		–4.50%	
Short-Term Acute Care Hospital			
For-Profit Hospital	43.91%	0.10%	6.40%
Not-for-Profit	42.42%	–5.70%	9.29%
Secular Hospital	42%		9%
Sectarian Hospital	39%		10%
Academic Hospital	32.73%	–0.20%	13.96%
Rural Hospital	44.49%	–1.70%	15.43%
Critical Access	56%		8.15%
Sole Community Hospital			
Public or Governmental Hospitals			
State-Owned Government Hospitals	22.64%		6.60%
County-Owned Short-Term Acute Care Hospitals	45.28%		10.05%
Municipal-Owned Short-Term Acute Care Hospitals	46.56%		11.67%
Specialty Hospital	33%		2.00%
Children's Hospital			12.51%
Women's Hospital			
Surgical Hospital			
Psychiatric Hospital	20%		3.84%
Long-Term Acute Care Hospital	80%	6.40%	

[1] "Almanac of Hospital Financial and Operating Indicators: A Comprehensive Benchmark of the Nation's Hospitals," *Ingenix, OptumInsight*, 2011, pp. 443, 445, 449, and 454.

[2] *Report to the Congress: Medicare Payment Policy*, Medicare Payment Advisory Commission, March 2012, p. 58.



Although these margins include payments and costs for acute inpatient, outpatient, skilled nursing, home health, and inpatient specialty.

EXHIBIT 11.3 Overall Medicare Margins for All Enterprises, 1999–2010
"Section 6: Acute Inpatient Services for Short-Term Hospitals and Specialty Psychiatric Facilities," in *A Data Book: Health Care Spending and the Medicare Program*, Medicare Payment Advisory Commission, June 2012, p. 75.

following the 2008 *Great Recession*, the payor mix for SCHs shifted from *higher-paying private insurers* to *lower-paying Medicaid* and *self-pay* patients.[139]

In contrast to other hospital types, *government short-term acute care hospitals* receive 35 percent of their revenues, not from payors, but instead in the form of subsidies from their government owners, which are frequently received as *lump sum* payments, regardless of the *quantity* or the *quality* of care provided.[140] Under the ACA, a 75 percent reduction in Medicare DSH payments is set for 2014, which, if actually implemented, will likely have a

[139] Scott Clay and Peter Bruton, "Outlook for Independent Community Hospitals: Uncertain," *HFM Magazine*, November 2012, http://www.hfma.org/Templates/Print.aspx?id=34677 (accessed November 8, 2012).

[140] Nancy Kane, et al., "Strained Local and State Government Finances among Current Realities That Threaten Public Hospitals' Profitability," *Health Affairs* 31, no. 8 (August 13, 2012): 1681, 1685.

Sole Community Hospital (SCH)

Short-term acute care hospitals that are located at least 35 miles from like hospitals in rural areas, located 25 miles from other similar hospitals, and have fewer than 25 percent of their patients admitted to similar hospitals and have fewer than 50 beds, or are at least 45 minutes from the nearest like hospital.

"Sole Community Hospital—Rural Health Fact Sheet Series," Centers for Medicare and Medicaid Services, November 2011, p. 1.

negative impact on *government short-term acute care hospitals*, which realize approximately 12 percent of their revenue from DSH payments.[141]

Government short-term acute care hospitals are typically *safety net hospitals* and provide services to a disproportionately higher number of Medicaid patients and charity care patients than do other *not-for-profit* and *for-profit hospitals*.'[142] Accordingly, *government-owned hospitals* received $15.46 billion (13.92 percent of all 2010 Medicaid inpatient payments) for inpatient services in 2010.[143] In addition, *government hospitals* are generally more likely than *for-profit* and *other not-for-profit short-term acute care hospitals* to provide services to *uninsured patients*.[144]

---

[141] First set for 2015 under the "Patient Protection and Affordable Care Act," *Pub. L.* 111-148, 124 Stat 432 (March 23, 2010), then amended to 2014 under the "Health Care and Education Reconciliation Act of 2010," *Pub. L.* 111-152, 124 Stat 1047 (March 30, 2010); Nancy Kane, et al., "Strained Local and State Government Finances among Current Realities That Threaten Public Hospitals' Profitability," *Health Affairs* 31, no. 8 (August 13, 2012): 1687.

[142] Dennis Andrulis and Lisa Duchon, *Hospital Care in the 100 Largest Cities and Their Suburbs, 1996–2002: Implications for the Hospital Safety Net in Metropolitan America*, SUNY Downstate Medical Center, The Social and Health Landscape of Urban and Suburban America Report Series, August 2005, pp. 16–17; Nancy Kane, et al., "Strained Local and State Government Finances among Current Realities That Threaten Public Hospitals' Profitability," *Health Affairs* 31, no. 8 (August 13, 2012): 1681, 1684.

[143] MedPAC, "Section 6: Acute Inpatient Services for Short-term Hospitals and Specialty Psychiatric Facilities," in *A Data Book: Health Care Spending and the Medicare Program*, June 2012, p. 72.

[144] Peter Cram, et al., "Uncompensated Care Provided by For-profit, Not-for-Profit, and Government Owned Hospitals," *BMC Health Services Research*, April 7, 2010, p. 7.

Safety-Net Hospital

A hospital, often an academic hospital, that provides care to low-income, uninsured, or vulnerable patient populations.

"Hospitals Today," Connecticut Office of Health Care Access Website, http://www.ohca.state.ct.us/Publications/Hospital%20Study/HospToday.pdf (accessed October 15, 2002).

Similar to *government hospitals*, AHCs often serve as *safety-net hospitals* for a given market service area, providing care to *low-income*, *uninsured*, or *vulnerable patient populations*.[145] In 2008, AHCs accounted for 55 percent of all *uncompensated care* and 50 percent of all *Medicaid hospitalizations*.[146]

As indicated in Table 11.14, *academic health centers* (AHCs) typically have higher *margins* from Medicare patients than do other *short-term acute care hospitals*, due, in part to the *medical education* and DSH payments received from the federal government.[147] In 2010, AHCs received approximately $25.23 billion (22.72 percent of all 2010 Medicare inpatient

Short-Term Acute Care Hospital

A short-term hospital that has facilities, medical staff, and all necessary personnel to provide diagnosis, care, and treatment of a wide range of acute conditions, including injuries.

"Hospitals Today," Connecticut Office of Health Care Access Website, http://www.ohca.state.ct.us/Publications/Hospital%20Study/HospToday.pdf (accessed October 15, 2002).

[145] Jennifer Lubell, "Safety-Net Hospitals Warn of ACA's Uncompensated Cash Crunch," *American Medical News*, November 12, 2012, http://www.ama-assn.org/amednews/2012/11/12/gvsb1112.htm (accessed November 19, 2012); National Association of Public Hospitals and Health Systems, "What Is a Safety Net Hospital?" http://www.naph.org/Main-Menu-Category/Our-Work/Safety-Net-Financing/what-is-a-safety-net-hospital.aspx?FT=.pdf (accessed November 19, 2012).

[146] American Hospital Association, "Teaching Hospitals: Their Impact on Patients and the Future Health Care Workforce," *TrendWatch*, September 2009, p. 2.

[147] MedPAC, *Medicare Payment Policy: Report to the Congress*, Washington, DC, March 2012, p. 58.

Specialty Hospital

A hospital that limits its focus and scope of services to provide treatment for a single medical specialty or cluster of specialties (e.g., surgical, pediatric, or women's care).

Dictionary of Health Economics and Finance, *by David Edward Marcinko (New York: Springer, 2007), pp. 338–339.*

payments) as reimbursement for Medicare inpatient services provided to Medicare beneficiaries.

A 2012 study published in *Health Affairs* indicated that *cardiac hospitals* have a larger proportion of commercial payor patients and fewer Medicaid and uninsured patient as compared with *general short-term acute care hospitals.*[148] In contrast to other *specialty hospitals*, services to Medicaid patients composed 54 percent of all inpatient services rendered in *children's hospitals* as of 2009 and accounted for 53 percent of all inpatient days.[149]

Typically, the two *dominate payors* for *rural hospitals* are (1) *private payors*, which cover 40 percent to 44 percent of *rural hospital* patients, and (2) *Medicare,* which covers 33 percent to 45 percent of *rural hospital* patients.[150] In addition, Medicaid typically covers 13 percent to 15 percent of *rural hospital* patients, with 7 percent or less of *rural hospital* patients

[148]Liam O'Neill and Arthur J. Hartz, "Lower Mortality Rates at Cardiac Specialty Hospitals Traceable to Healthier Patients and to Doctors Performing More Procedures," *Health Affairs* 31, no. 4 (April 2012): 810.

[149]American Academy of Pediatrics, "Medicaid Facts United States," Children's Hospital Association, September 2012, http://www.childrenshospitals.net/AM/Template.cfm?Section=Public_Policy8&Template=/CM/ContentDisplay.cfm&ContentID=1869 (accessed November 20, 2012); National Association of Children's Hospitals and Related Institutions, "Glance @ Analytics—June 2009," June 2009, http://www.childrenshospitals.net/AM/Template.cfm?Section=Utilization_and_Financial_Report&TEMPLATE=/CM/ContentDisplay.cfm&CONTENTID=46251 (accessed October 19, 2012).

[150]Internal Revenue Service, *IRS Exempt Organizations Hospital Compliance Project Final Report*, February 1, 2012, p. 5; American Hospital Association, "The Opportunities and Challenges for Rural Hospitals in an Era of Health Reform," Trend Watch, April 2011; *Almanac of Hospital Financial and Operating Indicators: A Comprehensive Benchmark of the Nation's Hospitals* (Eden Prairie, MN: Ingenix, 2012), p. 443.

being uninsured.[151] A subset of rural hospitals, CAHs typically receive their revenue from three primary sources: (1) *private payors* (38 percent), (2) *Medicare* (36 percent), and (3) *Medicaid* (13 percent).[152] In 2010, CAHs received $8 billion in total payments from Medicare.[153]

11.1.7.5 Operating Expense *Human resource expenses* (i.e., salaries, wages, and benefits) are typically the largest *expense incurred* in providing hospital services.[154] As indicated in Table 11.15, the median *compensation per discharge cost* is nearly three times greater than the *cost of supplies per discharge*.

Value may be created through improved *operational performance* by realizing *economies of scale* that may be available in the healthcare industry, that is, as firm size *increases*, the *fixed cost burden* for the provision of medical services on a per unit of productivity basis most often *declines*. This is evidenced by the fact that *not-for-profit hospitals*, with revenue greater than $500 million, have an *average profit margin* of 5.5 percent, while smaller *not-for-profit hospitals* with revenue under $25 million report *profit margins* of only 3.3 percent.[155] This reflects the fact that larger hospitals are capable of distributing their *fixed cost expenses* over a larger patient base, thereby lowering their *per-patient cost burden* and increasing their *operating profit margins*. In contrast to *not-for-profit hospitals*, profit margins at AHCs averaged 5.3 percent in 2010 and have varied between –0.4 percent and 5.3 percent from 1999 to 2010 and may be affected by the revenue enhancements provided by Medicare, as discussed earlier.[156]

---

[151] Internal Revenue Service, *IRS Exempt Organizations Hospital Compliance Project Final Report*, February 1, 2012, p. 5; American Hospital Association, "The Opportunities and Challenges for Rural Hospitals in an Era of Health Reform," Trend Watch, April 2011; *Almanac of Hospital Financial and Operating Indicators: A Comprehensive Benchmark of the Nation's Hospitals* (Eden Prairie, MN: Ingenix, 2012), p. 449.

[152] Internal Revenue Service, *IRS Exempt Organizations Hospital Compliance Project Final Report*, February 1, 2012, p. 5.

[153] MedPAC, "Critical Access Hospitals Payment System," Washington, DC, September 2012, p. 2.

[154] *Almanac of Hospital Financial and Operating Indicators: A Comprehensive Benchmark of the Nation's Hospitals* (Eden Prairie, MN: Ingenix, OptumInsight, 2012), p. 271.

[155] Internal Revenue Service, *IRS Exempt Organizations Hospital Compliance Project Final Report*, February 1, 2012, p. 27.

[156] "Section 6: Acute Inpatient Services for Short-Term Hospitals and Specialty Psychiatric Facilities," in *A Data Book: Health Care Spending and the Medicare Program*, MedPAC, June 2012, p. 79.

TABLE 11.15 Median Operating Costs per Discharge, by Type of Hospital

	Capital Costs[1]	Compensation Costs[2]	Supply Costs[3]	Professional Liability Costs[4]
All Hospitals	$536	$3,952	$1,728	$30
Urban	$565	$3,882	$2,265	$15
Rural	$482	$4,003	$1,192	$53
Teaching	$621	$4,673	$2,501	$18
Non-Teaching	$490	$3,683	$1,766	$27
System Affiliated	$569	$4,175	$2,106	$28
Non–System Affiliated	$512	$3,915	$1,867	$24

Almanac of Hospital Financial and Operating Indicators: A Comprehensive Benchmark of the Nation's Hospitals, Ingenix, OptumInsight, 2012, pp. 283–284, 291–292, 299–300, 307–308.

[1] (Inpatient Interest Expense + Inpatient Depreciation Expense) ÷ Total Inpatient Discharges.

[2] (Inpatient Salaries & Wages + Inpatient Fringe Benefits) ÷ Total Inpatient Discharges.

[3] Inpatient Supply Expense ÷ Total Inpatient Discharges.

[4] Inpatient Professional Liability Expense ÷ Total Inpatient Discharges.

Physician Preference Items (PPI)

Expensive medical devices, such as orthopedic implants, heart valves, bone products, balloons, and wires.

"Supply and Inventory Terms Defined," Healthcare Financial Management Association, http://www.hfma.org/Templates/Print.aspx?id=2856 (accessed November 8, 2012).

Factoid

Physician Preference Items (PPIs) are defined as "expensive medical devices, such as orthopedic implants, heart valves, bone products, balloons, and wires".

"Supply and Inventory Terms Defined," Healthcare Financial Management Association, http://www.hfma.org/Templates/Print.aspx?id=2856 (accessed November 8, 2012).

Inpatient revenues are typically generated from *prospectively assigned DRG payments*; therefore, the ability of a hospital to reduce cost is among the most significant factors in maximizing hospital profits. There are several methods through which a hospital may choose to manage or reduce costs, for example: (1) *improvements to the quality of care to reduce readmissions*, (2) *reductions in the LOS required for a given condition*, (3) "*right sizing*" *staffing levels*, (4) *maintaining appropriate levels of supplies*, (5) *enhancement of communication between physicians and other providers*, and (6) *outsourcing services*, for example, cafeteria or janitorial services.

The *projected economic operating and economic capital expense burdens* necessary to support the projected *revenue stream* for the subject hospital enterprise may be affected by some of the variables set forth in Table 11.16.

The valuation analyst should typically project *capital* and *operating expense burdens* based on (1) *historical trends*, (2) *industry benchmarking*, and (3) any anticipated interactions with the variables described in Table 11.12 and Table 11.16.

TABLE 11.16 Variables to Consider for Hospital Expense Projections

Type of Variable	Examples Affecting Hospitals
Changes in the Regulatory Environment	Changes to Safety Protocols; Changes in Licensing Requirements; Ownership Restrictions
Changes in the Reimbursement Environment	Changes in Covered Services; Changes in Hospital Status (e.g., CAH, etc.)
Changes in the Competitive Environment	Changes to Surgical Hospitals; Changes to Ambulatory Surgery Centers; Changes to Services by Skilled Nursing Facilities; Talent Poaching
Changes in Technology	Acquisition of New Technology; Rapid Obsolescence of Existing Equipment
Changes in Demand for Services	Changes in Capital Expenditures to Meet Demand Shifts; Expansion of Inpatient Beds; Changes in Swing Beds
Changes in Rivalry and Market Share	Changes in Awareness of Services; Joint-PR Efforts; Changes in Employed Physicians
Changes in Suppliers	Just in Time (JIT) Inventories; Group Purchasing Organizations (GPOs); Ability to Obtain from Other Hospital Departments

Benchmark

Derived from similar processes or services in an industry, competitors, or internal organization in order to set a level of care as a goal to be attained.

Glossary of Terms Commonly Used in Health Care, *AcademyHealth, 2004 Edition.*

11.1.7.6 Capital Structure The mix between the use of *equity* and *debt financing* within a hospital can have a significant *value* impact by altering the *capital expense burden* for the hospital. *Debt financing*, generally speaking, has a lower *cost burden* than *equity financing*. This affects the *value* of the enterprise by lowering the overall *capital cost burden* incurred by the enterprise in the provision of *medical services*, that is, it reduces the costs necessary to produce the *net economic benefit* accruing to the owners of the hospital. In addition, the utilization of debt in a hospital's capital structure may provide *preferential tax treatment* relative to the use of *equity financing*. The interest paid on outstanding *debt* offsets the hospital's *taxable income,* thereby reducing its *tax burden*. In contrast, *equity financing* has *no* such *preferential treatment*. With an increase in *debt financing* relative to *equity financing* comes an increased probability of *bankruptcy* and the associated *financial distress costs*. The greater *riskiness* associated with increased *debt* utilization is reflected in a higher *cost of equity*, that is, equity holders will demand *greater compensation* to *offset* the additional *risk*. The *optimal capital structure* for a given organization is, accordingly, the capital structure that *maximizes the value* of the enterprise considering these contending influences.

For-profit short-term acute care hospitals typically have *debt-to-asset* ratios (i.e., the *book value* of the *liabilities* of the subject enterprise divided

EQUITY

Ownership interest of common and preferred shareholders in a corporation. Also, total assets minus total liabilities, or net worth.

Corporate Finance, *4th ed., by Stephen Ross, Randolph Westerfield, and Jeffrey Jaffe (Toronto, Ont.: McGraw-Hill Ryerson, 2005), p. 943.*

CAPITAL STRUCTURE

The mix of the various debt and equity capital maintained by a firm. Also called financial structure. The composition of a corporation's securities used to finance its investment activities; the relative proportions of short-term debt, long-term debt, and owners' equity.

Corporate Finance, *4th ed., by Stephen Ross, Randolph Westerfield, and Jeffrey Jaffe (Toronto, Ont.: McGraw-Hill Ryerson, 2005), p. 939.*

by the *book value* of the *assets* of the subject enterprise) that range between 30 percent and 55 percent, depending on the specific hospital's *ownership*, *stability of income*, *pricing power*, *charity care*, *size*, *affiliation*, *after-tax cost of debt*, *age*, and *location.*[157] In general, *larger hospitals* have *higher debt-to-asset ratios.*[158]

Not-for-profit, short-term, acute care hospitals face similar trade-offs between lower *cost debt* and higher *cost equity*, due to the costs of attracting new donations, as well as their *inability* to access the *equity capital markets.*[159] *Not-for-profit, short-term, acute care hospitals* typically have *debt-to-asset ratios* of about 30 percent, which can vary based on *revenue*,

DEBT

A loan agreement that is a liability on the firm; an obligation to repay a specified amount at a particular time.

Corporate Finance, *4th ed., by Stephen Ross, Randolph Westerfield, and Jeffrey Jaffe (Toronto, Ont.: McGraw-Hill Ryerson, 2005), p. 941.*

---

[157] Risk Management Association, *Annual Statement Studies: Financial Ratio Benchmarks*, 2012, p. 1469; Gerard Wedig, et al., "Capital Structure, Ownership, and Capital Payment Policy: The Case of Hospitals," *Journal of Finance* 43, no. 1 (March 1988): 35; BizMiner, *General Medical and Surgical Hospitals: 5-Year Industry Financial Report*, August 2012.

[158] Geoffrey Smith, "What Are the Capital Structure Determinates for Tax-Exempt Organizations?" *Financial Review* 45, no. 3 (2010): 847.

[159] Ibid., pp. 848–851.

percentage of charity care, *size*, *income stability*, *age*, *medical school affiliation*, and, *location*.[160] These hospitals issue *tax exempt bonds*, with target *bond ratings* set by a *board of trustees*.[161] As a result, they frequently focus on maintaining *high liquidity ratios*, for example, a high *cash-to-debt ratio*, *high days' cash on hand*, and *high debt service coverage*.[162] This focus on *liquidity* often results in an *underutilization of debt* relative to *for-profit investor-owned hospitals*.[163] However, empirical evidence suggests that *lower debt-to-assets ratios* and *higher liquidity ratios* may be warranted, due to the inability of *not-for-profit hospitals* to raise *equity* from *public markets*, thereby increasing their *financial distress costs*; through the *use of debt financing for new projects*, instead of *internal equity reserves*; and the need to *protect their high bond ratings*.[164] *Low-net-margin not-for-profit hospitals* tend to have *less liquidity* than *high-net-margin not-for-profit hospitals*.[165] Those *not-for-profit hospitals* that are still reimbursed under a *cost plus system* will tend to have *higher debt burdens* than those reimbursed under a *prospective payment system* because implied *debt financing* (e.g., operating leases, rent, etc.) may be covered as part of hospital costs.[166]

By definition, *government hospitals* produce a *public good* (i.e., public health), which is *non-rival in consumption* and *non-excludable*.[167] However,

---

[160] Risk Management Association, *Annual Statement Studies: Financial Ratio Benchmarks*, 2012, p. 1471; Gerard Wedig, et al., "Capital Structure, Ownership, and Capital Payment Policy: The Case of Hospitals," *Journal of Finance* 43, no. 1 (March 1988).

[161] John R. C. Wheeler, et al., "Capital Structure Strategy in Health Care Systems," *Journal of Health Care Finance* 26, no. 4 (June 1, 2000): 48.

[162] Ibid., pp. 48–49.

[163] Ibid., p. 48; Paula Song and Kristin Reiter, "Trends in Asset Structure between Not-for-Profit and Investor-Owned Hospitals," *Medical Care Research and Review* (November 11, 2010): 699.

[164] John R. C. Wheeler, et al., "Capital Structure Strategy in Health Care Systems," *Journal of Health Care Finance* 26, no. 4 (June 1, 2000): 50; Paula Song and Kristin Reiter, "Trends in Asset Structure between Not-for-Profit and Investor-Owned Hospitals," *Medical Care Research and Review* (November 11, 2010): 699; Kristin Reiter and Paula Song, "The Role of Financial Market Performance in Hospital Capital Investment," *Journal of Health Care Finance* (2011): 39.

[165] Paula Song and Kristin Reiter, "Trends in Asset Structure between Not-for-Profit and Investor-Owned Hospitals," *Medical Care Research and Review* (November 11, 2010): 699.

[166] Gerard Wedig, et al., "Capital Structure, Ownership, and Capital Payment Policy: The Case of Hospitals," *Journal of Finance* 43, no. 1 (March 1988): 28, 37.

[167] Jonathan Gruber, "Chapter 7: Public Goods," in *Public Finance and Public Policy*, 2nd ed. (New York: Worth Publishers, 2007), p. 178.

the *actual healthcare services* received by patients are both *rival*, that is, the consumption of the healthcare services reduces the amount of service that can be provided to others, and *excludable*, in other words, the consumption of healthcare services precludes others from using the exact same service. Accordingly, the production of a *public good* cannot be obtained through the mere consumption of *healthcare services*.[168] Therefore, the need for *government hospitals* arises only when the *marginal demand for public health* exceeds the *marginal demand for private healthcare services*.[169] Under this theory, the government should supply *public hospitals* only when the *cost* of providing *public hospitals* is *lower* than the *cost* of providing *private healthcare services*.[170]

Within this *public health* and *private healthcare service* environment, the valuation analyst must determine whether a *government hospital* produces the *optimal level of public health*. When a *government hospital* produces a *suboptimal level of public health*, the valuation analyst would anticipate a sale of the hospital to a *nongovernmental entity.* Thus, the pool of typical *buyers*, *sellers*, *owners*, and *investors* would select an *optimal capital structure* most similar to that of *private entities*. However, in the event that the *government hospital* does produce an *optimal level of public health*, the determination of *optimal capital structure* becomes less clear.

Like *private hospitals*, *government hospitals* should seek the cheapest sources of funding for its assets.[171] However, unlike *private hospitals*, *government hospitals* do not have an *explicit cost of equity*, as in the case of *for-profit hospitals*, or an *implicit cost of equity*, as in the case of *not-for-profit hospitals*.[172] Rather, the government's equivalent to the *cost of equity* is the *cost of social utility*, as determined by the

---

[168] Ibid.

[169] In cases where the marginal demand for public health is less than the marginal demand for private healthcare services, the marginal demand for private healthcare services will produce a level of public health greater than the marginal demand for public health. Jonathan Gruber, "Chapter 7: Public Goods," in *Public Finance and Public Policy*, 2nd ed. (New York: Worth Publishers, 2007), p. 183.

[170] In cases where private suppliers can produce a level of public health greater at a lower price, the government would be better off contracting with private suppliers to provide public health services (e.g., Medicare, Medicaid, TriCare, etc.); Jonathan Gruber, "Chapter 7: Public Goods," in *Public Finance and Public Policy*, 2nd ed. (New York: Worth Publishers, 2007), p. 183.

[171] Jonathan Gruber, "Chapter 8: Cost-Benefit Analysis," in *Public Finance and Public Policy*, 2nd ed. (New York: Worth Publishers, 2007), p. 207.

[172] Ibid.

citizens over whom the government presides.[173] The amount of government expenditures on healthcare must be balanced by two factors: (1) the *tax revenue* the government collects today and (2) the *debt* the government issues today to cover any budget short-falls.[174] The *intertemporal balance* of government *spending* and *taxing*, where *social utility* is maximized, produces the *optimal capital structure* for that government hospital, which is the *expected social return* on the government tax receipts, that is, the amount of public health generated by the hospital. If this social return is deemed insufficient, hospitals may affect changes in *tax policy* through their elected officials or the ballot box.[175] The cost associated with financing this optimal point is the government's *cost of capital*.[176] It should also be noted that the level of *debt financing* associated with this point is only the difference between *taxes collected today* and *taxes collected in the future*.[177] Thus, the government's *cost of capital* is at a minimum equivalent to that of the area over which it governs, on a pretax basis.[178]

Within this context, *government hospitals* are a *consumption choice* by the government. Thus, the capital structure of the government hospital will vary, based on (1) *the optimal level of public health for a given citizenry*, (2) *the government's alternative consumption choices for maximizing social utility*, (3) *the expected tax collections from future generations*, (4) *the optimal level of social utility for a given citizenry*, (5) *the alternative investment choices available to the individual citizenry*, and (6) *the taxation preferences of the citizenry.* Of note is that there is not an agreed-on *universal optimal capital structure* for *government hospitals*.

Psychiatric hospitals experience *lower levels of capital intensity* than do *short-term acute care hospitals*, due, in part, to their *lack of a need for expensive medical equipment*, as well as their ability to dedicate a significant portion of space to *direct patient care*.[179] Accordingly, *psychiatric hospitals*

---

[173] Jonathan Gruber, "Chapter 4: Tools of Budget Analysis," in *Public Finance and Public Policy* 2nd ed. (New York: Worth Publishers, 2007), p. 104.

[174] Ibid.

[175] Ibid.

[176] Jonathan Gruber, "Chapter 8: Cost-Benefit Analysis," in *Public Finance and Public Policy*, 2nd ed. (New York: Worth Publishers, 2007), p. 206.

[177] Jonathan Gruber, "Chapter 4: Tools of Budget Analysis," in *Public Finance and Public Policy*, 2nd ed. (New York: Worth Publishers, 2007), p. 104.

[178] Jonathan Gruber, "Chapter 8: Cost-Benefit Analysis," *Public Finance and Public Policy*, 2nd ed. (New York: Worth Publishers, 2007), p. 206.

[179] Sophia Snyder, "62221—Psychiatric Hospitals in the US," IBIS World, May 2012.

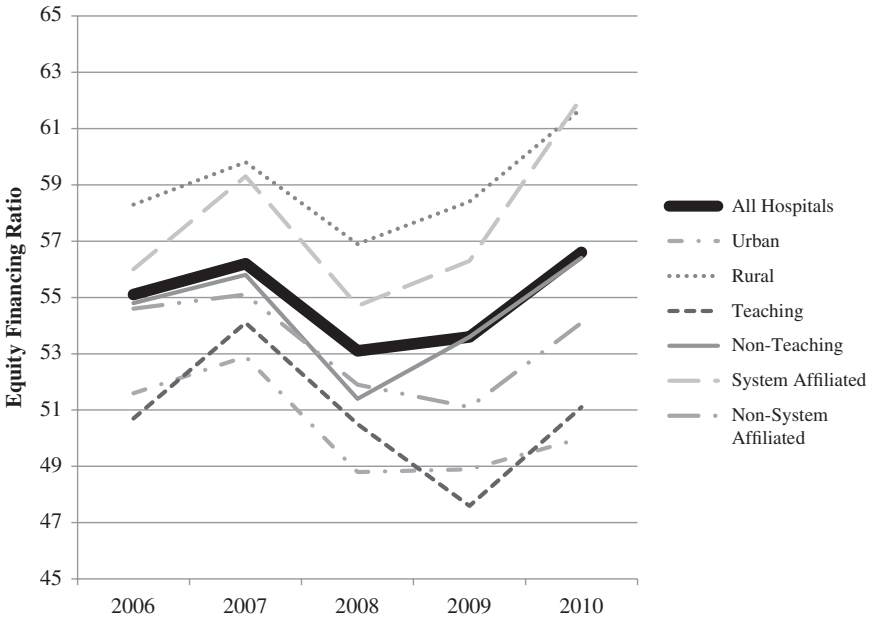


EXHIBIT 11.4 Equity Financing Ratios for Hospitals, by Type, 2006 to 2010
Almanac of Hospital Financial and Operating Indicators: A Comprehensive Benchmark of the Nation's Hospitals, Ingenix, OptumInsight, 2012, p. 58.

typically have between 28 percent and 50 percent of the *book value* of their assets financed through *debt.*[180]

There are several means of equity financing commonly used by hospitals: (1) *foundations*, (2) *endowments*, (3) *restricted funds*, and (4) *permanently restricted funds*. For more information of the types of equity financing available, see Section 9.1.2.2, "Equity Financing," in Chapter 9, "Costs and Sources of Capital." In 2010, the average *equity financing ratio* for hospitals increased, due, in part, to the fact that more hospitals are choosing to *finance* capital projects with *debt* in response to the historically low interest rates experienced in the period.[181] The change in *equity financing* by hospitals over the last five years is illustrated in Exhibit 11.4.

[180]Risk Management Association, *Financial Ratio Benchmarks: 2011–2012 Annual Statement Studies*, Philadelphia, 2012, p. 1473; BizMiner, *622210—Psychiatric and Substance Abuse Hospitals: 5-Year Industry Financial Report*, August 2012, http://reports.bizminer.com/temp/pdf/672184259_1105150525.pdf (accessed November 5, 2012).

[181] *Almanac of Hospital Financial and Operating Indicators: A Comprehensive Benchmark of the Nation's Hospitals* (Eden Prairie, MN: Ingenix, OptumInsight, 2012), p. 57.

TABLE 11.17 Leverage Ratios for Hospitals (SIC 806)

	2011	2012
Debt/Market Value Equity	109.99%	207.54%
Liquidity	1.73%	1.49%
Cost of Debt	7.02%	7.23%
Cost of Equity	11.72%	13.33%

Ibbotson Cost of Capital Data is available only for SIC 8011 for 2010; all other capital analysis will contain a four-year trend from 2009 to 2012. *Ibbotson Cost of Capital Yearbook* (Chicago: Morningstar, editions 2012, 2011, 2010, and 2009).

For illustration purposes, various ratios available for describing the *capital structure* of hospitals, which operate within SIC Code 806, are presented in Table 11.17.

11.1.7.7 Suppliers While in the past *labor costs* made up the largest segment of a *hospital's operating budget*, *supply costs* are projected to quickly increase in their significance as a result of (1) *increased cost for distribution*, *lower inventories of distribution channels* and (2) *fewer on-time deliveries*.[182] Significantly, hospitals have begun focusing on areas with the most potential for *reducing supply costs*, such as *consumable commodities* that encompass a broad range of supply types, from *low-cost* (e.g., bandages, gauze, syringes, sutures) to *high-end* (e.g., implants, pharmaceuticals, surgical instruments) commodities. In a 2012 survey by *Modern Healthcare*, almost 80 percent of providers surveyed stated that their *strategic plan formally included reducing supply costs*.[183]

Supplier

A provider of healthcare services, other than a practitioner, that is permitted to bill under Medicare Part B, including for DME, prosthetics, orthotics, X-ray, and so on.

Dictionary of Health Insurance and Managed Care, *by David Marcinko (New York: Springer, 2006), p. 278.*

[182] Vicki L. Smith-Daniels, "Do You Know Your Supply Chain Cost Drivers?' Healthcare Financial Management Association, October 1, 2008.

[183] Jaimy Lee, "Supply-Side Economics," *Modern Healthcare*, August 18, 2012, http://www.modernhealthcare.com/article/20120818/MAGAZINE/308189932 (accessed November 26, 2012).

In 2011, 251 *new drug shortages* were reported, 73 percent of which were injectables.[184] This represented a *significant increase* from the 110 *drug shortages* reported in 2008, of which 35 percent were injectables.[185] Many of these *finalized supply shortages* were due to *raw material shortages*, *discontinuations*, and *production capacity issues*.[186] As of June 2011, *drug rationing* affected 99.5 percent of all hospitals, with 82 percent reporting *delayed treatment*, 69 percent reporting *less effective treatment*, 63 percent reporting *no treatment*, and 35 percent reporting *adverse outcomes*.[187] The four *drug categories* experiencing the *worst shortages* are (1) *chemotherapy*, (2) *antibiotics*, (3) *emergency drugs*, and (4) *anesthesia/sedation*; the shortages may particularly affect *children's hospitals,* due to the fact that these enterprises often use a disproportionate amount of *injectable drugs*, including *pain medication*, *parenteral nutrition* (used in *neonatal intensive care units*), and 80 percent of drugs that treat *acute lymphoblastic leukemia*, the most common form of *pediatric cancer.*[188] The valuation analyst should consider the impact of future pharmaceutical shortages on a subject enterprise's ability to continue to provide its historical *scope of services* and maintain its historical revenue levels.

A recent trend toward smaller *bulk units* and *just-in-time* (JIT) distribution may result in many hospitals maintaining only *minimal stock levels* of

---

[184]The Food and Drug Administration (FDA) defines a drug shortage as occurring when "the total supply of all versions of the approved product available at the user level will not meet the current demand [and] a registered alternative manufacturer will not meet the current and/or projected demands for the potentially medically necessary use(s)." U.S. Food & Drug Administration, "Frequently Asked Questions about Drug Shortages," http://www.fda.gov/Drugs/DrugSafety/DrugShortages/ucm050796.htm#q1 (accessed November 20, 2012).

[185]Susie Dill and Misu Ahn, "Overview of U.S. Drug Shortages," Center for Drug Evaluation and Research, U.S. Food and Drug Administration Webinar, November 6, 2012, http://www.fda.gov/Drugs/ucm322389.htm (accessed November 20, 2012), p. 7.

[186]U.S. Food and Drug Administration, "Frequently Asked Questions about Drug Shortages," http://www.fda.gov/Drugs/DrugSafety/DrugShortages/ucm050796.htm#q1 (accessed November 20, 2012); Erin R. Fox, "Drug Shortage Update Current Status & Significant Trends," University of Utah Drug Information Service, U.S. Food and Drug Administration Webinar, September 30, 2011, http://www.fda.gov/AboutFDA/Transparency/Basics/ucm272223.htm (accessed November 20, 2012), pp. 7–13; American Hospital Association, "AHA Survey on Drug Shortages," July 12, 2011, pp. 11–12.

[187]American Hospital Association, "AHA Survey on Drug Shortages," July 12, 2011, pp. 5, 8.

[188]John VanEeckhout, "Cause and Effect of the Drug Shortage Crisis," National Association of Children's Hospitals and Related Institutions, *Children's Hospital Today* (Winter 2012).

Factoid

Drug shortages have affected 99.5 percent of all hospitals.

"AHA Survey on Drug Shortages," American Hospital Association, July 12, 2011, pp. 5, 8.

certain supplies, which may also translate into *lower storage requirements* and better *alignment of inventory with clinical demand.*[189] However, these methods necessitate *accurate real-time information* being communicated between the *point of use* (i.e., at the hospital unit, not the storage room) and the *distributor.*[190] Any disruption or inefficiencies in communication may have major consequences, in terms of both *hospital finances* and *clinical outcomes.*[191] In addition, JIT inventory management is reliant on stable distribution channels through which input is transported. Any interruption in the flow of goods and services from the distributor to the subject enterprise may result in costly delays and lost opportunities for the subject enterprise. The logistics infrastructure of the United States is among the best in the world, but unforeseen events have in the past created disruptions in the free flow of goods and services within the U.S. economy, as was evidenced by the nationwide shut-down of air traffic following the attacks on September 11, 2001. The valuation analyst should consider the strategic risk associated with JIT inventory policies when assessing the value of an inpatient enterprise.

Adverse Drug Event (ADE)

An injury caused by drugs, typically in the form of an allergic reaction or adverse physiological responses to a certain combination of medications. Preventable ADEs are injuries that are caused by human error.

"Saving Lives, Saving Money: The Imperative for Computerized Physician Order Entry In Massachusetts Hospitals," by Mitchell Adams et al., Massachusetts Technology Collaborative, New England Healthcare Institute, February 2008, p. 14.

[189] Michael Darling and Sandy Wise, "Not Your Father's Supply Chain," *Material Management in Health Care* 19, no. 4 (April 2010).

[190] Ibid.

[191] Ibid.

Factoid

One adverse drug event (ADE) adds, on average, $2,000 to the cost of hospitalization.

"Leapfrog Hospital Survey Results," by the Leapfrog Group, 2008, p. 3.

JUST-IN-TIME (JIT)

An inventory replenishment method that relies on accurate real-time usage data to "pull" and replace supplies, leading to minimal stock on hand, more frequent orders of smaller quantities, and lower operating costs.

Dictionary of Health Economics and Finance*, by David Edward Marcinko (New York: Springer, 2007), pp. 205–206.*

11.1.7.8 Cost Reduction Methods One relevant method of reducing hospital supply chain costs may be through the use of *group purchasing organizations* (GPOs), which are defined as *groups of providers*, often including hospitals, that use their *consolidated purchasing* power as *leverage* to negotiate discounts for supplies from *vendors*.[192] GPOs have been a mechanism for *controlling supply costs*, particularly for smaller hospitals that are able to take advantage of a large hospital's leveraging abilities.[193]

When selecting a GPO, approximately 84 percent of providers surveyed by *Modern Healthcare* for the *2012 Survey of Executive Opinions on Supply Chain Issues* cited the ability to *control the prices of consumables* as "*very important*," yet in 2012, only 25 percent of providers surveyed were *satisfied* or thought GPOs were effective in controlling

[192] "Supply and Inventory Terms Defined," Healthcare Financial Management Association, http://www.hfma.org/Temp lates/Print.aspx?id=2856 (accessed November 8, 2012).

[193] Scott Crandall, "Government Transparency Mandates Improve Hospital Orthopedics Supply Chain," *Healthcare Cost Containment*, Healthcare Financial Management Association, August 2009 Web Exclusive, http://www.hfma.org/Publications/Newsletters/Healthcare-Cost-Containment/Archives/2008/August/Government-Transparency-Mandates-Improve-Hospital-Orthopedics-Supply-Chain/ (accessed November 8, 2012).

Group Purchasing Organization (GPO)

An organization that leverages the buying power of a group of healthcare organizations to obtain contracted discounts from vendors.

"Supply and Inventory Terms Defined," Healthcare Financial Management Association, http://www.hfma.org/Templates/Print.aspx?id=2856 (accessed November 8, 2012).

prices.[194] Despite these beliefs, approximately 53 percent of those providers surveyed planned to *increase* their utilization of GPO contracts, while only 12 percent either did not belong to a GPO or planned to *decrease* their use of GPOs.[195] A further discussion of GPOs is provided in Chapter 13, "The Valuation of Other Healthcare-Related Enterprises."

In addition to *leverage* from group purchasing activities, new technologies are being used by providers to report implementation of efficiency metrics in the supply chain. One example is the utilization of *radio-frequency identification* (RFID), which allows *supply managers* to track *inventory* from the *manufacturer* to the *patient*. RFID embeds supply items with *radio-emitting tags* to track real-time location of inventory, allowing for a reduction in *shrinkage due to theft or damage*, as well as the ability to *locate supplies faster during shortages or emergencies*. RFID tags also track

Factoid

When selecting a GPO, approximately 84 percent of providers surveyed by *Modern Healthcare* cite the ability to control the prices of consumables as "very important," yet only 25 percent are satisfied in this regard or think GPOs are effective in doing so.

"Supply-Side Economics," by Jaimy Lee, Modern Healthcare*, August 18, 2012, http://www.modernhealthcare.com/article/20120818/MAGAZINE/308189932 (accessed November 26, 2012).*

[194] Jaimy Lee, "Supply-Side Economics," *Modern Healthcare* (August 18, 2012), http://www.modernhealthcare.com/article/20120818/MAGAZINE/308189932 (accessed November 26, 2012).

[195] Ibid.

supplies by *expiration date*, which optimizes *first-in, first-out protocols* and prevents stagnation and supply waste. RFID networks can also use "*smart dust*," which is *particle-size digitized sensors* that are able to detect *light*, *humidity*, and other *conditions* that may be important for inventories requiring *special storage and handling*.[196]

Another method of potentially reducing supply costs is through the *full integration* of the *supply chain*. A *materials management information systems* (MIMS) may be linked to *point-of-use interfaces* to allow for *real-time inventory monitoring* and *automatic notification* of replenishment needs. Such systems can identify underutilized equipment and supplies, which may provide and present opportunities to lower inventory carrying costs. An example is the performance of the Mayo Clinic, which successfully reduced its *supply spending* by 3 percent in 2010 through implementation of a *supply information management system* to manage inventory and gather usage data.[197]

Although a hospital generally keeps 6,000 to 8,000 *stock-keeping units* (SKUs) on hand at a given time, it may "*own*" up to 35,000 SKUs "*end to end*."[198] Typically, hospitals only measure inventory for (1) *perioperative services*, (2) *pharmacy*, and (3) *materials management* and do not take into account inventory held by their *vendors*, *wholesalers*, or *consignors* or the costs associated with *shipping* and *shrinkage* during transport. Hospitals may attempt to counter rising costs by assessing the *total costs of ownership* (TCO) for each supplier, which examine the total cost of supplies, for example, *acquisition*, *ownership*, and *post-ownership*, including "value analysis; freight and distribution costs; timeliness of delivery; inventory carrying

Supply Chain

A complex and dynamic system through which information and supplies flow upstream and downstream between manufacturers, distributors, purchasers, providers, and consumers.

Supply Chain Management Terms and Glossary, *Council of Supply Chain Management Professionals, February 2010, p. 179.*

[196] Michael Darling and Sandy Wise, "Not Your Father's Supply Chain," *Materials Management in Health Care* 19, no. 4 (April 2010): 2.

[197] Pat Patterson, "Surgery, Supply Chain Teams Forge Stronger Link," *OR Manager* 27, no. 12 (December 2011) 1–2.

[198] Michael Darling and Sandy Wise, "Not Your Father's Supply Chain," *Materials Management in Health Care* 19, no. 4 (April 2010): 1.

Factoid

A hospital typically keeps 6,000 to 8,000 stock-keeping units (SKUs) on hand at a given time.

"Not Your Father's Supply Chain," by Michael Darling and Sandy Wise, Materials Management in Health Care *19, no. 4 (April 2010): 1.*

PRODUCT STANDARDIZATION

The practice of purchasing large quantities of an item or brand from one or two vendors in order to obtain discounted rates.

"Supply and Inventory Terms Defined," Healthcare Financial Management Association, http://www.hfma.org/Templates/Print.aspx?id=2856 (accessed November 8, 2012).

TOTAL COST OF OWNERSHIP (TCO)

An integration of the costs of acquisition, ownership, and post-ownership, including "value analysis; freight and distribution costs; timeliness of delivery; inventory carrying costs and risks; technology cycles; order fulfillment costs; quality and defect rates; customer service; volatility of end-user demand; cash flow; warranty costs; and, environmental costs."

"Do You Know Your Supply Chain Cost Drivers?" by Vicki L. Smith-Daniels, Healthcare Cost Containment, Healthcare Financial Management Association *(October 2008), Web Exclusive, http://www.hfma.org/WorkArea/linkit.aspx?LinkIdentifier=id&ItemID=3716 (accessed November 8, 2012).*

costs and risks; technology cycles; order fulfillment costs; quality and defect rates; customer service; volatility of end-user demand; cash flow; warranty costs; and, environmental costs."[199]

[199]Vicki L. Smith-Daniels, "Do You Know Your Supply Chain Cost Drivers?" *Healthcare Cost Containment*, Healthcare Financial Management Association, October 2008 Web Exclusive, http://www.hfma.org/WorkArea/linkit.aspx?LinkIdentifier=id&ItemID=3716 (accessed November 8, 2012).

While most providers tend to focus on internal aspects of *supply chain management*, enterprises may also consider *risk mitigation* further up the *global supply chain*. In 2012, 73 percent of businesses reported a *supply chain disruption*, with the top three causes being (1) *unplanned IT outages*, (2) *adverse weather*, and (3) *service failures by outsourcers*.[200] Various exigencies, for example, the attacks of September 11, 2001, and the 2011 Japanese tsunamis, may disrupt the hospital supply chain and affect input prices and hospital populations, with a resulting impact on the value of the hospital enterprise.

11.1.7.9 Market Rivalries and Competitors *Geographic location* (i.e., *region*, *state*, or *metropolitan area*), as well as the *proximity to other medical services* (including both *competitors* and *complements*), may significantly affect the *revenue-generating capability* of a hospital enterprise.[201]

Market rivalries among hospitals may include competition for (1) *patients*, (2) *managed care contracts*, (3) *direct employer benefit plan contracts*, and (4) certain *scarce resources* that may be used in the provision of medical services, for example, technicians and paraprofessionals. In addition, the competition for *patients* and *managed care contracts* by hospitals often affects the *revenue-generating* capabilities of the hospital, that is, as the number of *competing* hospitals increases within a given *market service area*, hospitals may be forced to make concessions relative to the *charges* submitted to certain payors. In a market with several hospitals (or "*substitute enterprises*" that provide similar services), managed care companies and patients may demand *lower prices* for the services provided. It is typical in a high competition industry for enterprises to realize narrower profit margins than in less competitive markets, which may have a significant negative impact on the *value* of a hospital.

Certificate of Need (CON)

The formal justification of capital expenditures from a governmental healthcare agency, especially for a new specialty hospital, outpatient center, medical clinic, and so forth.

Dictionary of Health Economics and Finance, *by David Edward Marcinko (New York: Springer, 2007), p. 66.*

[200] Business Continuity Institute, "Service Failures by Outsourcers Reach Top Three Causes of Supply Chain Disruption," press release, November 7, 2012, http://www.thebci.org/index.php?option=com_content&view=article&id=343&Itemid=414 (accessed November 26, 2012).

[201] Sophia Snyder, "Hospitals in the US," IBIS World, May 2012.

CAPITAL EXPENDITURES

The cash outflows a firm incurs to acquire long-lived assets, both tangible (e.g., buildings, equipment, furniture, and fixtures) and intangible (e.g., computer software, patents, work product).

Financial Accounting: A Valuation Emphasis, *by John S. Hughes, Frances L. Ayres, and Robert E. Hoskin (Hoboken, NJ: John Wiley & Sons, 2005), pp. 274, 536.*

There are also *legislated barriers to market entry* that inpatient facilities must often address, including state *certificate of need* (CON) laws, *licensure requirements*, *zoning*, and *environmental requirements*, all discussed in more detail in Chapter 3, "Regulatory Environment."

In addition, hospitals compete over *physician* and *nonphysician provider services*, a *scarce resource* used in the production of medical services. High demand for these types of *input* can often result in *increased costs* and *decreased profits for hospitals*. Conversely, in low-competition markets, an excess supply of physician services may result in *greater bargaining leverage* and *reduced cost burdens* for hospitals.

The U.S. healthcare delivery system is facing what is perhaps its greatest challenge in the expected demand for increased health services from the aging of the *baby-boomer* generation. The passage of the ACA in March 2010, which requires increased insurance coverage for specified individuals meeting indicated income thresholds in 2014, will also likely increase patient demand for *hospital inpatient* and *outpatient services* in the coming years.

During the last decade, rising healthcare costs and the increasing number of uninsured patients have had a greater negative impact on *publicly owned hospitals* (with margins that, on average, merely break even), as compared to *privately owned hospitals* (with margins near 5 percent). Due to these financial burdens, many public hospitals have closed or converted to private ownership, thereby decreasing the prevalence of public hospitals from one in every four hospitals in 1999 to one in every five hospitals in 2010.[202] The ACA, which will reduce the current levels of Medicaid DSH

[202]Laurie E. Felland and Lucy Stark, "Local Public Hospitals: Changing with the Times," Center for Studying Health System Change, Research Brief, No. 25, November 2012, p. 2.

TABLE 11.18 M&A Transactions in the Hospital Sector

Year	No. of Deals	Year	No. of Deals
1997	194	**2005**	49
1998	135	**2006**	54
1999	106	**2007**	58
2000	85	**2008**	60
2001	80	**2009**	52
2002	56	**2010**	72
2003	37	**2011**	91
2004	58	**2012**	89

"M&A Transactions in the Hospital Sector," Irving Levin Associates, Inc. https://www.levinassociates.com/dealsearch (accessed January 2, 2013).

payments by 50 percent between 2014 and 2020, presents a particular concern for *public hospitals*, despite certain provisions allowing for the possibility of serving a smaller uninsured population.[203] Although revenue growth has been positive, the overall rate of growth for *not-for-profit hospitals* has decreased since 2008, due to (1) reductions in patient volumes, (2) changes in reimbursements, and (3) governmental pressures to lower costs.[204]

In light of this, the 1990s witnessed an enormous *consolidation* in the healthcare industry overall, in particular within the hospital industry. While the number of transactions decreased during the early 2000s, they have increased during the last decade as the healthcare industry has, once again, begun a period of *consolidating*. Table 11.18 provides the number of hospital transactions from 1997 to 2012.

Further evidence of this consolidation can be seen in the growing number of hospitals operating within health systems, which has steadily risen

[203] Ibid., pp. 9–10.

[204] Moody's Investor's Services, "Announcement: Moody's: Outlook for US Not-for-Profit Hospitals Remains Negative for 2013," Global Credit Research, January 22, 2013, http://www.moodys.com/research/Moodys-Outlook-for-US-not-for-profit-hospitals-remains-negative--PR_264373 (accessed February 14, 2013).

TABLE 11.19 Hospital Chains with Significant Market Shares

Hospital Chain	Market Share
Hospital Corporation of America, Inc.	4.5%
Community Health Systems	1.7%
Tenet Healthcare	1.2%
Health Management Associates	0.8%
LifePoint Hospital	0.5%
Universal Health Services	0.5%

"Hospitals in the US," by Sophia Snyder, IBIS World, May 2012.

during the last decade, from approximately 2,550 in 2000 to approximately 2,950 in 2010.[205]

The *hospital* market segment is highly fragmented, with the top six hospital chains accounting for approximately 9 percent of the total industry revenue, as illustrated in Table 11.19.

The hospital industry is dominated by the *not-for-profit* sector. The number of *not-for-profit short-term acute care hospitals* (2,904 hospitals) is nearly three times the number of *for-profit hospitals* (1,013 hospitals).[206]

Competition between *long-term acute care hospitals* (LTCHs) has historically been *weak*, although it has *intensified* due to the 12 percent *compound annual growth* in the number of LTCHs from 1993 to 2003.[207] However, the growth in LTCHs slowed to 4.75 percent from 2004 to 2010, due, in great part, to the moratorium on the development of new LTCHs (see Chapter 3, "Regulatory Environment").[208] Despite this growth, LTCHs are not present in every market, and a total of only

[205] American Hospital Association, "Chapter 2: Organizational Trends," in "*Trendwatch Chartbook 2012,*" 2012.

[206] American Hospital Association, "Fast Facts on US Hospitals," January 3, 2012, p. 2.

[207] MedPAC, "Chapter 5: Defining Long-Term Care Hospitals," in "*Report to the Congress: New Approaches in Medicare*," June 2004, p. 121.

[208] MedPAC, "Chapter 10: Long-Term Care Hospital Services," in "*Report to the Congress: Medicare Payment Policy*," March 2012, p. 266.

TABLE 11.20 Analysis of Long-Term Care Hospital Transactions

	Number of Acquisitions	Percentage of Acquisitions	Value of Acquisitions	Percentage of Value
Ownership Type				
*For-Profit**	4	80.00%	$117,500,000	88.68%
Not-for-Profit	1	20.00%	$ 15,000,000	11.32%
Government	0	0.00%	$ 0	0.00%
Not Disclosed	0	0.00%	$ 0	0.00%
Total	5	100.00%	$132,500,000	100.00%
Enterprise Scope				
National	1	20.00%	$117,500,000	88.68%
*Regional**	4	80.00%	$ 15,000,000	11.32%
Mom-and-Pop	0	0.00%	$ 0	0.00%
Not Disclosed	0	0.00%	$ 0	0.00%
Total	5	100.00%	$132,500,000	100.00%

Author's compilation from *The Health Care M&A Report*, Irving Levin Associates, Norwalk, CT (First Quarter 2011; Second Quarter 2011; Third Quarter 2011; Fourth Quarter 2011; First Quarter 2012; and Second Quarter 2012).
*Only one or two transactions report price.

412 exist across the country.[209] However, with the expiration of the moratorium on December 29, 2012, many observers believe that growth in LTCHs may resume at the rapid pace seen during the 1993 to 2003 period.[210]

From January 1, 2010, to June 30, 2012, 80 percent of the LTCH enterprise transactions were acquisitions by *regional players* and *for-profit enterprises*, as set forth in Table 11.20.[211]

Specialty hospitals have seen dynamic changes in the period from the end of 2010, when there were approximately 500 *specialty hospitals* in the

[209] Ibid.

[210] Ibid., p. 268.

[211] Author's compilation from *The Health Care M&A Report*, Irving Levin Associates, Norwalk, CT (First Quarter 2011; Second Quarter 2011; Third Quarter 2011; Fourth Quarter 2011; First Quarter 2012; and Second Quarter 2012).

TABLE 11.21 Analysis of Surgical Hospital Transactions

	Number of Acquisitions	Percentage of Acquisitions	Value of Acquisitions	Percentage of Value
Ownership Type				
For-Profit*	5	55.56%	$259,000,000	89.31%
Not-for-Profit*	4	44.44%	$ 31,000,000	10.69%
Government	0	0.00%	$ 0	0.00%
Not Disclosed	0	0.00%	$ 0	0.00%
Total	9	100.00%	$290,000,000	100.00%
Enterprise Scope				
National*	3	33.33%	$199,000,000	68.62%
Regional	0	0.00%	$ 0	0.00%
Local*	6	66.67%	$ 91,000,000	31.38%
Not Disclosed	0	0.00%	$ 0	0.00%
Total	9	100.00%	$290,000,000	100.00%

Author's compilation from: *The Health Care M&A Report*, Irving Levin Associates, Norwalk, CT (First Quarter 2011; Second Quarter 2011; Third Quarter 2011; Fourth Quarter 2011; First Quarter 2012; and Second Quarter 2012).
*Only one or two transactions report price.

United States.[212] Due to the passage of the ACA and provisions implementing regulatory restrictions on *physician ownership* of hospital enterprises (see Chapter 3, "Regulatory Environment"), some physician owners have *cancelled plans to expand* and subsequently *sold their shares* in facilities that were under construction at the end of 2010.

As indicated in Table 11.21, the typical *acquirers* of *surgical hospitals* between January 1, 2011, and June 30, 2012, were *for-profit, short-term, acute care hospitals* (56 percent of transactions) and *not-for-profit, short-term, acute care hospitals* (44 percent of transactions).[213] Approximately

[212] Richard K. Miller and Kelli Washington, *The 2011 Healthcare Business Market Research Handbook* (Loganville, GA: Richard K. Miller & Associates, 2011), p. 204.

[213] Author's compilation from *The Health Care M&A Report*, Irving Levin Associates, Norwalk, CT (First Quarter 2011; Second Quarter 2011; Third Quarter 2011; Fourth Quarter 2011; First Quarter 2012; and Second Quarter 2012).

66 percent of *surgical hospital* transactions between January 1, 2011, and June 30, 2012, involved acquisition by a *local hospital* serving a *single community*, while 33 percent of *surgical hospital* transactions involved acquisition by a *national hospital chain*.[214]

11.1.7.10 Subject Entity Nonsystematic Risk A *discount rate*, at which the *expected future stream of net economic benefit* is *discounted to present value*, is selected by the valuation analyst to represent the *expected risk-adjusted rate of return* a typical investor would require to invest in the subject property interest being *valued*, given the *systematic risk* of the market, as well as the *unsystematic risk of the subject enterprise*. See Chapter 8, "Valuation Approaches and Methods," for further discussion of *discounts and premiums*.

A technique commonly used in the determination of the discount rate for the valuation of small, closely held companies is a type of "*build-up*" method. It is based on several r*isk and return conditions*, that when totaled, result in an estimate of the *rate of return* that an equity investor would most likely *require to invest* in the inpatient enterprise. The *risk and return conditions* considered may include (1) *a risk-free rate*, (2) *an investment alternative (equity risk premium)*, (3) *a healthcare industry risk premium*, (4) *a small public company risk premium*, and (5) *an enterprise-specific risk premium*. For definitions of these risk/return factors, see Chapter 8, "Valuation Approaches and Methods."

The nonsystematic *subject entity–specific risk premium* may be perceived as somewhat more *subjective*, in that it reflects a valuator's informed assessment of the various risk factors that are inherent and specific to the subject enterprise being valued. Additional risk factors, specific to the interest in the hospital enterprise, and their impact on the selected discount rate, may include risk elements related to:

1. *The enterprise's operational and financial performance, compared to the industry*;
2. *Consideration of the uncertainty regarding the government's and other third-party managed care organizations' reimbursement of services*;
3. *Competitive forces within the enterprise's market service area*;
4. *Consideration of risk related to the projected expense structure of the enterprise*, that is, likelihood an acquirer of a control interest in the

[214] Author's compilation from *The Health Care M&A Report*, Irving Levin Associates, Norwalk, CT (First Quarter 2011; Second Quarter 2011; Third Quarter 2011; Fourth Quarter 2011; First Quarter 2012; and Second Quarter 2012).

enterprise can change the expense structure to a level equal to industry benchmarks;
5. *Operational performance*, as compared to the *industry benchmarks*, for example, *higher readmissions*, *lower mortality*, and *higher asset turnover*;
6. *Medical staff relations*;
7. *Diversity of referral base*; and
8. *Scope of services offered*.

11.2 LONG-TERM CARE

Long-term care enterprises may be classified as (1) *skilled nursing facilities*, (2) *assisted living facilities*, and (3) *congregate care facilities*, as set forth in Table 11.22.

Congregate Care

A combination of "private living quarters with centralized dining services, shared living spaces, and access to social and recreational activities," as well as "transportation services, personal care services, rehabilitative services, spiritual programs, and other support services," but the facilities are not licensed to provide healthcare services

"Congregate Care," RetirementHomes.com, 2012, http://www.retirementhomes.com/homes/congregate_care.html (accessed August 11, 2012); "About Retirement Care Communities," by Thomas Day, National Care Planning Council, http://www.longtermcarelink.net/eldercare/retirement_care_communities.htm#independent (accessed November 17, 2012), p. 21.

Assisted Living

A type of living arrangement in which meals, shelter, transportation, and the activities of daily living are provided either in-home or in a centralized location.

Dictionary of Health Insurance and Managed Care*, by David Marcinko (New York: Springer, 2006), p. 29.*

The long-term care industry generated $149.3 billion in annual GDP in 2011, accounting for 5.5 percent of all healthcare spending.[215] Patients in these settings are often referred to as "*residents*" and fall into two general categories: (1) patients recently *discharged from an acute care facility*, who are medically unable to live independently; and (2) patients *entering from independent living*, who have experienced a decline in health that leaves them medically unable to live independently. The level of services provided varies among the three types of *long-term care enterprises*, according to *patient needs* and among the types of facility the patient resides in.

11.2.1 Skilled Nursing Facilities

Skilled nursing facilities (SNFs) are inpatient institutions primarily engaged in providing *skilled rehabilitation services* for *injured*, *disabled*, or *sick* residents.[216] Accordingly, the staff at an SNF often consists of *registered nurses*, *licensed practical and vocational nurses*, *physical and occupational therapists*, *speech pathologists*, and *audiologists*.[217] An SNF may exist as a *freestanding entity* or as part of a *hospital* or *health system*. A significant proportion of the patients who require long-term care are *elderly*, *children*, *teenagers*, and *other adults* who have recently been discharged from a hospital and are in a transitional period before returning home.[218]

11.2.2 Nursing Homes

Nursing home is a *broadly construed term* that designates a place where the elderly may reside to receive *nursing care* with no expectation of returning to *independent living*. These facilities may supply some *rehabilitation therapy services*, for example, *physical therapy* and *speech therapy*; however, those patients who require a *higher level of care* may likely transfer to an SNF. Accordingly, as a patient's condition worsens, many nursing homes

---

[215] Centers for Medicare and Medicaid Services, "Table 2: National Health Expenditures; Aggregate and Per Capita Amounts, Annual Percent Change and Percent Distribution, by Type of Expenditure: Selected Calendar Years 1960–2011," in "*National Healthcare Expenditure Tables*, 2012.

[216] Arthur E. Gimmy, *Senior Housing: Looking toward the Third Millennium* (Chicago: Appraisal Institute, 1998), p. 24.

[217] Centers for Medicare and Medicaid Services, "Medicare Coverage of Skilled Nursing Facility Care," Department of Health and Human Services, April 2002, p. 4.

[218] Arthur E. Gimmy, *Senior Housing: Looking toward the Third Millennium* (Chicago: Appraisal Institute, 1998), p. 24.

TABLE 11.22 Classification of Long-Term Care Enterprises

	Acute Care		Chronic Care				
	Short-Term	Long-Term	Sub-Acute	Long-Term			
Type of Inpatient Services and Enterprises	Inpatient care received for serious injuries that require treatment options less than 25 days.	Inpatient care received for serious injuries that require treatment options more than 25 days.	Comprehensive inpatient care for acute illness or injury to treat an underlying long-term condition. Typically between acute and long-term chronic care.	Care provided for both medical and nonmedical needs for patients whose chronic condition or demographic requires care for long periods of time.	Facility Description	Size of the Market (in billions)	Number of Facilities in United States
Long-Term Care Facilities	N/A	N/A	X	X	Facilities and organizations that provide a wide-range of health and health-related services on a formal and informal basis to persons with functional disabilities and chronic conditions over an extended period of time (generally 90 days or more).[13]	$110.7[1]	69,228

Nursing Facilities (NFs)	N/A	X	N/A	X	An institution that provides rehabilitation services and daily living services to the functionally disabled, injured, or chronically ill.[11]	$60.89[1]	N/A
Intermediate Care Facilities (ICs)	N/A	*X*	N/A	*X*	Institutions such as rest homes or homes for the aged that are licensed.	N/A	N/A
Skilled Nursing Facilities (SNFs)	N/A	N/A	X	N/A	Facilities that are primarily engaged in providing skilled nursing care and related services to residents who require medical or nursing care and rehabilitation services for injured, disabled, or sick residents. These facilities are not primarily for the care and treatment of mental diseases.[10]	$32 billion in revenue from Medicare payments[2]	16,000[4]
Freestanding	N/A	N/A	*X*	N/A	SNFs that are not tied to a larger hospital or health system.	$44.29[1]	15,040[5]
For-Profit	N/A	N/A	*X*	N/A	SNFs that operate to maximize profits for investors or owners.	$27.68[1]	11,200[5]
Not-for-Profit	N/A	N/A	*X*	N/A	SNFs that operate under a charitable purpose for the community they serve.	$11.07[1]	4,000[5]
Government Owned	N/A	N/A	*X*	N/A	SNFs owned by one of the geopolitical subdivisions in which they are located.	$5.54[1]	800[5]
Hospital SNF Department	N/A	N/A	*X*	N/A	SNFs that are owned by a parent hospital to health system.	N/A	960[5]

(*continued*)

TABLE 11.22 Classification of Long-Term Care Enterprises (*continued*)

	Acute Care		Chronic Care				
	Short-Term	Long-Term	Sub-Acute	Long-Term			
Assisted Living Facilities	N/A	X	N/A	X	Facilities that provide housing and long-term healthcare services for aging individuals who require assistance performing routine tasks—e.g., bathing, eating, dressing, and taking medication—but that do not provide high-level medical care.	$22.10[2]	51,37[6]
Mentally Ill Patients	N/A	*X*	N/A	*X*	Assisted living facilities that only house residents with mental illness.	N/A	N/A
Private	N/A	*X*	N/A	*X*	Assisted living facilities that are owned and operated by a private organization.	N/A	30,307[7]
Public	N/A	*X*	N/A	*X*	Assisted living facilities that are owned and operated by a geopolitical entity.	N/A	668[7]
Not-for-Profit	N/A	*X*	N/A	*X*	Assisted living facilities that operate under a charitable purpose for the community they serve.	N/A	13,202[7]
Government Sponsored	N/A	*X*	N/A	*X*	Assisted living facilities that receive significant funding from a geopolitical entity.	N/A	668[7]
Continuing Care Retirement Communities (aka Congruent Care Facilities)	N/A	N/A	N/A	X	Unlicensed facilities that "*combine private living quarters with centralized dining services, shared living spaces, and access to social and recreational activities.*"	$11.86[2]	1,861[8]

For-Profit	N/A	N/A	N/A	X	Congruent care facilities that operate to maximize profits for investors or owners.	N/A	335[8]
Not-for-Profit	N/A	N/A	N/A	X	Congruent care facilities that operate under a charitable purpose for the community they serve.	N/A	1,526[8]
Independent Living Facilities	N/A	N/A	N/A	X	Facilities that do not provide any medical services and allow residents to live with limited assistance.	$19.94[2]	N/A
Adult Day Care Facilities	N/A	N/A	N/A	X	Community-based group care that is structured, holistic, and individualized but provides less than 24-hour care.[13]	N/A	N/A
Home Healthcare Services*	X	X	X	X	Service provided in patients' homes instead of in hospitals, typically for the management of chronic diseases.	$69.80[9]	N/A

*See Chapter 12, "The Valuation of Outpatient Enterprises." 1. *Nursing Care Facilities in the US*, by Anna Son, IBISWorld Industry Report 62311, January 2013. 2. *Retirement Communities in the US*, by Anna Son, IBISWorld Industry Report 62331, January 2013. 3. "Skilled Nursing Facility Services: Chapter 7," in *Report to Congress: Medicare Payment Policy*, March 2012, http://www.medpac.gov/chapters/Mar12_Ch07.pdf (accessed February 18, 2013) p. 171. 4. "Long-Term Care Market," by Alison Sahoo, Kalorama Information, March 2012, pp. 11, 25. 5. *Skilled Nursing Facility Services*, Medicare Payment Advisory Commission, March 2012, p. 175. 6. "Assisted Living and Residential Care in the States in 2010," by Robert Molica and Ari Houser, AARP, The Commonwealth Fund, July 2012, p. 12. 7. "Assisted Living Properties," by David Kyllo, National Fire Protection Association Summit, July 21, 2010. 8. "Today's Continuing Care Retirement Community (CCRC)," CCRC Task Force, American Senior Housing Association, July 2010, pp. 5–6. 9. *Home Care Providers in the US*, by Anna Son, IBISWorld Industry Report 62161, August 2012, pp. 4, 5. 10. *The Continuum of Long-Term Care*, 3rd ed., by Connie J. Evashwick (Clifton Park, NY: Thomson Delmar Learning, 2005), p. 4. 11. *Dictionary of Health Insurance and Managed Care*, by David E. Marcinko and Hope R. Hetico (New York: Springer, 2006), pp. 162, 200. 12. "The Social Security Act," 42 USC 7 § 1395i–3(a)—Requirements for, and Assuring Quality of Care in, Skilled Nursing Facilities. 13. *Long-Term Care: Managing Across the Continuum*, by John R. Pratt (Sudbury, MA: Jones and Bartlett, 2004), p. 172.

Factoid

In Europe, some nursing homes have even installed "fake" bus stops outside of their facilities, to prevent wandering patients from using legitimate public transportation, and provide a safe spot where facility staff can retrieve the patient.

"Fake Bus Stops for Alzheimer's patients in Germany," International Association of Chiefs of Police, November 18, 2011, http://www.theiacp.org/About/Governance/Divisions/StateAssociationsofChiefsofPoliceSACOP/CurrentSACOPProjects/MissingAlzheimersDiseasePatientInitiative/AlzheimersSuccessStory/tabid/1007/Default.aspx?id=1665 (accessed November 17, 2012).

also include *transitional services to* ease patient transfers to their final placement location, either an *SNF* or a *home hospice care*.

While Medicare requires nursing homes to be licensed, state licensure varies as to what services are included as nursing care. As such, the services provided at nursing homes may overlap with *SNFs* and *assisted living facilities*, as well as functioning as a *rest home* for the elderly.[219]

11.2.3 Assisted Living Facilities

Similar to *SNFs* and *nursing homes*, *assisted living facilities* provide *housing* and *long-term healthcare services* for aging individuals who require assistance performing *routine tasks*, e.g., *bathing*, *eating*, *dressing*, and *taking medications*, but they are distinct from *nursing homes* in that patients in these facilities do not require the *level of medical supervision* of those residing in *SNFs*.[220] In contrast to an *SNF* or a *nursing home*, where *clinical care* is the primary focus, *assisted living facilities* often focus on "*maximizing residents' dignity, autonomy, and independence*."[221] In addition, some assisted living facilities are designed to provide services focused on residents with *significant* and *specific impairments*, for example, *mentally illness*,

[219]David E. Marcinko and Hope R. Hetico, *Dictionary of Health Insurance and Managed Care* (New York: Springer, 2006), pp. 162, 200.

[220]David G. Stevenson and David C. Grabowski, "Sizing Up the Market for Assisted Living," *Health Affairs* 29, no. 1 (January 2010): 35; Catherine Hawes, Miriam Rose, and Charles D. Phillips, "*A National Study of Assisted Living for the Frail Elderly: Results of a National Survey of Facilities*" U.S. Department of Health and Human Services, December 14, 1999.

[221]David G. Stevenson and David C. Grabowski, "Sizing Up the Market for Assisted Living," *Health Affairs* 29, no. 1 (January 2010): 35.

Factoid

Assisted living facilities are not regulated federally but face a myriad of state regulations, which offer 70 different licensing requirements.

2012 Cost of Care Survey, *Genworth Companies, 2012, p. 89*.

developmental disabilities, *Alzheimer's disease*, or *dementia*.[222] Generally, *assisted living facilities* are significantly *cheaper* than SNFs, with a *national median monthly rate* of $3,300, as compared to the *national median monthly rate* of $6,750 for a private room in an *SNF*.[223]

11.2.4 Congregate Care Facilities

Unlike *SNFs*, *nursing homes*, and *assisted living facilities*, *congregate care facilitates*, or "*independent living*" *communities* (also referred to as *senior living*), are *not licensed* to provide healthcare services, but rather "combine private living quarters with centralized dining services, shared living spaces, and access to social and recreational activities," as well as offering "transportation services, personal care services, rehabilitative services, spiritual programs, and other support services."[224] The distinction between *congregate care* and *assisted living facilities* has become *blurred*, as more *congregate care facilities* begin to offer healthcare services through *outside licensed agencies*, and *assisted living facilities*, in turn, implement designated sections for *independent living*.[225] Depending on the *amenities* offered by a particular facility, for example, *the size of a resident's ro*om, the *level of*

[222]Alison Sahoo, "Long-Term Care Market," Kalorama Information, March 2012, p. 25.

[223]Genworth, "*Executive Summary Genworth 2012 Cost of Care Survey: Home Care Providers, Adult Day Health Care Facilities, Assisted Living Facilities and Nursing Homes*," April 20, 2012, http://www.genworth.com/content/etc/medialib/genworth_v2/pdf/ltc_cost_of_care.Par.85518.File.dat/Executive%20Summary_gnw.pdf (accessed November 17, 2012), p. 2.

[224]Thomas Day, "About Retirement Care Communities," National Care Planning Council, http://www.longtermcarelink.net/eldercare/retirement_care_communities.htm#independent (accessed November 17, 2012); "Congregate Care," Retirement Homes.com, 2012, http://www.retirementhomes.com/homes/congregate_care.html (accessed August 11, 2012).

[225]Thomas Day, "About Retirement Care Communities," National Care Planning Council, http://www.longtermcarelink.net/eldercare/retirement_care_communities.htm#independent (accessed November 17, 2012).

housekeeping, and the *sufficiency of transportation services*, the *costs* for *congregate care* can range from $500 to more than $4,000 a month.[226]

11.2.5 Current and Future Trends: Regulatory, Reimbursement, Competition, Technology

11.2.5.1 Regulatory SNFs are *more strictly regulated* than other *long-term care enterprises*, as every SNF that accepts Medicare and Medicaid payments must be certified to meet the applicable federal regulations that are enforced by CMS.[227] Nursing homes, which are subject to regulation by the state in which they operate, are also required to implement *federal nursing home regulations* to qualify for Medicare reimbursement.[228] The *Omnibus Budget Reconciliation Act of 1987* (OBRA 87) established certain *quality assurance requirements* for SNFs and nursing homes reimbursed by Medicare and Medicaid, which are enforced at the *state level* through on-site *surveys* conducted every 15 months.[229] In addition, many states also have their own specific regulations for nursing homes, for example, certificate of need (CON) requirements, density requirements, and density codes, which have, in several states, resulted in moratoriums on the number of SNF beds allowed.[230] As a result of regulatory restrictions on the supply of SNF beds and other market factors, for example, high construction costs and limits on reimbursement for those costs, as well as local zoning, planning, and use ordinances, the number of SNFs decreased from 19,000 in 1985 to 16,700 in 1995 and to 16,000 in 2011.[231]

---

[226] Ibid.

[227] Centers for Medicare and Medicaid Services, "Nursing Homes," November 15, 2012, http://www.cms.gov/Medicare/Provider-Enrollment-and-Certification/CertificationandComplianc/NHs.html (accessed December 7, 2012).

[228] Ibid.

[229] Catherine Hawes, et al., "The OBRA-87 Nursing Home Regulations and Implementation of the Resident Assessment Instrument: Effect on Process Quality," *Journal of the American Geriatrics Society* 45, no. 8 (August 1997); United States General Accounting Office, "*Nursing Home Care: Enhanced HCFA Oversight of State Programs Would Better Ensure Quality*," Report to the Special Committee on Aging, U.S. Senate, November 1999, p. 6.

[230] National Conference of State Legislatures, "Certificate of Need: State Health Laws and Programs," March 2012 http://www.ncsl.org/issues-research/health/con-certificate-of-need-state-laws.aspx (accessed December 7, 2012).

[231] Alison Sahoo, "Long-Term Care Market," Kalorama Information, March 2012, p. 11.

In contrast to SNFs and nursing homes, *assisted living facilities* are *not* typically regulated by the federal government, unless they obtain *federally assisted financing*.[232] Instead, *assisted living facilities* are subject to a myriad of state regulations, promulgated through various *licensing requirements*.[233] Generally, states have implemented two forms of licensure for assisted living facilities: (1) *assisted living community standards*, which set required *disclosure*, *services*, *admission thresholds*, *resident assessment*, *medication management*, *physical plant*, *staffing*, *staff training*, and *fire safety protocols*; and (2) *second level of licensure for assisted living facilities*, which augment existing licensure; for example, in 2011, Georgia passed a second level of licensure for assisted living facilities that was more *stringent* than its basic licensure requirements for personal care homes.[234]

Traditionally, *congregate care facilities* have avoided many state *licensure laws*, for example, state CON requirements (see Section 3.4.3, "Certificate of Need," in Chapter 3, "Regulatory Environment") by not providing *clinical healthcare services*. However, as *congregate care facilities* continue to evolve into a model more closely resembling an *assisted living facility*, licensure requirements may follow, particularly if healthcare services are provided "*in-house*," rather than by an outside agency.[235]

11.2.5.2 Reimbursement SNFs and nursing homes are typically reimbursed on a *per diem basis*, that is, reimbursement is paid at a *fixed* amount per day, in accordance with the *level of care provided*.[236] SNFs may be reimbursed by Medicare, Medicaid, commercial payors, or self-pay. As of 2011, most SNFs had been certified to participate in both the Medicare and Medicaid programs, with only 5 percent of facilities having no certification for public payor programs.[237] However, according to a 2012 MedPAC Report, Medicaid accounted for 63 percent of the total patient

[232]The Genworth Companies, *2012 Cost of Care Survey*, 2012, p. 89; Benjamin W. Pearce, *Senior Living Communities: Operations Management and Marketing for Assisted Living, Congregate, and Continuing-Care Retirement Communities* (Baltimore: Johns Hopkins University Press, 1998), p. 340.

[233]The Genworth Companies, *2012 Cost of Care Survey*, 2012, p. 89.

[234]National Center for Assisted Living, "Assisted Living State Regulatory Review," Washington, DC, March 2012.

[235]Thomas Day, "About Retirement Care Communities," National Care Planning Council, http://www.longtermcarelink.net/eldercare/retirement_care_communities.htm#independent (accessed November 17, 2012).

[236]Arthur E. Gimmy, *Senior Housing: Looking toward the Third Millennium* (Chicago: Appraisal Institute, 1998), p. 24.

[237]Alison Sahoo, "Long-Term Care Market," Kalorama Information, March 2012, p. 11.

SNF bed days, while Medicare reimbursed only 12 percent of the total SNF patient bed days in 2010.[238] Many state Medicaid programs use a *cost-based reimbursement system*, that is, reimbursing an SNF for only the *reasonable direct* and *indirect allowable costs* associated with providing routine patient care services within a statutorily set return.[239] (See Section 2.4.1.3.1.4, "Skilled Nursing Facility Reimbursement," in Chapter 2, "Reimbursement Environment.")

In contrast to SNFs and many nursing homes, *assisted living facilities* often charge a *monthly room rental rate* for their services, which may vary based on the *level of care* required by a specific resident.[240] Typically, monthly rates range between $625 and $9,750, with a median monthly charge of $3,300.[241] In addition, 33 percent of *assisted living facilities* charge a *nonrefundable one-time entrance fee* or, in the case of not-for-profit enterprises, require that the patient provide an *endowment*.[242] Time spent in an *assisted living facility* is typically self-paid by patients.

Congregate living facilities may use a variety of payment models for those residents who do not *purchase* their *living unit*, including, but not limited to, (1) establishing an *annual or monthly rental charge*; (2) operating as a *condominium complex*, with *additional fees for higher levels of service*; or (3) offering all of a resident's services for a *single lump sum payment*.[243] There are three typical types of *out-of-pocket payment plans* for congregate care residents: (1) a "*life-care*" plan, (2) a "*straight-rental*" plan, and (3) a "*condominium*" plan. A "*life-care*" plan is designed to encourage the resident to stay at a facility for the *remainder of his or her life*, that is, a resident will endow a significant sum of money to the facility, which is then used to pay for *nursing or care* services that may be required later in life. On top of the *endowment*, these residents may also be required to pay a *monthly fee*. Under a "*straight-rental*" plan, residents make *monthly rental payments*

---

[238] Robyn I. Stone and Joshua M. Weiner, "Who Will Care For Us: Addressing the Long-Term Care Workforce Crisis," Urban Institute and the American Association of Homes and Services for the Aging, October 2001, p. 18; Medicare Payments Advisory Commission, "Skilled Nursing Facility Services," March 2012, p. 175.

[239] American Health Care Association, "A Report on Shortfalls in Medicaid Funding for Nursing Home Care," December 15, 2011.

[240] The Genworth Companies, *2012 Cost of Care Survey*, 2012, p. 89.

[241] Ibid., p. 20.

[242] Ibid., p. 89.

[243] Benjamin W. Pearce, *Senior Living Communities: Operations Management and Marketing for Assisted Living, Congregate, and Continuing-Care Retirement Communities* (Baltimore: Johns Hopkins University Press, 1998), p. 4.

that cover their *room* and *congregate services*. Similarly, under a "*condominium*" plan, residents *purchase their living unit* and pay a *monthly fee*, which includes the costs for congregate care services.[244]

11.2.5.3 Competition The SNF and nursing home market is *highly fragmented*, with the top five nursing home operators controlling just over 8 percent of all SNFs and nursing homes in the United States.[245] SNFs typically compete, to some extent, with *short-term acute care hospitals* that also offer *skilled nursing*, *rehabilitation*, and *sub-acute care services*. However, competition between SNFs and *short-term acute care hospitals* has somewhat declined, as the percentage of hospitals offering these services declined from 50 percent of all s*hort-term acute care hospitals* in 2000, to under 40 percent in 2010.[246]

Both SNFs and *congregate care facilities* have begun expanding their *service lines* to offer services similar to *assisted living facilities*.[247] In addition, *assisted living facilities* located in close proximity to *short-term acute care hospitals*, *long-term acute care hospitals*, and SNFs have the potential to realize certain benefits from the *complementary services* provided by the facility, as residents are able to use more intensive clinical services without the added inconvenience and cost burden of *significant transportation*.[248]

11.2.5.4 Technology In addition to the *managerial* and *clinical technologies* required to maintain a long-term care enterprise, SNFs require additional technologies to *sufficiently provide care* for their unique patient populations. Unlike many other healthcare providers, a significant proportion of the largely aged SNF patients have *degenerative cognitive diseases*, for example, *dementia* and *Alzheimer's disease*, that require a high level of *constant* and *continuous* care. Included in the substantial medical needs these patients require is the risk of *wandering* and *elopement*, which may put

---

[244]The Danter Company, "The Five Pitfalls of Congregate Care Development," *Apartment Resources* 7, no. 8 (November 1992): 2.

[245]Meg LaPorte, "Top 50 Nursing Facility Companies," *American Health Care Association* (June 2010): 56; MedPAC, "Skilled Nursing Facility Services," March 2012, p. 175.

[246]American Hospital Association, "Chapter 2: Organizational Trends," in *Trendwatch Chartbook 2012*."

[247]George Yedinak, "Top 10 Trends in Senior Housing for 2012," *Senior Housing News*, January 9, 2012, http://seniorhousingnews.com/2012/01/09/top-10-trends-in-senior-housing-for-2012/ (accessed August 13, 2012).

[248]Ibid.

them at risk of *physical harm*.[249] Specific technological devices can be used to prevent patient wandering, including, but not limited to, (1) *door and bed alarms*, (2) *video surveillance*, and (3) *electronic tagging*, such as a bracelet or a device sewn into clothing.[250]

11.2.6 Value Drivers of Long-Term Care Enterprises

Value drivers for *long-term care enterprises* are those factors that have an impact on the *revenue expectations* of the enterprise, the *operating expense burden* of the enterprise, or the *capital expense burden* of the enterprise. Some of the *value drivers* identified for these healthcare inpatient enterprises are (1) *Scope of Services*, (2) *Capacity*, (3) *Revenue Stream*, (4) *Payor Mix*, (5) *Operating Expense*, (6) *Capital Structure*, (7) *Supplier*s, (8) *Market Rivalries and Competitors*, and (9) *Subject Entity Nonsystematic Risk*.

11.2.6.1 Scope of Services As with hospitals, *long-term care enterprises* may positively affect their *value* by *diversifying* the *scope of services* they offer. Diversification may increase the total *utilization of services*, reducing costs per unit of productivity and increasing margins as a result of the substantial *fixed cost nature* of the industry subsector. In addition, the *diversification of services* typically results in *less volatile revenue generation,* which can reduce *investor uncertainty* and, consequently, *capital costs*.

As mentioned earlier, the *scope of services* offered by various *long-term care enterprises* is associated with the *level of care* required by its patients/residents. For example, SNFs offer the highest level of clinical care, while *assisted living facilities* and *congregate care facilities* focus on providing residents with *daily living conveniences*, as well as limited rehabilitation services.

In addition to daily living activities, *assisted living facilities* range in the quality of, and scope of, services offered, based on a resident's ability and willingness to pay for enhanced amenities.[251] *High-end facilities* may feature *fitness centers*, *swimming pools*, *gift shops*, *chapels*, *spas*, and *landscaped grounds*, while *low-end facilities* tend to be older, offer a *few basic services*, and may use *communal bathing areas*.[252] Similar *disparities* between

[249] Marie Boltz, "Wandering and Elopement: Litigation Issues," National Council of Certified Dementia Practitioners, http://www.nccdp.org/wandering.htm (accessed November 17, 2012), pp. 1–5.

[250] Ibid.

[251] Alison Sahoo, "Long-Term Care Market," Kalorama Information, March 2012, p. 191.

[252] Ibid., pp. 191–192.

facilities may be apparent within the *congregate care industry*, where payment for resident services is typically paid *out of pocket*. Residents typically live in an assisted living facility for two to three years, until their medical needs require *skilled nursing care*.[253]

11.2.6.2 Capacity The *capacity* of a long-term care enterprise differs from other healthcare enterprises, in that the *resources* necessary to care for their patient populations include *extended daily conveniences*, for example, bathing facilities and individual rooms. When assessing the sufficiency of a long-term care enterprise's *capacity* to generate sustainable revenues, the valuation analyst should consider the type of "*clientele*" that the subject facility is designed to accommodate, which affects the amenities provided over and above basic care.

Of note is that in addition to the resources for *extended daily convenience*s and *patient amenities*, SNFs must also have the *medical staff* and *equipment* and *technology* to care for the continuum of *long-term clinical treatments* of both *acute* and *chronic* conditions. The medical services provided at an SNF may, in some cases, allow a valuation analyst to use *measures of capacity* similar to those used for other healthcare enterprise, for example, production wRVU and full-time equivalent (FTE) employees, when *benchmarking* the *capacity* of a subject long-term care facility to industry norms, as well as the more *traditional SNF capacity measures* of *beds*, *rooms*, or *square footage*.

11.2.6.3 Revenue Stream Most long-term care enterprises are typically reimbursed on either a *per-bed day* or a *monthly rental* basis, in contrast to other inpatient enterprises, which may be reimbursed on either a *per-diem* or a *case-based* basis. Accordingly, the *measure of productivity* required for projections of long-term care *revenue* is *patient bed days*. Even for those SNFs, nursing homes, assisted living facilities, and congregate care facilities that are paid *out of pocket*, a monthly rental rate may be broken down by day, allowing for a comparable unit of productivity metric for all long-term care enterprises. The aging baby boomer population, assuming reimbursement yield is not consequently reduced, will likely increase the *utilization demand* for long-term care services in the future, thereby increasing *patient volumes* and, as a consequence, *revenue*.[254]

---

[253] Ibid., p. 26; National Center for Assisted Living, "Resident Profile," 2012, http://www.ahcancal.org/ncal/resources/Pages/ResidentProfile.aspx (accessed August 11, 2012).

[254] Christopher J. Truffer, et al., "Health Spending Projections through 2019: The Recession's Impact Continues," *Health Affairs* 29, no. 3 (March 2010): 523, 527.

In 2012, nearly half of all nursing home residents in the United States were ages 85 years or older, and nearly 90 percent were ages 65 and older.[255] The SNF industry in 2012 was generally stable, with an annual revenue growth rate of .9 percent, anticipated to grow over five years approximately 4.5 percent, from $110 billion in 2012 to $115 billion by 2017.[256] In contrast to the SNF industry, the *assisted living industry* is expected to increase over a five-year period by 40.3 percent, from $56.3 billion in 2011 to $79 billion by 2016.[257]

The *State of Senior Housing Report* by the *American Seniors Housing Association* also reported that in 2011, the average length of stay at an SNF was 25.6 months.[258] The same study reported that occupancy rates can range from 62 percent to 98 percent, with a national average of 88 percent.[259]

Unlike the *reimbursement measures* used by Medicare for inpatient hospitals, those SNFs that are eligible for Medicare reimbursement receive payments based on *resource utilization groups* (RUGs), which take into account *functional status* and *anticipated use* of *services and resources* by residents. In addition, the reimbursement rate is based on *a case-mix* of the *severity of medical conditions of residents* and may be adjusted in a similar manner as inpatient hospitals (see Section 11.1.6.2, "Reimbursement"). An example of the application of the revenue stream can be found online at

Factoid

Recently, newer models of bundled payment have gained popularity because they share the financial risk between the payer and provider, as well as allow for a flexible definition regarding the scope of payment.

Bundled Payment: AHA Research Synthesis Report, *by American Hospital Association Committee on Research (May 2010), p. 3.*

[255] "Facts about Nursing Homes," *The NewsHour Online*, PBS, 2012, http://www.pbs.org/newshour/health/nursinghomes/facts.html (accessed August 9, 2012).

[256] Anna Son, "Nursing Care Facilities in the US," IBIS World, July 2012.

[257] Alison Sahoo, "Long-Term Care Market," MarketResearch.com, March 2012, p. 28.

[258] American Seniors Housing Association, *The State of Seniors Housing: 2011*, 2011, p. 29.

[259] Meg LaPorte, "Top 50 Nursing Facility Companies," American Health Care Association, June 2010, p. 56; "Facts about Nursing Homes," *The NewsHour Online*, PBS, 2012, http://www.pbs.org/newshour/health/nursinghomes/facts.html (accessed August 9, 2012).

TABLE 11.23 Variables to Consider for Long-Term Care Revenue Projections

Type of Variable	Examples Found in Long-Term Care
Changes in the Regulatory Environment	New Licensing Restrictions; Changes to CON Laws; Moratoriums of Facilities
Changes in Reimbursement Yield	Changes in Medicaid Per Diem Rates
Changes in the Competitive Environment	Addition of Swing Beds to Short-Term Acute Care Hospitals; Congregate Care Contracts with Outside Medical Service Companies
Changes in Technology	Expansion of Remote Monitoring; EHR; Improvements in Surgery Recovery Time
Changes in Demand for Services	Shifts in Population Demographics; Growth in Population; Increase in Market Service Area Wages; Improvements in Transportation; Changes to RUG Case Mix
Changes in Rivalry and Market Share	Opening of New Long-Term Care Facilities; Acquisitions of Competing Facilities; Closure of Long-Term Care Facilities
Changes in Payor Mix	Changes in Out-of-Pocket Expenses; Changes to State Medicaid Rates; Changes in Long-Term Care Insurance Prevalence.

http://www.wiley.com/go/healthcarevaluation. An important consideration when projecting revenue for an SNF is that these facilities are subject to consolidated billing (similar to *bundled payments*), under which a facility must include *all* of the *Medicare-covered services* (with a few exceptions that are billable as outpatient procedures by an *outside supplier*) that a resident received during the course of a *covered inpatient stay.*[260]

Controlled separately by each state, Medicaid has typically reimbursed long-term care enterprises at a rate that is below the cost of providing care to residents. For example, in 2011, for every dollar of allowable cost incurred by long-term care providers, Medicaid reimbursed, on average, 90 cents.[261] Valuation analysts should be aware of each state's method for calculating Medicaid reimbursement rates when considering the projection of revenue. Several variables that should be considered in projecting revenue for the subject long-term care enterprise are set forth in Table 11.23.

[260] Centers for Medicare and Medicaid Services, "Skilled Nursing Facility Prospective Payment System," Payment System Fact Sheet Series, October 2012, p. 3.

[261] Eljay, LLC, "A Report on Shortfalls in Medicaid Funding for Nursing Home Care," prepared for the American Health Care Association, December 2011, p. ii.

TABLE 11.24 SNF Payor Mix

Payor	Percent
Medicaid	63%
Medicare	14%
Private and Other	22%

Distribution of Certified Nursing Facility Residents by Primary Payer Source, 2010, Henry J. Kaiser Family Foundation, 2012, http://www.statehealthfacts.org/comparebar.jsp?ind=410&cat=8&sub=97&print=1 (accessed December 8, 2012). An example of the application of revenue stream can be found online at http://www.wiley.com/go/healthcarevaluation.

11.2.6.4 Payor Mix While Medicare and Medicaid are the dominant payors for SNFs (see Table 11.24), the single largest impact on value for a nursing home is likely to be the ability to attract and retain *private pay patients*, as private payors typically reimburse at *significantly higher per diem rates* than the government payors.

Although most *assisted living facilities* are paid directly *out of pocket* by residents, Medicaid represents a significant (approximately 20 percent) and growing proportion of payments made to *assisted living facilities*.[262] Medicaid payments frequently do not cover the *cost of providing services*, as these rates typically exclude *food*, *housing*, and *utilities*.[263] Medicare, Medicaid, and traditional health insurance plans do not provide reimbursement for congregate care services, and much of the revenue for these facilities comes from *out-of-pocket* payments.[264]

PAYOR MIX

The percentage mix of different payors representing the patient population served by a given provider.

Essentials of Health Care Finance, *6th ed., by William O. Cleverly and Andrew E. Cameron (Sudbury, MA: Jones and Bartlett, 2007), p. 106.*

[262] Robert Mollica, Ari Houser, and Kathleen Ujvari, "Assisted Living and Residential Care in the States in 2010," AARP Public Policy Institute, April 2012, p. 4; Alison Sahoo, "Long-Term Care Market," Kalorama Information, March 2012, pp. 183 and 185; "Need To Know: Single White Female Remains Typical Resident," *Senior Living Executive* (July/August 2012): 6.

[263] David Kyllo, "Assisted Living Properties," National Fire Protection Association, July 21, 2010.

[264] Alison Sahoo, "Long-Term Care Market," Kalorama Information, March 2012, p. 186.

TABLE 11.25 Variables to Consider for Long-Term Care Expense Projections

Type of Variable	Examples Impacting Long-Term Care
Changes in the Regulatory Environment	Changes to Safety Protocols
Changes in the Reimbursement Environment	Changes in Covered Services
Changes in the Competitive Environment	Lower Workforce Turnover
Changes in Technology	Acquisition of New Technology
Changes in Demand for Services	Changes in Capital Expenditures to Meet Demand Shifts
Changes in Rivalry and Market Share	Changes in Awareness of Services, Joint-PR Efforts
Changes in Suppliers	JIT Inventories, GPOs

11.2.6.5 Operating Expense *Fixed costs* consist of *certain labor expenses*, as well as *property taxes*, *insurance*, *utilities*, and other occupancy-related expenses, and are proportionately more significant for long-term care enterprises. Accordingly, healthcare *utilization rates* (i.e., *occupancy rates*) have a significant effect on the *value* of *long-term care enterprises*, as they affect the potential for achieving *economies of scale* that allow for the opportunity to *distribute those fixed costs* over a *wider patient* and *revenue* base in order to *reduce per-patient expense*s and realize *greater profit margins*. Of note is that since *assisted living facilities* are regulated by state governments, operators tend to concentrate their ownership of *multiple facilities* within a handful of states or regions, which enhances their ability to achieve economies of scope and scale that make up a significant value driver.[265]

In addition to the variables described in Table 11.24, the projected cash flow for the subject long-term care enterprise may be affected by the variables described in Table 11.25.

In 2010, 25 percent of freestanding SNFs had Medicare margins of approximately 27 percent or higher, with 25 percent having Medicare margins of 9 percent or less. Since 2005, SNF Medicare margins have increased, as set forth in Table 11.26.

11.2.6.6 Capital Structure SNFs have varying capital structures based on the SNF's configuration of *real and tangible property*, *ownership and governance structure*, *location*, and *size*.[266] In addition, SNFs can operate as an

[265] Ibid., p. 177.

[266] Risk Management Association, *Annual Statement Studies: Financial Ratio Benchmarks*, 2012, p. 1477.

TABLE 11.26 Medicare Margins for Freestanding SNFs, 2004 to 2010

Type of SNF	2004	2005	2006	2007	2008	2009	2010
All	13.7%	13.1%	13.3%	14.7%	16.6%	18.0%	18.5%
Urban	13.2%	12.6%	13.1%	14.5%	16.3%	17.9%	18.5%
Rural	16.1%	15.2%	14.3%	15.5%	18.0%	18.7%	18.4%
For-Profit	16.1%	15.2%	15.7%	17.2%	19.1%	20.2%	20.7%
Not-for-Profit	3.5%	4.5%	3.5%	4.1%	6.9%	9.6%	9.5%

"Health Care Spending and the Medicare Program," Medicare Payment Advisory Commission, *Data Book*, June 2012, p. 122.

integrated company or as a *separate real estate holding company* in combination with a *separate operating company.*[267] An enterprise's use of *leverage* depends largely on the assets making up the long-term care facility, as well as its access to *debt instruments.*[268]

Assisted living facilities often obtain *debt financing* from a number of sources, including (1) *real estate investment trusts* (REITs), (2) the *Department of Housing and Urban Development*, (3) *Fannie Mae*, (4) *Freddie Mac*, (5) *commercial banks*, (6) *savings and loans*, (7) *securities markets*, and (8) *insurance companies.*[269]

INTEGRATED DELIVERY SYSTEM (IDS)

An organized system of healthcare providers spanning a broad range of health services, optimizing costs and outcomes, and accepting and managing financial arrangements to deliver care to a defined population.

Essentials of Managed Health Care, *6th ed., by Peter R. Kongstvedt (Burlington, MA: Jones & Bartlett Learning, 2013), p. 656.*

[267] David G. Stevenson and David C. Grabowski, "Private Equity Investment and Nursing Home Care: Is It a Big Deal?" *Health Affairs* 27, no. 5 (2008): 1400.

[268] David Stevenson, David Grabowski, and Laurie Coots, *Nursing Home Divestiture and Corporate Restructuring: Final Report*, U.S. Department of Health and Human Services, December 2006.

[269] Benjamin W. Pearce, *Senior Living Communities: Operations Management and Marketing for Assisted Living, Congregate, and Continuing-Care Retirement Communities* (Baltimore: Johns Hopkins University Press, 1998), p. 340.

TABLE 11.27 Leverage Ratios for Nursing and Personal Care Enterprises (SIC 805)

	2011	2012
Debt/Market Value Equity	61.00%	102.44%
Liquidity	1.04%	1.12%
Cost of Debt	4.60%	7.23%
Cost of Equity	14.94%	13.61%

Ibbotson Cost of Capital Data is only available for SIC 8011 for 2010; all other capital analyses will contain a four-year trend from 2009 to 2012. *Ibbotson Cost of Capital Yearbook* (Chicago: Morningstar editions 2012, 2011, 2010, and 2009).

For illustration purposes, various metrics describing the *capital structure* of long-term care enterprises, which operate within SIC Code 805, are presented in Table 11.27.

Real Estate Investment Trust (REIT)

Any corporation, trust, or association that acts as an investment agent specializing in real estate and real estate mortgages.

11.2.6.7 Suppliers SNFs typically purchase two primary categories of supplies: (1) *medical supplies*, for example, blood testing tools, stethoscopes, and thermometers, as well as other diagnostic supplies; and (2) *basic household supplies*, such as cleaning supplies, paper towels, and toilet seats.[270] Similar to hospitals, SNFs and *assisted living facilities* may join *group purchasing organizations* (GPOs) to help reduce supply costs.[271] SNFs, *assisted living facilities*, and *congregate care facilities* all provide meal services to their residents, which may either be outsourced or prepared in house.[272] An assessment of the *requisite* supplies necessary for the *provision of services* in long-term care facilities is a *due diligence consideration* regarding the determination of the *capacity* of the enterprise.

[270] John Agwunobi and Paul London, "Removing Costs from the Health Care Supply Chain: Lessons from Mass Retail," *Health Affairs* (September 2009): 1340.

[271] Healthcare Supply Chain Association, "HSCA Member Organizations," 2011, http://www.supplychainassociation.org/?page=MemberOrganizations (accessed December 7, 2012).

[272] "Fact Sheets: Senior Living Services," Aramark Healthcare, 2005, http://www.aramarkhealthcare.com/UtilityDetail.aspx?PostingID=707&ChannelID=343 (accessed December 7, 2012).

11.2.6.8 Market Rivalries and Competitors Competition among *long-term care enterprises* for *patients* is anticipated to increase, with a resulting impact on *pricing* and *revenue*, while the reimbursement from Medicaid and private patient sources is facing significant pressure. These circumstances have a continuing impact on the mix of *owners* and *investors* for long-term care facilities. In 2011, approximately 70 percent of SNFs were *proprietary facilities*, 25 percent were *nonprofit organizations*, and the remaining 5 percent were owned by *governmental entities*.[273] In addition, approximately 94 percent of all SNFs were *freestanding nursing homes*, while the other 6 percent were affiliated with, or under the administrative control of, an *acute care hospital* or *health system*.[274]

The market for *nursing homes* continues to be dominated by *large nursing home chains*, which, as of 2010, included (1) *HCR ManorCare*, (2) *Golden Living*, (3) *Life Care Centers of America*, (4) *Kindred Healthcare*, (5) *Genesis HealthCare*, and (6) *Sun Healthcare Group*.[275] In addition, real estate investment trusts (REITs) have also become a significant proportion of SNF real property buyers.[276] Typically, many REITs will purchase the *real property* from the *nursing home operator*, which will then, in turn, lease the real property to the nursing home operator.[277] Most of

PORTER'S FIVE FORCES OF COMPETITION

Competitive strategy devised by Harvard's Michael D. Porter. Includes (1) potential entrants, (2) supplies, (3) buyers, (4) the threat of substitutes, and (5) rivalry among existing competitors.

Competitive Strategy: Techniques for Analyzing Industries and Competitors, *by Michael E. Porter (New York: The Free Press, 1980), pp. 7–10.*

[273] MedPAC, "Skilled Nursing Facility Services," Medicare Payment Advisory Commission, March 2012, p. 175.

[274] Ibid.

[275] Meg LaPorte, "Top 50 Nursing Facility Companies," American Health Care Association, June 2010, p. 56.

[276] "Seniors Housing M&A Mid-Year Review and Outlook: Will Housing Market Woes and Medicare Cuts Keep Activity Down?" *SeniorCare Investor,* webinar, September 8, 2011.

[277] Ibid.; Irving Levin Associates, *SeniorCare Investor* 24, no. 3 (April 2012): 1 and 4.

TABLE 11.28 Ownership of Assisted Living Facilities

Ownership	Percentage of the Market
Private for-Profit	59.00%
Public for-Profit	12.60%
Not-for-Profit	25.70%
Government Sponsored	1.30%

"Assisted Living Properties," by David Kyllo, National Fire Protection Association Summit, July 21, 2010.

the *national nursing home chains* continually engage in the process of *buying* and *selling* nursing homes, as well as the real property interest related thereto.[278]

The *assisted living market* is *large* and highly *fragmented*.[279] As of 2012, the largest assisted living company in the United States, *Brookdale Senior Living*, operated 430 assisted living communities.[280] Other major for-profit assisted living chains include (1) *Emertis*, (2) *Five Star Quality Care*, and (3) *Sunrise Senior Living*, as well as not-for-profit entities, for example, *Evangelical Lutheran Good Samaritan Society.*[281] The distribution of ownership types in the assisted living market is set forth in Table 11.28

The relative size of assisted living facilities is an important value driver. An illustration of the assisted living market, as classified by the AARP, is set forth in Exhibit 11.5.[282]

Merger and acquisition activity related to *long-term care enterprises* is dominated by *national chains*, although private equity firms also make up a small segment of the transactional market.[283] As shown in Table 11.23, from

[278] Irving Levin Associates, *SeniorCare Investor* 24, no. 3 (April 2012): 2 and 9–10.

[279] Alison Sahoo, "Long-Term Care Market," Kalorama Information, March 2012, p. 28.

[280] Anna Son, "Retirement Communities in the US," IBIS World, July 2012, p. 26.

[281] Ibid., pp. 28–30.

[282] Robert Mollica and Ari Houser, "Assisted Living and Residential Care in the States in 2010," AARP, The Commonwealth Fund, July 2012, p. 4; Eunice Park-Lee, et al., "Residential Care Facilities: A Key Sector in the Spectrum of Long-Term Care Providers in the United States," Centers for Disease Control and Prevention National Center for Health Statistics, NCHS Data Brief, no. 78, December 2011, p. 1.

[283] Alison Sahoo, "Long-Term Care Market," Kalorama Information, March 2012, p. 27.

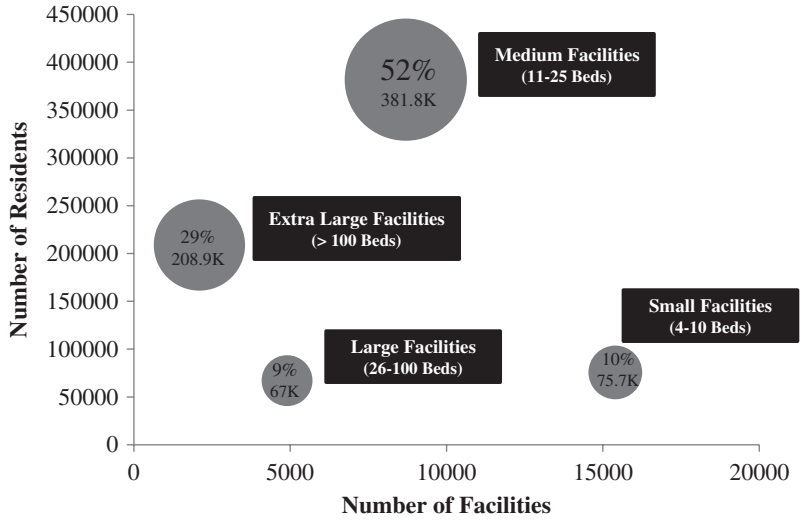


EXHIBIT 11.5 Facility Size Compared to Number of Residents in 2010
"Assisted Living and Residential Care in the States in 2010," by Robert Mollica and Ari Houser, AARP, The Commonwealth Fund, July 2012, p. 4; "Residential Care Facilities: A Key Sector in the Spectrum of Long-term Care Providers in the United States," by Eunice Park-Lee, et al., Centers for Disease Control and Prevention National Center for Health Statistics, NCHS Data Brief, No. 78, December 2011, p. 1.

January 1, 2011, to June 30, 2012, approximately 63 percent of the reported acquisitions of *assisted living enterprises* involved *for-profit operators* as the *purchaser* and represented 85 percent of the *total value exchanged* in these reported transactions.[284] While *assisted living facilities* may be acquired by *national*, *regional*, and *mom-and-pop operators*, in 2012, *national operators* accounted for 72 percent of the *value exchanged* in *assisted living enterprise acquisitions*.[285]

As of 2010, there were approximately 19,002 congregate care facilities in the United States, of which nearly half were sectarian. Specifically, of those with sectarian affiliations, 21.1 percent were Lutheran,

[284] Author's compilation from "*The Health Care M&A Report*," Irving Levin Associates, Norwalk, CT (First Quarter 2011; Second Quarter 2011; Third Quarter 2011; Fourth Quarter 2011; First Quarter 2012; and Second Quarter 2012).
[285] Ibid.

TABLE 11.29 Analysis of Assisted Living Transactions

	Number of Acquisitions	Percent of Acquisitions	Value of Acquisitions	Percent of Value
Ownership Type				
For-Profit	36	63.16%	$1,077,121,135	85.29%
Not-for-Profit	4	7.02%	$ 48,350,000	3.83%
Government	0	0.00%	$ 0	0.00%
Not Disclosed	17	29.82%	$ 137,387,500	10.88%
Total	57	100.00%	$1,262,858,635	100.00%
Enterprise Scope				
National	16	28.07%	$ 913,666,000	72.35%
Regional	19	33.33%	$ 102,514,000	8.12%
Mom-and-Pop	10	17.54%	$ 126,966,135	10.05%
Not Disclosed	12	21.05%	$ 119,712,500	9.48%
Total	57	10.00%	$1,262,858,635	100.00%

Author's compilation from *The Health Care M&A Report*, Irving Levin Associates, Inc., Norwalk, CT [First Quarter 2011; Second Quarter 2011; Third Quarter 2011; Fourth Quarter 2011; First Quarter 2012; and Second Quarter 2012].

17.6 percent were Methodist, 13.8 percent were Presbyterian, and 12.8 percent were Roman Catholic. In addition, 82 percent were not-for-profit, and the majority were affiliated with a congregate care chain.[286] The top five congregate care providers as of January 1, 2012, were: (1) *Holiday Retirement*, (2) *Brookdale Senior Living*, (3) *Erickson Living Management*, (4) *Life Care Services, LLC*, and (5) *Five Star Senior Living*.[287]

11.2.6.9 Subject Entity Nonsystematic Risk As discussed earlier, a *discount rate*, by which the *expected future stream of economic benefit* to be derived from ownership of a subject interest is *discounted* to *present value*, is selected

[286] CCRC Task Force, "Today's Continuing Care Retirement Community (CCRC)," American Senior Housing Association, July 2010, pp. 5–6.

[287] Anya Martin, "2012 Largest Senior Living Providers," *Senior Living Executive*, March/April 2012, p. 14.

by the valuator to represent the *expected risk-adjusted rate of return* that a universe of typical buyers and investors would require to invest in the subject property interest being *valued*, given both the *systematic risk* of the market and the *unsystematic risk* of the subject enterprise.[288] Specific risk factors to consider may include:

1. The stability of certain operational aspects of a long-term care enterprise;
2. The inherent uncertainty regarding the ability of a long-term care enterprise to attain certain performance assumptions;
3. Competition from multiple sources for long-term care services;
4. The ability of a long-term care enterprise to continue to roll over the current portion of its interest-bearing debt;
5. The reimbursement risk associated with low Medicaid reimbursements;
6. The ability to maintain a profitable payor mix;
7. Issues maintaining labor supply; and
8. A long-term care enterprise's high utilization of debt relative to the industry.

11.3 TYPICAL VALUATION CONSIDERATIONS

As discussed in Section 8.1, "Valuation Methodology," in Chapter 8, "Valuation Approaches and Methods," there are three general approaches to *value*: (1) the *income approach*, (2) the *market approach*, and (3) the *asset/cost approach*, each with its own specific valuation methods. Each of these approaches should be considered for each valuation assignment, and, if possible, multiple approaches and methods should be used.

Accordingly, for any inpatient enterprise, the choice of a *valuation methodology* depends primarily on the *purpose* of the valuation report and the specific *characteristics* of the subject enterprise, as well as on the *availability* and *reliability* of data to support the method. In addition, the specific value drivers for each enterprise (discussed earlier) will augment the selected methodology through which the chosen valuation technique is completed.

[288] Also discussed in Section 8.4, "Discounts and Premiums," in Chapter 8, "Valuation Approaches and Methods."

Discussed later are several specific valuation concerns that are presented by the various valuation methods and techniques related to the valuation of an inpatient enterprises.

As discussed in detail in Section 8.1.1.5, "Pro-Forma Income Statements," financial statements for inpatient enterprises are most often prepared to reflect the *specific needs of the inpatient enterprise's management*, whether for *operational* or *tax posture* reasons. Accordingly, the valuation analyst should analyze and consider adjustments to the subject enterprise's *historical financial statements*, for the purpose of arriving at an indication of a "*normalized*" level of income and an *economic basis* for reporting of assets, in contrast to *cost basis* reporting. *Normalizing and control level adjustments*, that is, adjustments that can be made by the party/interest that exercises "*control*" over the enterprise, may be made to reflect the *true economic status* of the inpatient enterprise. These types of adjustments include those set forth in Table 11.30.

Once *normalized* and *restated*, these historical financial statements form the underlying basis for further analysis used in the valuation of the subject enterprise, by comparing them against the performance of *similar companies* (reported in industry surveys and public filings) to assist in measuring the *relative risk of investment* in the subject enterprise as compared to investments in other companies operating within the same or a similar industry. This analysis is often called "*benchmarking*" and may include the metrics set forth in Table 11.31.

Careful consideration should be given during a *benchmarking* analysis as to how the inpatient enterprise is *reimbursed*, as different *payment structures* incentivize different *patient care aspects*. For example, the portion of hospital revenue based on a *per diem rate* incentivizes the maximization of the enterprise's *occupancy rate* and *length of stay*, while the portion of hospitals revenue based on reimbursement on a *case rate* or *per DRG basis* incentivizes the maximization of *patient turnover*; similarly, the portion of a hospital's revenue that is based on reimbursement on a *cost-plus margin basis* incentivizes the maximization of *cost*. Further, the valuation analyst should carefully consider any *horizontal synergies* that may be created from owning multiple facilities that are located in a specified *geographic region*, based on the *span of control*, *attributes*, and *capabilities* of the hospital system's management (see Section 14.4.2.2.4 for a discussion of *depth of management*). Sources for *industry benchmarking* related to inpatient enterprises are set forth in Table 11.32.

TABLE 11.30 Examples of Normalizing and Controlling Adjustments for Inpatient Enterprises

Income Statement Normalizing Adjustments	Balance Sheet Normalizing Adjustments	Income Statement Control Level Adjustments	Balance Sheet Control Level Adjustments
Gains/Losses from Nonrecurring Events	Accounts Receivable	Administrative and Clinical Expense (e.g., rent)	Related Party Loans
Revenue, Expense (timing), and Bad Debt Expense Recognition	Accounts Payable	Management Fees	Loans to Shareholders
Taxes	Tangible Personal Property	Travel Expenses	Related Party Accounts Receivable
Depreciation	Real Property	Contracted Housekeeping and Dietary Services	Related Party Accounts Payable
Inter-Entity Revenue/ Expenses	Accrued Expenses	Related Party Lease Expenses	Long-Term Debt
Joint Expenses/Revenue Allocation	Accrued Income	Physician Services Agreement Fees	Short-Term Debt and Accounts Payable
Diagnostic Testing and Imaging Expenses	Capital Lease Recognition	Professional Development Expense	Cost and Weight of Debt
Pharmaceutical Expenses	Nonoperating Assets (e.g., endowments)	Billing Expenses	Cost and Weight of Equity

TABLE 11.31 Variables to Consider for Benchmarking Inpatient Enterprises

Profitability	Liquidity	Operating Efficiency	Leverage	Quality	Other Ratios
Operating Profit Margin	Current Ratio	Days in Accounts Receivable	Debt to Equity Ratio	Mortality and Morbidity Rates	Revenue per Bed Day
EBITDA Margin	Quick Ratio	Inventory Turnover	Interest-Bearing Debt/Assets	Readmission Rates	Average Length of Stay
EBITDAR Margin	Working Capital to Revenue	Net Asset Turnover	Endowment to Debt	Percentage of Procedures with Complications	Beds per Square Foot
Free Cash Flow to Equity Margin	Interest Coverage Ratio	Net Property and Equipment to Revenue	Altman Z-score	Hospital Acquired Infection Rate	Capital Expenditures to Revenue
Free Cash Flow to Firm Margin	Days of Working Capital	Revenue to Fixed Costs	Interest Coverage Ratio	Specialist Staff Mix	Depreciation to Revenue
Return on Sales	Working Capital, Excluding Interest-Bearing Debt	Patients per Hospitalist	Degree of Financial Leverage	Patient Ratings of Physicians' Communication	Encounters per Physician
Medical Supplies per Adjusted Bed Day	Cash to Current Assets	Bad Debt Expense to Revenue	Degree of Total Leverage	Patient Survey Ratings of Health Promotion and Education	DRG Case Mix
Salary/Benefits Expenses	Cash to Current Liabilities	Revenue per Square Foot	Fixed Assets to Equity	Patient Ratings of Medical Staff	Percentage of Medicaid Revenue

TABLE 11.32 Sources for Inpatient Enterprise Benchmarking Data

Source	Description
BizMiner Industry Financial Profiles	Based on annual income tax returns, U.S. Census data, U.S. Bureau of Labor data, commercial real estate surveys, credit reporting agencies, and business directories
Integra Industry Reports	Based on annual income tax returns, U.S. Department of Labor data, the National Company Database of Financial Product Usage and Demand, the Industry Geographic Analysis Database, U.S. Bureau of Labor Statistics, and the Purchase Opportunity Profiles Database
IRS Corporation Source Book of Statistics of Income	Published by the Internal Revenue Service, based on annual tax returns
Risk Management Association (RMA) Annual Statement Studies	Based on financial statements submitted to financial institutions across the United States
SNFdata	Based on Medicare Cost Reports and Nursing Home Compare
State of Seniors Housing Report	Based on Medicare Cost Reports and Nursing Home Compare
State of Seniors Housing Report	Based on an annual survey of American Seniors Housing Association Members
SEC Filings	Publicly available financial data found in 10-Ks and 10-Qs
American Hospital Directory	Based on Medicare Cost Reports, Medicare Claims Data, SK&A contact information, GPO information, DNV Healthcare, the Joint Commission on Accreditation of Healthcare Organizations, American College of Surgeons, and AMA Graduate Medical Education Database

"BizMiner Data and Sources," The Brandow Company, 2012, http://www.bizminer.com/resources/technical/our-data.php (accessed December 17, 2012); "MicroBilt's Integra Financial Benchmarking Data," by MicroBilt, 2012, http://www.microbilt.com/financial-benchmarking.aspx (accessed September 30, 2012); *SOI Tax Stats—Corporation Source Book*," Internal Revenue Service, August 15, 2012, http://www.irs.gov/uac/SOI-Tax-Stats-Corporation-Source-Book:-U.S.-Total-and-Sectors-Listing (accessed December 17, 2012); *2011–2012 Annual Statement Studies*, by Risk Management Association, 2012; "AHD.com Current Data Sources," American Hospital Directory, October 3, 2012, http://www.ahd.com/data_sources.html (accessed December 17, 2012).

HORIZONTAL INTEGRATION

Financial integration that requires collaboration among rivals.

Dictionary of Health Insurance and Managed Care, *by Edward Marcinko (New York: Springer, 2006), p. 144.*

VERTICAL INTEGRATION

Financial integration that requires collaboration among the various providers along a continuum of care.

Dictionary of Health Insurance and Managed Care, *by Edward Marcinko (New York: Springer, 2006), p. 293.*

The sources listed in Table 11.32 and other *sources of data* useful for benchmarking are included in the *Key Sources*. For a general discussion regarding the utilization of *industry benchmarking* in performing a *valuation analysis*, see Chapter 8, "Valuation Approaches and Methods."

There are several useful sources of information as to the performance of inpatient enterprises, including *The SeniorCare Investor Newsletter*, published by Irving Levin Associates, Inc., which tracks *mergers*, *acquisitions*, *IPOs*, *bankruptcies*, and "*corporate shake-ups*" within the *long-term care market*, including *nursing home* and *assisted living companies*, *retirement communities*, *REITs*, and *home health care*, as well as *corporate earnings*, *key financial indicators*, and *stock forecasts*. Irving Levin Associates, Inc., also publishes the *Healthcare M&A Information Source*, which provides information related to transactions of healthcare enterprises, including hospitals and long-term care facilities.

Among the pertinent considerations regarding the valuation of an inpatient enterprise using an *income approach–based method* are those illustrated in Table 11.33.

TABLE 11.33 Typical Considerations in Using Income Approach–Based Methods

Pertinent Consideration	Description
Projection of Capital Expenditures	■ *Depreciation* and *capital expenditures* are typically of *greater* magnitude for *inpatient enterprises*, due to the significant *investment* in *facilities* and *equipment* required to operate an *inpatient enterprise*.
Projected Cost of Debt and Interest Expenses (Equity Basis of Value Only)	■ *Historical interest expense* may be a useful indicator of the *future expected interest expense*. ■ The terms, including interest costs for existing debt, are determined based on the *facts and circumstances* extant at the time the debt was issued. ■ Any changes in those *facts and circumstances* may affect the efficacy of the *historical interest expense* for projection purposes. ■ The factors that may affect the interest expense for an inpatient enterprise include: (1) The *nature* and *scope* of the inpatient enterprise's operations; (2) The current level of debt held by the inpatient enterprise; and (3) The availability of capital to the subject hospital within debt markets.
Selection of Methodologies	■ The selection of a particular method will depend on the *scope* and *nature* of the valuation assignment undertaken. ■ A prerequisite is the *existence of a positive net cash flow* accruing to the owners of the enterprise, which can be capitalized to arrive at an *indication of value*. ■ The *capitalized positive net cash flow* for the inpatient enterprise should also be *sufficient in magnitude* to support the investment in the *tangible* and *intangible* assets that make up the *subject inpatient enterprise*.

The application of a *market approach–based methodology* requires the valuation analyst to use market data related to companies or transactions similar to the subject enterprise. Table 11.34 illustrates some of the *pertinent facts and considerations* that a valuation analyst should review in applying the *market approach–based methodologies*.

TABLE 11.34 Typical Considerations in Using Market Approach–Based Methods

Pertinent Considerations	Description
Availability of Data (Guideline Transaction/Merged and Acquired Method)	▪ The *Guideline Transaction/Merged & Acquired Method* requires the use of reliable transaction data from a sufficient number of reliably reported transactions of enterprises offering: (1) Similar services to those provided by the subject inpatient enterprise; (2) Occurring within a reasonable historical time frame, representing similar economic realities as of the date of the valuation; and (3) With sufficiently specific and validly reported data.
Availability of Data (Guideline Public Company Method)	▪ The *Guideline Public Company Method* requires the use of a *sufficient* number of *freely traded (public) companies*, offering *similar services* to those provided by the subject hospital's enterprise as of the *date of the valuation*. ▪ The use of this method in the valuation of inpatient enterprises is common and is *recommended* in engagements where *sufficiently similar guideline public companies* exist. ▪ To facilitate the *comparability* of the subject enterprise and the *guideline inpatient enterprises*, the valuation analyst should employ *common sized multiples*, for example, price to revenue or price to EBITDA.
Income-Based Multiples	(1) Price to Net Income; (2) Price to Operating Income; (3) Price to EBITDA; (4) Price to EBITDAR; (5) Price to Revenue; (6) Price to Free Cash Flow to the Firm; (7) Price to Free Cash Flow to Equity.
Asset-Based Multiples	(1) Price to Book Value; (2) Price to Bed; (3) Price to Operating Room; (4) Price to Employee; (5) Price to Square Foot; (6) Price to Patient Bed Day; (7) Price to Admitting Physicians; (8) Price to Inpatient Admissions.

(*continued*)

TABLE 11.34 Typical Considerations in Using Market Approach–Based Methods (*continued*)

Pertinent Considerations	Description
Size Adjustment	■ *Pricing multiples* derived from the data of larger publicly traded companies can distort the indications of the value of smaller companies (if not appropriately adjusted). ■ The valuation analyst may choose to make adjustments to the utilized multiples in an effort to mitigate the impact of these distortions. (See Chapter 8, "Valuation Approaches and Methods")
Adjustment to Reflect Real Property Expenses	■ It is often the case that the value of an inpatient enterprise's real property, e.g., *buildings and land*, comprise a significant proportion of the inpatient enterprise's overall value. ■ Not all inpatient enterprises *own* the real property within which they operate, i.e., the real property may be *leased* from a *third party.* ■ The *guideline inpatient enterprises*, and/or *market transactions*, selected should reflect the same position, in regards to real property ownership, as the subject inpatient enterprise or, in the alternative, that adjustments are made, as necessary, to accommodate any differences in the treatment of *real property.*

In considering an *asset/cost approach–based methodology*, the valuation analyst should review the *pertinent facts and circumstances* particular to the use of these methods. An illustration of some of these considerations is presented in Table 11.35.

11.3.1 Other Pertinent Valuation Considerations

In addition to the typical valuation considerations described earlier, the valuation of inpatient enterprises should also include specific considerations of the *type*, *nature,* and *scope* of the subject enterprise being appraised. Table 11.36 illustrates some of the consideration specific to the valuation of hospitals.

There also exist considerations unique to the valuation of long-term care facilities that are distinct from those of hospitals. An illustration of some of these considerations can be found in Table 11.37.

TABLE 11.35 Other Pertinent Considerations in Using an Asset/Cost-Based Approach

Pertinent Considerations	Description
Selection of Methodology	▪ May be applicable if after application of the *normalizing adjustments* to the subject inpatient enterprise's *revenues* and *expenses,* a *negative net cash flow* (or an *insufficiently positive net cash flow*) results. ▪ Indicates that the enterprise is worth more *dead* than *alive*, that is, the assets are worth more *sold separately* than if they were utilized in the *continued operation* of the enterprise or *the whole is lesser than the sum of its parts.*" ▪ Under the principle of *highest and best use*, to maximize the value of the enterprise to its owners, the assets should be transacted at the *sum* of their *individual asset values*.
Types of Tangible Assets Typically Found in Inpatient Enterprises	(1) Cash; (2) Accounts Receivable; (3) Prepaid Expenses; (4) Medical Equipment; (5) Office Equipment and Furniture. (6) Buildings; (7) Leasehold Improvements; (8) Land; (9) Construction in Progress.
Types of Intangible Assets Typically Found in Inpatient Enterprises	(1) Leasehold Interests; (2) Easements; (3) Building Permits; (4) Zoning Waivers; (5) Payor Contracts; (6) Managed Care Agreements; (7) Provider Service Agreements; (8) HMO Enrollment Lists; (9) Custodial Rights to Patient Medical Records; (10) Trained and Assembled Workforce in Place; (11) Employment Contracts; (12) Union Agreements; (13) Patients; (14) Copyrights; (15) Trademarks; (16) Royalty Agreements; (17) Trade Secrets; (18) Management Protocols and Procedures; (19) Treatment Plans/Care Mapping; (20) Management Information Systems; (21) ACO Contracts; (22) Organizational Documents; (23) Noncompete Covenants; (24) Vendor Contracts; (25) Supplier Contracts; (26) GPO Contracts; (27) Certificate of Need; (28) Brand Name.

TABLE 11.36 Other Pertinent Considerations in the Valuation of Hospitals

Pertinent Considerations	Description
Trauma Certification Level	▪ Affects the procedural mix that a hospital is capable of performing. ▪ The *existence* and *maintenance* is important to projecting the *amount* and *types* of procedures that will be performed at the hospital in the future.
General vs. Specialty Hospital	▪ *Specialty hospitals* will operate with a lower *overhead cost burden* than traditional *general hospitals*. ▪ The *gains to specialization* realized in *specialty hospitals* may result from: (1) *Efficiency gains* from performing a *high volume* of a *limited set of procedures*; and (2) The *exclusion* of *nonprofitable departments* (such as emergency departments).
For Profit vs. Not-for-Profit	▪ *Not-for-profit/tax-exempt* enterprises are motivated by their *stated charitable mission*. ▪ *For-profit* enterprises are motivated by the *profit maximization* motive. ▪ These differences impact the hospital's: (1) *scope of services* offered; (2) *payor mix*; and (3) *level of indigent care* provided.
Critical Access Hospital Designation	▪ Medicare Reimbursed on a *cost plus margin basis*. ▪ Payments equal to 101% of the *reasonable cost* of providing the service. ▪ *Expands access* to healthcare services by supporting *rural hospitals*.
Sole Community Hospital Designation	▪ *Enhanced Medicare reimbursement* to hospitals designated as *sole community hospitals*. ▪ Payments based on the historical hospital specific rate for the services provided. ▪ *Expands healthcare access* in *rural communities*, similar to the *critical access hospital designation*.
Governance	▪ *Sectarian or nonsectarian*. ▪ *Affects scope and nature of services provided*. ▪ The valuation analyst should consider whether the historical operating expense structure is indicative of the anticipated future expense burden.

TABLE 11.37 Other Pertinent Considerations in the Valuation of Long-Term Care Enterprises

Pertinent Considerations	Description
Occupancy Rates	■ The ability to distribute these fixed expenses over multiple revenue sources (i.e., residents) may greatly improve a long-term care facility's profitability. ■ Consideration should be given to the historical occupancy rates for the subject long-term care facility, as well as the future anticipated occupancy rates.
Payor Mix	■ A significant portion of revenue for long-term care facilities is derived from Medicaid payments, which are typically lower than other sources of revenue. ■ The portion of revenue derived from commercial insurance and other private payors may have a substantial impact on the projection of future reimbursement yields for the subject enterprise.
Ancillary Services and Technical Component Service Lines	■ Long-term care facilities may include the provision of ancillary services, such as physical therapy services. ■ Augments revenue generated from the residents. ■ Consideration should be given to isolating and valuing, *separately and distinctly*, any *significant ancillary services and technical component service lines*.
Membership in a Long-Term Care System	■ There may exist economies of scale available to long-term care facilities that are part of a larger healthcare system. ■ Consideration should be given to whether these economies of scale would be expected by the universe of typical buyers, sellers, and investors in the subject enterprise.

11.4 CONCLUSION

As mentioned in the introduction to this book, the continued rise in healthcare expenditures, the growing segment of the U.S. population that is uninsured or underinsured, and the increase in demand for care from the changing patient demographic of the aging baby boomer population are just a few of several catalysts that have led to the perception that the current

healthcare environment may be the "*perfect storm*" driving this new *era of reform*. Regardless of the perspective, it is clear that change is happening and will need to continue, to address these circumstances.

> *To meet the needs of the baby boom generation, clinical integration within hospital and health systems is critical to ensure that quality is at a high level, costs are reduced, and the standard of performance is consistent across all sites of care and among all physicians. . . . New organizational models are being created to better align the interests of physicians and hospitals and to increase accountability for quality, cost, and service. These new models will help repair our broken system and help hospital leaders lead with quality as they work with physicians to bend the cost curve.*[289]

In the wake of the June 2012 U.S. Supreme Court's ACA decision, which cemented this new *era of healthcare reform, inpatient enterprises*, including *hospitals* and *long-term care enterprises*, will need to accelerate their integration with *physicians* and other *outpatient enterprises* in order to develop *new models* of *cooperation* and *collaboration* among providers and increase the *efficiency*, *access to*, and *quality* of healthcare services delivered in the United States. In the 1990s, hospitals took on the role of *integrators* and *coordinators of care* when the "*covered life*" became the focus of *cost containment* strategies under the regime of *managed care*, which attempted to hold providers *accountable* for providing care to a population through *clinical practice standardization*, *selective contracting*, *low-cost settings*, *reduced discretionary hospital admissions*, and *effective use of staff*.[290] In that same manner, the role of hospitals is again evolving to that of "*population health manager*," as providers seek to navigate to an *accountable care* delivery system, that is, the latest version in a dialogue that has been progressing for several decades as to how to *manage* the *rising cost* of healthcare in a manner that addresses the dynamics of both *cost* and *quality*. The ability of hospitals to *cost-effectively* predict *patient outcomes*, as these enterprises accept greater *performance* and *service utilization risk*, will focus on maximizing the *number* of *patient lives covered*, rather than the *units of care* provided.[291]

---

[289] Nancy M. Schlichting, "Bending the Cost Curve: Hospitals Challenged to Lead with Quality to Reduce Costs," *Futurescan 2012*, Society for Healthcare Strategy and Market Development of the American Hospital Association, (2012), p. 36.

[290] Robert James Cimasi, *A Guide to Consulting Services for Emerging Healthcare Organizations* (New York: John Wiley & Sons, 1999), p. 12.

[291] Healthcare Financial Management Association, "Value in Health Care: Current State and Future Directions," June 2011, p. 35.

FOUR PILLARS OF HEALTHCARE ENTERPRISES

The four elements of the healthcare industry: reimbursement, regulatory, competition, and technologies.

The concept of the "Four Pillars" was developed by the book's author, Robert James Cimasi, MHA, ASA, FRICS, MCBA, AVA, CM&AA.

The challenges facing *inpatient enterprises*, in relation to their *economic value*, is described by the following:

> *The key questions for the new value equation can be articulated as this: How does a healthcare system produce a certain amount of healthcare at a stated and consistent quality, and provide that care to a population at a predetermined price? This is a classic manufacturing or production problem. Most healthcare organizations have never asked themselves this question, let alone tried to answer it. The solution requires changing the structure of delivery from its current orientation of "one physician taking care of one patient"—a system that has endured for decades if not centuries—to a team- and population based approach, which relies on the collection and use of accurate data, hind-end analytical techniques, and the constant measurement of cost and quality outcomes.*[292]

These *new integrated models of care delivery* and *provider affiliations* will interject new forms of volatility into the U.S. healthcare delivery system. In turn, this volatility will likely lead to the perception of greater investor risk, having a turbulent effect on existing traditional providers, and will most likely encourage a flight toward the perceived safety of size through consolidation, driving the volume, pace, and intensity of deals in the *healthcare inpatient enterprises transactional marketplace*. Within this context, the valuation of the various *inpatient enterprises* involved in these new affiliations and integration activities will necessarily involve a careful consideration of the *value drivers* that may be attributed to the subject enterprise within the construct of the *Four Pillars of Healthcare Valuation*, that is, *regulatory, reimbursement, competition*, and *technology.*

[292] Kenneth Kaufman and Mark E. Grube, "The Transformation of America's Hospitals: Economics Drives a New Business Model," Society for Healthcare Strategy and Market Development of the American Hospital Association (2012), p. 10.

11.5 KEY SOURCES

AHA Hospital Statistics

An annual survey and comprehensive reference for analysis and comparison of hospital trends

AHA Hospital Statistics: 2012 Edition, American Hospital Association, 2011

Almanac of Hospital Financial and Operating Indicators

An annual and comprehensive review of national hospital benchmarks.

Almanac of Hospital Financial and Operating Indicators, Ingenix (Eden Prairie, MN: OptumInsight, 2012)

Essentials of Managed Health Care

A comprehensive text regarding health insurance, managed care, payments, quality and utilization management, and finance.

Essentials of Managed Health Care, 6th ed., by Peter R. Kongstvedt (Burlington, MA: Jones & Bartlett Learning, 2012)

Health, United States

An annual survey and comprehensive report of patient health statistics and metrics, including morbidity, mortality, insurance, utilization, prevention, and expenditures.

Health, United States, 2011: With a Special Feature on Socioeconomic Status and Health, National Center for Disease Statistics (Washington, DC: U.S. Government Printing Office, 2012)

http://www.cdc.gov/nchs/hus.htm

HIMSS Leadership Survey

An annual survey of leading U.S. HIT professionals that reports trends regarding HIT priorities, technology utilization, and other issues that affect the healthcare industry

2012 HIMSS Leadership Survey, Healthcare Information and Management Systems Society, February 2012

Ibbotson Cost of Capital Yearbook

An annual comprehensive source for cost of capital statistical information by industry.

Ibbotson Cost of Capital 2012 Yearbook, Morningstar (Chicago: Morningstar, 2012)

IBIS World Industry Reports

IBISWorld's Industry Reports cover 700 different industries. Each industry report is presented in an objective, easy-to-understand format and is used for understanding market size, competitors, benchmarking, forecasting, business valuations, and litigation support.

http://www.ibisworld.com/

Long-Term Care Market March 2012

A report offering information regarding demographics, quality of care, U.S. health expenditures, fees, and payments of long-term care provider enterprises.

Long-Term Care Market March 2012, by Alison Sahoo, Kalorama Information, March 2012

Report to the Congress: Medicare Payment Policy

An annual report of Medicare payments and policy recommendations.

Report to the Congress: Medicare Payment Policy, Medicare Payment Advisory Commission (Washington, DC: MedPAC, March 2012)

http://medpac.gov/documents/Mar12_EntireReport.pdf

Standard Industrial Classification Manual 1987

A statistical classification standard underlying all establishment-based federal economic statistics classified by industry.

Standard Industrial Classification Manual 1987, Executive Office of the President, Office of Management and Budget (Springfield, VA: National Technical Information Service, 1987)

The Health Care M&A Report

A quarterly publication that details all mergers and acquisitions in the healthcare industry.

The Health Care M&A Report (Second Quarter 2012), Norwalk, CT: Irving Levin Associates, 2012

United States Department of Health and Human Services (HHS)

"The Department of Health and Human Services (HHS) is the United States government's principal agency for protecting the health of all Americans and providing essential human services." HHS has 11 agencies, among which are the Centers for Medicare and Medicaid Services (CMS), Indian Health Services (IHS), the Office of the Inspector General (OIG), and the National Institutes of Health (NIH).

"About HHS," Department of Health and Human Services, http://www.hhs.gov/about/ (accessed October 6, 2009)

http://www.hhs.gov/

Centers for Medicare and Medicaid Services (CMS)

The Centers for Medicare and Medicaid Services administer the Medicare, Medicaid, and CHIP programs. CMS is responsible for setting reimbursement rates under Medicare and Medicaid. The CMS website contains important information for beneficiaries of these programs, as well as guidelines for providers.

"Mission, Vision & Goals: Overview," Centers for Medicare and Medicaid Services, U.S. Department of Health and Human Services, http://www.cms.hhs.gov/MissionVisionGoals/ (accessed September 22, 2009)

http://www.cms.hhs.gov

United States Department of Health and Human Services (HHS) Office of Inspector General (OIG)

The Office of the Inspector General of the United States Department of Health and Human Services oversees all HHS programs in order to protect the integrity of the programs and the health and welfare of beneficiaries.

"Office of the Inspector General," U.S. Department of Health and Human Services, http://oig.hhs.gov/ (accessed September 22, 2009)

http://oig.hhs.gov/

11.6 ACRONYMS

Acronym	Full Title
3PL	Third-Party Logistics
ACA	Patient Protection and Affordable Care Act
ADE	Adverse Drug Event
AHA	American Hospital Association
AHC	Academic Health Center
ALL	Acute Lymphoblastic Leukemia
AMA	American Medical Association
AMC	Academic Medical Hospital
AOA	American Osteopathic Association
APC	Ambulatory Payment Classification
ASC	Ambulatory Surgery Center

ASHA	American Surgical Hospital Association
BBA	Balanced Budget Act of 1997
BPCA	Best Pharmaceuticals for Children Act
CAH	Critical Access Hospital
CF	Conversion Factor
CMS	Centers for Medicare and Medicaid Services
CON	Certificate of Need
CPOE	Computerized Physician Order Entry
CPT	Current Procedural Terminology
DME	Durable Medical Equipment
DNVHC	Det Norske Veritas Healthcare, Inc.
DoD	Department of Defense
DOL	Department of Labor
DRG	Diagnosis-Related Group
EHR	Electronic Health Record
FDA	Food and Drug Administration
FDASIA	Food and Drug Administration Safety and Innovation Act
FTC	Federal Trade Commission
GAO	U.S. Government Accountability Office
GDSN	Global Data Synchronization Network
GPO	Group Purchasing Organization
HCFA	Health Care Financing Administration
HHS	Department of Health and Human Services
HIPPS	Hospital Inpatient Prospective Payment System
HIT	Health Information Technology
HOPPS	Hospital Outpatient Prospective Payment System
ICU	Intensive Care Unit
IDS	Integrated Delivery System
IRS	Internal Revenue Service
IT	Information Technology
JIT	Just-in-Time
LOS	Length of Stay
LTACH	Long-Term and Acute Care Hospital
LTCH	Long-Term Care Hospital
MCO	Managed Care Organization
MDC	Major Diagnostic Category
MHPA	Mental Health Parity Act
MHPAEA	Mental Health Parity and Addiction Equity Act
MMA	Medicare Prescription Drug, Modernization and Improvement Act
MMIS	Materials Management Information System
NCQA	National Committee for Quality Assurance

NICU	Neonatal Intensive Care Unit
NIH	National Institutes of Health
NRP	National Research Program
OBRA	Omnibus Budget Reconciliation Act of 1987
OIG	Office of the Inspector General
PCP	Primary Care Physician
PDU	Product Data Utility
PHO	Physician Hospital Organization
PPACA	Patient Protection and Affordable Care Act
PPI	Physician Preference Item
PPS	Prospective Payment System
PREA	Pediatric Research Equity Act
RFID	Radio-Frequency Identification
RN	Registered Nurse
RPRI	Rural Policy Research Institute
SCH	Sole Community Hospital
SIMS	Supply Information Management System
SKU	Stock Keeping Unit
SNF	Skilled Nursing Facility
SSA	Social Security Act
TCO	Total Cost of Ownership
TJC	The Joint Commission

CHAPTER 12

The Valuation of Outpatient Enterprises

As demand for healthcare services continues to grow, *the site of service* at which these services are performed is experiencing a simultaneous transformation from the *inpatient* (e.g., hospital) setting to the *outpatient* setting.[1] This transformation is being driven by such factors as

[1]Harry A. Sultz and Kristina M. Young, "Hospitals: Origin, Organization, and Performance," in *Health Care USA: Understanding its Organization and Delivery*, 6th ed. (Boston: Jones and Bartlett Publishers, 2009), pp. 75, 103; "Ambulatory Care," in Ibid., pp. 121–124.

(1) *technological advancements*, (2) an increasingly *consumer-driven* and *convenience-driven* healthcare delivery environment, (3) *pressure from payors* and *potent demand*, and (4) the *entrance* and *diversification* of new and different *outpatient enterprises* (see Chapter 4, "Competition," and Chapter 5, "Technology"). Each of the outpatient enterprises discussed in this chapter (e.g., *physician professional practices*, *ambulatory surgery centers* (ASC), *diagnostic imaging centers*), whether affiliated with a larger hospital or healthcare system or operated as an independent freestanding facility, are influenced by certain market forces related to the *four pillars of healthcare valuation*, that is, (1) *regulatory*, (2) *reimbursement*, (3) *competition*, and (4) *technology*—each of which relates to almost all aspects of the U.S. healthcare delivery system. Each *outpatient enterprise* has unique *value drivers* that affect the *typical valuation approaches, methods, and techniques* that are often used in determining the *value* of these enterprises.

12.1 OVERVIEW OF VALUATION CONSIDERATIONS PERTINENT TO OUTPATIENT ENTERPRISES

Similar to that of other healthcare enterprises, the appraisal of outpatient enterprises should consider each of the three general valuation approaches, that is, the *income approach*, the *market approach*, and the *asset/cost approach*, each of which has its own specific valuation methods and techniques. Also, to assist in measuring the *relative risk of investment* in an outpatient enterprise, each valuation assignment should include a *benchmarking analysis*. "*Benchmarking*" is an analytical tool used to compare the subject enterprise's "*normalized*" financial statements against the performance of *similar companies* (reported in industry surveys and public filings), and may include the metrics set forth in Table 12.1.

Examples of various sources to locate outpatient enterprise benchmarking data are set forth in Table 12.2.

VALUATION APPROACHES

There are three main valuation approaches: (1) the income approach, (2) the market approach, and (3) the asset/cost approach, each with its own specific valuation methods.

TABLE 12.1 Variables to Consider for Benchmarking Outpatient Enterprises

Profitability	Liquidity	Operating Efficiency	Leverage	Quality	Other Ratios
Operating Profit Margin	Current Ratio	Days in Accounts Receivable	Debt-to-Equity Ratio	Mortality	Revenue per Outpatient Procedure
EBITDA Margin	Quick Ratio	Inventory Turnover	Interest-Bearing Debt/ Assets	Percentage of Procedures with Complications	Percentage of Medicaid Revenue
EBITDAR Margin	Working Capital to Revenue	Net Asset Turnover	Endowment to Debt	Patient Satisfaction Surveys	Percentage of Medicare Revenue
Free Cash Flow to Equity Margin	Days of Working Capital	Net Property and Equipment to Revenue	Altman Z-score	Percentage of Procedures Requiring Hospital Transfer	Capital Expenditures to Revenue
Free Cash Flow to Firm Margin	Working Capital Excluding Interest-Bearing Debt	Revenue to Fixed Costs	Interest Coverage Ratio	Patient Rating of Physician Communication	Depreciation to Revenue
Return on Sales	Endowment to Assets	Patients per FTE Provider	Degree of Operating Leverage	Patient Survey Rating of Health Promotion and Education	Encounters per Provider
Profit per Outpatient Procedure	Cash to Current Assets	Nonmedical Staff to Medical Staff Ratio	Degree of Financial Leverage	Patient Rating of Medical Staff	Case Mix
Return on Assets	Cash to Current Liabilities	Bad Debt Expense to Revenue	Degree of Total Leverage	Average Waiting Times	Revenue per Square Foot

TABLE 12.2 Sources for Outpatient Enterprise Benchmarking Data

Source	Description
BizMiner Industry Financial Profiles	Based on annual income tax returns, U.S. Census data, U.S. Bureau of Labor data, commercial real estate surveys, credit reporting agencies, and business directories.
Integra Industry Reports	Based on annual income tax returns, U.S. Department of Labor data, the National Company Database of Financial Product Usage and Demand, the Industry Geographic Analysis Database, U.S. Bureau of Labor Statistics, and the Purchase Opportunity Profiles Database.
IRS Corporation Source Book of Statistics of Income	Published by the Internal Revenue Service, based on annual tax returns.
Risk Management Association (RMA) Annual Statement Studies	Based on financial statements submitted to financial institutions across the United States.
MGMA Surveys	A comprehensive financial census of the MGMA membership designed to assist medical practice administrators in measuring and improving their organization's performance. Information is presented on revenue, staffing, operating costs, and other critical performance metrics for practices reporting at least three (3) full-time equivalent physicians.
SEC Filings	Publicly available financial data found in 10-Ks and 10-Qs.

"BizMiner Data and Sources," The Brandow Company, 2012, http://www.bizminer.com/resources/technical/our-data.php (accessed December 17, 2012); "MicroBilt's Integra Financial Benchmarking Data," by MicroBilt, 2012, http://www.microbilt.com/financial-benchmarking.aspx (accessed September 30, 2012); "SOI Tax Stats—Corporation Source Book," Internal Revenue Service, August 15, 2012, http://www.irs.gov/uac/SOI-Tax-Stats—-Corporation-Source-Book:—U.S.-Total-and-Sectors-Listing (accessed December 17, 2012); *2011–2012 Annual Statement Studies*, by Risk Management Association, 2012; "AHD.com Current Data Sources," American Hospital Directory, October 3, 2012, http://www.ahd.com/data_sources.html (accessed December 17, 2012).

For a detailed discussion regarding *benchmarking* in the healthcare industry, see Section 8.3.1, "Financial and Operational Benchmarking," in Chapter 8, "Valuation Approaches and Methods."

Pertinent considerations regarding the valuation of an outpatient enterprise using *income approach–based valuation methods* include those illustrated in Table 12.3, as well as those discussed in Section 8.1.1, "Income Approach," in Chapter 8, "Valuation Approaches and Methods."

The application of a *market approach–based methodology* requires the valuation analyst to use market data related to companies or transactions similar to the subject enterprise (see Section 8.1.2, "Market Approaches," in Chapter 8, "Valuation Approaches and Methods," for further discussion).

TABLE 12.3 Typical Valuation Considerations for Income Approach–Based Methods

Pertinent Consideration	Description
Projection of Revenue	Revenue projections should be based on sound, realistic assumptions regarding the future operating abilities of the subject enterprise. Forecasting techniques typically rely on logic posited on the Principle of Induction, which states that the *most recent past* may serve as the *best indicator of the future; however, past performance* is *not* always the *prologue to future performance*, e.g., reimbursement yields based on past data may be unreliable in the new reimbursement paradigm of payment based on quality and value; note that deviations from historical or industry trends should be *well reasoned* and *defensible*. *Revenue Projections* consist of two factors: (a) *volume* and (b) *reimbursement yield*. Volume is a function of two elements: (a) *changes in utilization demand* for services and (b) *changes in market share*. *Utilization Demand* is driven by two factors: (a) *population growth* and (b) *incidence and prevalence of disease*. *Market share* is based on the ability and capacity to obtain existing volume from competitors. In healthcare, *reimbursement yield* is driven by government regulation and other payor determinations, e.g., special attention should be given to bundling and unbundling of procedure codes, as well as procedure volume caps, which both affect the *reimbursement yield*.

(*continued*)

TABLE 12.3 Typical Valuation Considerations for Income Approach–Based Methods (*continued*)

Pertinent Consideration	Description
Projection of Economic Costs (i.e., Both Operating and Capital)	*Expense projections* should take into account the *most probable level* of economic operating expense burden and economic capital expense burden required to generate the level of revenue projected for the enterprise. When appraising a *control level of interest, the most probable level of expense burden* may be indicated from normative industry benchmark survey data. When appraising a *minority level of interest, depending on the facts and circumstances*, the property holder may be unable to make decisions related to the costs incurred by the enterprise, and therefore the *historical costs* are used as a basis for projection; under these circumstances, the expense projections should include consideration of the *fixed and variable portions* of operating expenses, which are typically projected at different rates of growth. As the level of revenue generated by the subject enterprise changes, the amount of *working capital* required to produce that level of revenue may also change. *Capital expenditures* should also be accounted for in the determination of the *periodic net economic benefit* accruing to the owner of the subject enterprise; note that in addition to *maintenance capital expenditures* for existing assets, the current capacity of the organization should be considered in light of the forecasts of increased patient/procedure volume in order to determine whether *additional capital expenditures* are warranted to accommodate the capacity needed to handle the increased volume.
Risk Adjusted Required Rate of Return	The *discount rate* used to *present value* the *future net economic benefit* should: (1) reflect the risk associated with investment in the subject property interest and (2) be at the level of cash flow used, e.g., *after-tax net cash flow* should be discounted at an *after-tax discount rate*.

Table 12.4 illustrates some of the *pertinent facts and considerations* that a valuation analyst should review in applying the *market approach–based methodologies*.

In considering an *asset/cost approach–based methodology*, the valuation analyst should review the *pertinent facts and circumstances* particular to the use of these methods (see Section 8.1.3, "Asset/Cost Approach–Based Methods," in Chapter 8, "Valuation Approaches and Methods," for further discussion). An illustration of some of these considerations is presented in Table 12.5.

TABLE 12.4 Typical Valuation Considerations for Market Approach–Based Methods

Pertinent Considerations	Description
Availability of Data (Guideline Transaction/ Merged and Acquired Method)	The Guideline Transaction/Merged and Acquired Method requires the use of reliable transaction data from a sufficient number of reliably reported transactions of enterprises offering: (1) Sufficiently specific and validly reported data; (2) Similar services and modes of delivery as those provided by the subject enterprise; (3) Transactions occurring within a reasonable historical time frame, representing similar economic realities as of the date of the valuation; and (4) A similar geographic/market service area scope.
Availability of Data (Guideline Public Company Method)	The *Guideline Public Company Method* requires the use of a *sufficient* number of *freely traded (public) companies*, offering *similar services* to those provided by the subject enterprise as of the *date of the valuation* The use of this method is *recommended* in engagements where *sufficiently similar guideline public companies* exist. Note that limited *publicly traded* physician professional practice enterprise data is available, making the use of the guideline public company method difficult. To facilitate the *comparability* of the subject enterprise and the *guideline inpatient enterprises*, the valuation analyst should employ *common sized multiples*, e.g., price to revenue or price to EBITDA.
Income-Based Multiples	(1) Price to Net Income; (2) Price to Operating Income; (3) Price to EBITDA; (4) Price to EBITDAR; (5) Price to Revenue; (6) Price to Free Cash Flow to the Firm; and (7) Price to Free Cash Flow to Equity.
Asset-Based Multiples	(1) Price to Book Value; (2) Price to Capacity Measure (e.g., Price to Operating Room for ASCs or Price to Chair for Infusion Centers); (3) Price to Provider; and (4) Price to Square Foot
Size Adjustment	*Pricing multiples* derived from the data of larger publicly traded companies may distort the indications of the value of smaller companies (if not appropriately adjusted). The valuation analyst may choose to make adjustments to the multiples used in an effort to mitigate the impact of these distortions. (See Chapter 8, "Valuation Approaches and Methods.")

TABLE 12.5 Typical Valuation Considerations for Asset/Cost Approach–Based Methods

Pertinent Considerations	Description
Use of Method	Asset/Cost Approach–Based Valuation Methods may be used to derive the value of a subject enterprise by separately identifying and appraising each *tangible* and *intangible* asset of the enterprise, aggregating the separately appraised indications of value into an accumulated value of the enterprise in its entirety.
Brief Description of Methodology	Asset/Cost Approach–Based Valuation Methods, under the *Principle of Substitution*, use the *replacement cost*, and in some rare instances the *reproduction cost*, as an indication of value for the subject property; note that when using an Asset/Cost Approach–based valuation method, the indication of value of the subject property should include consideration of the *economic depreciation* inherent in the property interest, i.e., the *functional/technological obsolescence*, *economic obsolescence*, and *physical deterioration*.
Types of Tangible Assets Found in Outpatient Enterprises Typically Appraised Using an Asset/Cost Approach–Based Valuation Method	(1) Medical Equipment; (2) Office Equipment and Furniture; (3) Supplies; (4) Buildings; (5) Leasehold Improvements; (6) Land; and (7) Construction in Progress.
Types of Intangible Assets Found in Outpatient Enterprises Typically Appraised Using an Asset/Cost Approach–Based Valuation Method	(1) Building Permits; (2) Zoning Waivers; (3) Payor Contracts, Managed Care Agreements, ACO Contracts; (4) Provider Service Agreements; (5) HMO Enrollment Lists; (6) Custodial Rights to Patient Medical Records; (7) Trained and Assembled Workforce in Place; (8) Employment Contracts; (9) Management Protocols and Procedures; (10) Treatment Plans/Care Mapping; (11) Management Information Systems; and (12) Certificate of Need.

12.2 PROFESSIONAL PRACTICES

Professional practices consist of *physicians*, *allied health professionals*, and *midlevel* and *technician and paraprofessional providers*, who typically provide services in an outpatient setting. The different types of *professional practices*, as well as the distinct *value drivers* related to these enterprises, will be discussed later.

12.2.1 Physician Professional Practices

As discussed in Chapter 2, "Reimbursement Environment," there are *two types of revenue streams*, that is, (1) the *professional component*, under which physician-centric work is reimbursed; and (2) the *ancillary services and technical component* (ASTC), under which tests and procedures are reimbursed. Both types of revenue may be provided by a *physician professional practice*; however, *the type of provider* who may perform *professional component services* is limited to those with certain credentials, for example, *licensed physicians*, *allied health professionals*, and certain *midlevel providers* (discussed later), while any qualified healthcare provider may perform ASTC services.

Physician professional services may be performed by either (1) a *Doctor of Medicine* (MD), also known as an *allopathic physician*, or (2) a *Doctor of Osteopathy* (DO), also known as a *holistic physician*.[2] In the United States,

PROFESSIONAL PRACTICE

Some number of providers (physicians, allied health professionals, or midlevel service providers) who form a legal entity through which they offer services (either through an outpatient facility or by contracting with another facility for their services).

[2] *Allopathy* is defined as the traditional form of medicine, whereby interventions and remedies are used to treat various illnesses or conditions. David E. Marchinko, ed., *Dictionary of Health Insurance and Managed Care* (New York: Springer, 2006), p. 18. *Osteopathy* is defined as a "whole person" approach to medicine, whereby physicians examine the whole body under the philosophy that health systems, e.g., the musculoskeletal system, assist the body's natural ability to heal. "About Osteopathic Medicine," American Osteopathic Association, http://www.osteopathic.org/osteopathic-health/about-dos/about-osteopathic-medicine/Pages/default.aspx (accessed January 3, 2013).

Midlevel Provider

Health practitioners who must hold a license to practice medicine and may (in some capacity) practice independently.

prior to beginning either an *allopathic* or an *osteopathic* medical education, students must earn a bachelor's degree from a four-year university.[3] Following undergraduate studies, the *Medical College Admission Test* (MCAT), a multiple choice standardized test designed to assess the examinee's (1) *problem-solving*, (2) *critical thinking*, (3) *writing skills*, and (4) *knowledge of science* is used by medical schools as a measure of a student's ability and likelihood of success in medical school, to determine acceptance.[4] While MDs and DOs possess many similarities as to their respective educational background and training, their schools differ by their fundamental philosophies.[5]

Allopathic universities and medical schools are accredited by the *Liaison Committee on Medical Education* (LCME).[6] After completion of medical

DOCTOR OF MEDICINE (MD)

Allopathic physicians graduate from a medical school or university accredited by the Liaison Committee on Medical Education (LCME).

"Doctor," definition in Stedman's Medical Dictionary, *edited by William R. Hensyl (Baltimore: William & Wilkins, 1990), p. 462.*

[3] "Requirements for Becoming a Physician," American Medical Association, http://www.ama-assn.org/ama/pub/education-careers/becoming-physician.page (accessed August 21, 2012).

[4] "About the MCAT Exam," Association of American Medical Colleges, https://www.aamc.org/students/applying/mcat/about/ (accessed August 21, 2012).

[5] "What Is a Doctor of Osteopathic Medicine (D.O.)?" American Osteopathic Association, 2012, https://www.osteopathic.org/osteopathic-health/about-dos/what-is-a-do/Pages/default.aspx (accessed August 11, 2012).

[6] "Overview: Accreditation and the LCME," Liaison Committee on Medical Education, 2012, http://www.lcme.org/overview.htm#recognition (accessed December 12, 2012).

DOCTOR OF OSTEOPATHY (DO)

Holistic physicians graduate from a medical school or university accredited by the Commission on Osteopathic College Accreditation that emphasizes a "*whole person" approach to medicine.*

"What Is a Doctor of Osteopathic Medicine (D.O.)?" American Osteopathic Association, 2012, https://www.osteopathic.org/osteopathic-health/about-dos/what-is-a-do/Pages/default.aspx (accessed August 11, 2012); "Osteopathic Medical Education" the American Osteopathic Association, 2009, http://www.osteopathic.org/index.cfm?PageID=ost_ome (accessed October 2, 2009).

school, newly graduated MDs enter into residency programs accredited by the *Accreditation Council for Graduate Medical Education* (ACGME) for an average of three to four additional years of training.[7] Similarly, *Osteopathic* students must complete four years at an osteopathic medical school accredited by the *Commission on Osteopathic College Accreditation* in order to receive their degrees as DOs.[8] Similar to their *allopathic* counterparts, DOs

Allopathy

The traditional form of medicine, whereby interventions and remedies are used to treat various illnesses or conditions.

Dictionary of Health Insurance and Managed Care, *edited by David E. Marchinko (New York: Springer, 2006), p. 18.*

[7] "Preparing for Medical School," American Medical Association, 2012, http://www.ama-assn.org/ama/pub/education-careers/becoming-physician/medical-school/preparing-medical-school.shtml (accessed August 9, 2012).

[8] "Colleges of Osteopathic Medicine," American Osteopathic Association, 2009, http://www.osteopathic.org/index.cfm?PageID=sir_college (accessed October 2, 2009); "Osteopathic Medical Education" the American Osteopathic Association, 2009, http://www.osteopathic.org/index.cfm?PageID=ost_ome (accessed October 2, 2009).

Osteopathy

A "whole person" approach to medicine, whereby physicians examine the whole body under the philosophy that health systems, for example, the musculoskeletal system, assist the body's natural ability to heal.

"About Osteopathic Medicine," American Osteopathic Association, http://www.osteopathic.org/osteopathic-health/about-dos/about-osteopathic-medicine/Pages/default.aspx (accessed January 3, 2013).

complete a 12-month internship, followed by an *American Osteopathic Association* (AOA) approved residency program in the specialty area of their choice, which may, depending on their designated specialty, last from two to six years.[9] Of note is that many *osteopathic physicians* choose to complete their residency through an *allopathic residency program*. A 2009 study found that from 1985 to 2006, the number of DOs in allopathic residencies, that is, those accredited by the ACGME, increased 419 percent, from 1,277 DOs in 1985 to 6,629 in 2006.[10]

Factoid

The number of DOs accredited by the ACGME increased 419 percent from 1985 (1,277 DOs) to 2006 (6,629 DOs).

"The Impact of Osteopathic Physicians' Participation in ACGME-Accredited Postdoctoral Programs, 1985–2006," by Mark Cummings and Donald J. Sefcik, Academic Medicine *84, no. 6 (June 2009): 733.*

[9] "Osteopathic Medicine," American Osteopathic Association, 2009, http://www.osteopathic.org/index.cfm?PageID=ost_omed (accessed October 2, 2009); "What Is a Doctor of Osteopathic Medicine (D.O.)?" American Osteopathic Association, 2012, https://www.osteopathic.org/osteopathic-health/about-dos/what-is-a-do/Pages/default.aspx (accessed August 11, 2012); "Osteopathic Medicine," American Osteopathic Association, 2009, http://www.osteopathic.org/index.cfm?PageID=ost_omed (accessed October 2, 2009).

[10] Mark Cummings and Donald J. Sefcik, "The Impact of Osteopathic Physicians' Participation in ACGME-Accredited Postdoctoral Programs, 1985–2006," *Academic Medicine* 84, no. 6 (June 2009): 733.

PRIMARY CARE

Services that are managed by a personal physician that typically include diagnostics, preventive services, and health maintenance.

Physician Characteristics and Distribution in the US, *2009 Edition, American Medical Association, 2009, p. xviii; "Primary Care," American Academy of Family Physicians, 2006, http://www.aafp.org/online/en/home/policy/policies/p/primarycare.printerview.html (accessed July 17, 2009).*

Osteopathic medical schools, unlike *allopathic programs*, emphasize "*a 'whole person' approach to medicine*" and, "*regard [the] body as an integrated whole*," rather than treating a patient's specific symptoms or illness.[11] Accordingly, osteopathic medical education typically has an intensified focus on *primary care* and *preventative medicine*.[12] While trained *allopathic physicians* are more prevalent in the U.S. healthcare market, the number of graduating *osteopathic physicians* is growing, with 65,565 DOs in the United States as of 2010, compared to 919,810 MDs in the same year.[13]

Outpatient enterprises may be classified by (1) the *Standard Industrial Classification* (SIC) and/or (2) the *North American Industry Classification System* (NAICS), which may assist in the benchmarking process discussed

[11] "What Is a Doctor of Osteopathic Medicine (D.O.)?" American Osteopathic Association, 2012, https://www.osteopathic.org/osteopathic-health/about-dos/what-is-a-do/Pages/default.aspx (accessed August 11, 2012).

[12] "What Is Osteopathic Medicine?" American Association of Colleges of Osteopathic Medicine, 2009, http://www.aacom.org/about/osteomed/Pages/default.aspx (accessed August 11, 2012).

[13] Wendy Fernando, "Osteopathic Medical School Graduate Numbers Continue to Rise Students to Help Mitigate National Primary Care Physician Workforce Shortage," American Association of Colleges of Osteopathic Medicine, August 2, 2010, http://www.aacom.org/news/releases/Pages/080210-pr.aspx (accessed November 21, 2012); American Medical Association, *Physician Characteristics and Distribution in the US*, 2012 Edition (Chicago: American Medical Association, 2012), pp. 8, 325.

Factoid

In 2010, there were more than 65,000 osteopathic physicians in the United States and more than 919,000 medical doctors.

"Osteopathic Medical School Graduate Numbers Continue to Rise Students to Help Mitigate National Primary Care Physician Workforce Shortage," by Wendy Fernando, American Association of Colleges of Osteopathic Medicine, August 2, 2010, http://www.aacom.org/news/releases/Pages/080210-pr.aspx (accessed November 21, 2012); Physician Characteristics and Distribution in the US*, 2012 Edition, American Medical Association (Chicago: American Medical Association, 2012), pp. 8, 325.*

later.[14] The SIC and NAICS codes under which *allopathic* and *osteopathic* services may generally be classified are set forth in Table 12.6.

Standard Industrial Classification (SIC) Codes

Originally developed in the 1930s, SIC codes are one to four digits in length and employed for classifying the type of industry under which a business primarily operates. Currently still used by the U.S. Securities and Exchange Commission (SEC).

"The History of NAICS," NAICS Association, 2008, http://www.naics.com/info.htm (accessed October 31, 2012); "Division of Corporate Finance: Standard Industrial Classification (SIC) Code List" U.S. Securities and Exchange Commission, October 26, 2011, http://www.sec.gov/info/edgar/siccodes.htm (accessed October 31, 2012).

[14] Originally developed in the 1930s, SIC codes are one to four digits in length and employed for classifying the type of industry under which a business primarily operates. "The History of NAICS" NAICS Association, 2008, http://www.naics.com/info.htm (accessed October 31, 2012). "Introduction to NAICS," U.S. Census Bureau, http://www.census.gov/eos/www/naics/index.html (accessed October 31, 2012); "Division of Corporate Finance: Standard Industrial Classification (SIC) Code List," U.S. Securities and Exchange Commission, October 26, 2011, http://www.sec.gov/info/edgar/siccodes.htm (accessed October 31, 2012).

TABLE 12.6 SIC and NAICS Codes for Outpatient Services—MD and DO Services

SIC		NAICS		
Code	Title	Code	Title	Description
8011	"Offices and Clinics of Doctors of Medicine"	621111	"Offices of Physicians (except Mental Health Specialists)"	This code is used for both MD and DO physicians who have independent medical or surgical practices, either general or specialized (not including psychiatry or psychoanalysis). The practice setting may be either office-based or hospital-based.
8031	"Offices and Clinics of Doctors of Osteopathy"			
8093	"Specialty Outpatient Facilities, NEC"	621410	"Family Planning Centers"	This code is used for medical staff operating office-based, independent practices, providing a broad range of family planning services, e.g., contraception, genetic and prenatal counseling, voluntary sterilization, and terminations of pregnancies.
		621493	"Freestanding Ambulatory Surgical and Emergency Centers"	This code is used for office-based practices that provide outpatient surgical services (e.g., orthoscopic or cataract surgery) or emergency care services (e.g., setting broken bones), often having in-office operating and recovery rooms.
		621112	"Offices of Physicians, Mental Health Specialists"	This code is used for both MD and DO physicians who have independent practices, either office-based or hospital-based specializing in a psychiatry or psychoanalysis
		621420	"Outpatient Mental Health and Substance Abuse Centers"	This code is used for office-based, independent practices that provide services for the diagnosis and counseling or treatment of mental health and/or substance abuse disorders.

"Division of Corporate Finance: Standard Industrial Classification (SIC) Code List," U.S. Securities and Exchange Commission, October 26, 2011, http://www.sec.gov/info/edgar/siccodes.htm (accessed October 31, 2012); *Annual Statement Studies: Financial Ratio Benchmarks*, 2011–2012 Edition, Risk Management Association, (Philadelphia: Risk Management Association, 2011), pp. 84, 85.

North American Industry Classification System (NAICS)

Adopted in 1997 to replace the SIC code system, the one-to-six digit NAICS codes have become the primary standard for industry classification for U.S. statistical purposes.

"Introduction to NAICS," U.S. Census Bureau, http://www.census.gov/eos/www/naics/index.html (accessed October 31, 2012)

12.2.1.1 Types of Physician Professional Practices In addition to the *site of service* at which physician services may be performed, physician professional practices may also be classified by the *type* and *scope* of services provided. The *Association of American Medical Colleges* (*AAMC*)[15] recognizes three defined general physician specialty categories: (1) *Primary Care*, (2) *Medical Specialties*, and (3) *Surgical Specialties*.[16]

12.2.1.1.1 Primary Care Practices *Primary care* may generally be classified as consisting of *general practice* and four *specialties*: (1) *family medicine*, (2) *internal medicine*, (3) *pediatrics*, and (4) *obstetrics and gynecology*.[17] Each of the *primary care specialties* is represented by an *American Board of Medical Specialties* (ABMS)–approved *medical specialty board*. *Primary care services* typically include those services related to: (1) *health promotion*, (2) *disease prevention*, (3) *health maintenance*, (4) *counseling*, (5) *patient education*, and (6) the *diagnosis* and *treatment* of *acute* and *chronic illnesses*, which are performed and managed by a *personal physician* who often *collaborates* with other healthcare providers and uses *consultations* or *referrals* to other specialists, when appropriate.[18] The supply and distribution of

[15]The American Association of Medical Colleges (AAMC) is a not-for-profit association, founded in 1876, that represents all levels of medical education, including medical schools, teaching hospitals, students, faculty, and research institutions. "About the AAMC," Association of American Medical Colleges, https://www.aamc.org/about/ (accessed November 27, 2012).

[16]"The Complex Dynamics of the Physician Workforce: Projected Supply and Demand through 2025," Michael J. Dill and Edward S. Salsberg, Center for Workforce Studies, Association of American Medical Colleges, November 2008, p. 16.

[17]American Medical Association, *Physician Characteristics and Distribution in the US*, 2009 Edition (Chicago: American Medical Association, 2009), p. xviii.

[18]"Primary Care," American Academy of Family Physicians, 2006, http://www.aafp.org/online/en/home/policy/policies/p/primarycare.printerview.html (accessed July 17, 2009).

TABLE 12.7 Supply of Primary Care Physicians in the United States by Specialty

	General Practice	Family Medicine	Internal Medicine	Pediatrics	OB/GYN
Total General Practice Physicians	8,591	87,618	161,276	76,401	42,797
Office-Based	7,202	69,896	110,612	53,054	34,083
Hospital-Based Staff	1,041	6,280	15,931	7,725	2,892
Mean Age (Office-Based)	64.4	48.6	49.5	48.9	49.6
Certified	1,240	73,115	125,291	61,284	33,024
Gender (Overall)					
Male	6,735	55,242	107,094	33,322	21,977
Female	1,856	32,376	54,182	43,079	20,820
Gender (Office-Based)					
Male	5,731	44,946	75,463	23,831	18,592
Female	1,471	24,950	35,149	29,223	15,491

American Medical Association, *Physician Characteristics and Distribution in the US*, 2012 Edition (Chicago: American Medical Association, 2012), pp. 9, 16, 22, 31–33, 67.

primary care physicians in the United States, as of 2010, as reported by the *American Medical Association* (AMA), is set forth in Table 12.7.

The percentage change in the supply of *primary care physicians* in the United States, from 1975 to 2010, as reported by the AMA, is set forth in Table 12.8.

As indicated in Table 12.8, the total number of *general practice physicians* has *decreased* by almost 80 percent between 1975 and 2010, that is,

Factoid

Internal medicine represents the largest segment of the U.S. physician population, accounting for 16.6 percent of the total physician population.

American Medical Association, Physician Characteristics and Distribution in the US, *2012 Edition (Chicago: American Medical Association, 2012), p. 288.*

TABLE 12.8 Supply of Primary Care Physicians in the United States, 1975–2010, by Specialty

	1975	1980	1985	1990	1995	2000	2010	Percentage Change (1975–2010)	Percentage Change (1990–2010)	Compound Annual Growth Rate (1975–2010)	Compound Annual Growth Rate (1990–2010)
General Practice	42,374	32,519	27,030	22,841	16,867	15,213	8,591	**–79.73%**	**–62.4%**	**–4.5%**	**–4.8%**
Family Medicine	12,813	27,530	40,021	47,639	59,345	71,635	87,618	**583.82%**	**83.9%**	**5.6%**	**3.1%**
Internal Medicine	54,331	71,531	88,862	98,349	115,168	134,539	161,276	**196.84%**	**64.0%**	**3.2%**	**2.5%**
Pediatrics	22,192	28,803	36,026	40,893	50,620	62,386	76,401	**244.27%**	**86.8%**	**3.6%**	**3.2%**
OB/GYN	21,731	26,305	30,867	33,697	37,652	40,241	42,797	**96.94%**	**27.0%**	**2.0%**	**1.2%**
Total	153,441	186,688	222,806	243,419	279,652	324,014	376,683	**145.49%**	**54.7%**	**2.6%**	**2.2%**

American Medical Association, *Physician Characteristics and Distribution in the US*, 2012 Edition (Chicago: American Medical Association, 2012), pp. 288, 440–444, 449–452.

Factoid

The total number of general practice physicians has decreased by almost 80 percent between 1975 and 2010, while the number of family medicine physicians steadily increased during the same time.

American Medical Association, Physician Characteristics and Distribution in the US, *2012 Edition (Chicago: American Medical Association, 2012), p. 443.*

from 42,374 in 1975 to 8,591 in 2010.[19] A portion of this decline has been attributed to the advent of the *family medicine physician* specialty designation in 1975. The number of *family medicine physicians* totaled 12,813 in 1975 and has steadily increased to 87,618 in 2010.[20] Among all of the primary care specialties, *internal medicine* has represented the largest segment of the U.S. physician supply since 1975, with 54,331 physicians in 1975, accounting for 13.8 percent of the total physician population and 161,276 physicians in 2010, accounting for 16.6 percent of the total physician population.[21]

A table of the certification requirements related to each of the *primary care physician professional* specialties can be found online at http://www.wiley.com/go/healthcarevaluation.

12.2.1.1.2 Specialty Care Practices *Specialty care* physicians, in contrast to *primary care physicians*, are those practitioners who have obtained certification by a specialty board in one of the various medical specialties, as defined by the ABMS, including, but not limited to:

1. **Allergy and Immunology**—The evaluation, diagnosis, and management of immune system disorders;
2. **Anesthesiology**—Pain relief management; the evaluation of risk and the management of pain conditions before, during, and after surgical procedures;

SPECIALTY CARE

Services that are generally referred and operate under one of the various medical specialties.

[19] American Medical Association, *Physician Characteristics and Distribution in the US*, 2012 Edition (Chicago: American Medical Association, 2012), p. 443.

[20] Ibid.

[21] Ibid., p. 288.

3. **Dermatology**—The diagnoses and treatment of skin, mouth, external genitalia, hair, and nail disorders and diseases;
4. **Cardiology**—The diagnosis and treatment of diseases and disorders of the heart;
5. **Emergency Medicine**—The immediate and accurate recognition, evaluation, treatment, and stabilization of victims of acute illness or injury;
6. **Medical Genetics**—Diagnostic and therapeutic care for patients suffering from genetically linked diseases and disorders;
7. **Neurology**—The diagnosis and treatment of conditions related to neurological structures;
8. **Nuclear Medicine**—The evaluation of molecular, metabolic, physiological, and pathologic conditions, diseases, and disorders through the utilization of tracers (e.g., radiopharmaceuticals) and molecular imaging;
9. **Pathology**—The application of knowledge of disease form and functionality in the diagnosis, management, and treatment of disease;
10. **Physical Medicine and Rehabilitation**—The evaluation, diagnosis, and treatment of patients with musculoskeletal system disorders and conditions;
11. **Preventive Medicine**—Focuses on preventing adverse health conditions and premature death;
12. **Psychiatry**—The prevention, diagnosis, and treatment of disorders relating to psychological health;
13. **Radiology**—The use of imaging and other radiological methods to diagnose and/or treat disease; and
14. **Oncology**—The study, classification, and treatment of tumors and cancer.

Each specialty varies in the *type and scope of services* typically provided, the *certifications* available, and the type of patients and conditions typically treated.[22]

The supply and distribution of specialty physicians in the United States, as of 2010, as reported by the AMA, is set forth in Table 12.9.

The percentage change in the supply of specialist physicians in the United States for the period from 1975 to 2010, as reported by the AMA, is set forth in Table 12.10.

While the ABMS and the AOA offer many of the certifications available to physicians, they are also the umbrella organizations for various certification boards, through which physicians become certified in a particular specialty. A table of the certification requirements related to each type of *specialty physician professional*, as well as the contact information

[22] For more information physician certification and the AMBS, see Section 3.8, "Licensure, Certification, and Accreditation Regulations," in Chapter 3, "Regulatory Environment."

TABLE 12.9 Supply of Specialist Physicians in the United States by Specialty

	Allergy and Immunology	Anesthesiology	Dermatology	Cardiology	Emergency Medicine	Medical Genetics	Neurology
Total Specialty Physicians	4,312	43,359	11,316	22,888	33,278	597	15,850
Office-Based	3,391	31,819	9,272	17,454	20,654	260	10,547
Hospital-Based Staff	206	5,113	512	1,684	6,754	106	2,522
Mean Age (Office-Based)	50.1	50.5	50.6	53	46.6	48.8	52.2
Certified	3,958	32,226	9,645	21,441	24,882	540	11,967
Gender (Overall)							
Male	2,956	32,922	6,385	20,294	24,978	314	11,315
Female	1,356	10,437	4,931	2,594	8,300	283	4,535
Gender (Office-Based)							
Male	2,398	25,021	5,447	15,750	15,802	129	7,851
Female	993	6,798	3,825	1,704	4,852	131	2,696

(*continued*)

TABLE 12.9 Supply of Specialist Physicians in the United States by Specialty (*continued*)

	Nuclear Medicine	Oncology	Pathology	Physical Medicine and Rehabilitation	Preventive Medicine	Psychiatry	Radiology
Total Specialty Physicians	1,456	4,698	19,027	9,045	2,227	39,738	9,386
Office-Based	863	3,379	10,688	6,454	1,224	25,690	7,032
Hospital-Based Staff	285	611	2,923	1,038	285	6,593	1,275
Mean Age (Office-Based)	54	55.2	54.4	48.8	49.3	55.1	62.3
Certified	1,213	3,817	15,416	6,963	1,662	26,341	8,742
Gender (Overall)							
Male	1,134	3,500	12,014	6,036	1,334	25,474	7,819
Female	322	1,198	7,013	3,009	893	14,264	1,567
Gender (Office-Based)							
Male	692	2,556	6,880	4,439	717	16,732	5,928
Female	171	823	3,808	2,015	507	8,958	1,104

American Medical Association, *Physician Characteristics and Distribution in the US*, 2012 Edition (Chicago: American Medical Association, 2012), pp. 9, 15–19, 22, 31–33, 67.

TABLE 12.10 Supply of Specialty Physicians in the United States, 1975–2010, by Specialty

	1975	1980	1985	1990	1995	2000	2010	Percentage Change (1975–2010)	Percentage Change (1990–2010)	Compound Annual Growth Rate (1975–2010)
Allergy and Immunology	1,716	1,518	3,060	3,388	3,775	3,998	4,312	151.3%	27.3%	2.7%
Anesthesiology	12,861	15,958	22,021	25.981	32,853	35,715	43,359	237.1%	66.9%	3.5%
Dermatology	4,661	5,660	6,582	7,557	8,563	9,675	11,316	142.8%	49.7%	2.6%
Cardiology	6,933	9,823	13,224	15,862	18,998	21,025	22,888	230.1%	44.3%	3.5%
Emergency Medicine	n/a	5,699	11,283	14,243	19,112	23,064	33,278	483.9%	133.6%	n/a
Medical Genetics	n/a	n/a	n/a	n/a	179	361	597	N/A	233.5%	n/a
Neurology	4,131	5,685	7,776	9,237	11,397	12,333	15,850	283.7%	71.6%	3.9%
Nuclear Medicine	n/a	n/a	1,352	1,340	1,435	1,448	1,456	N/A	8.7%	
Oncology	1,169	1,581	2,272	2,821	3,630	3,904	4,698	301.9%	66.5%	4.1%
Pathology	11,720	13,402	15,456	16,170	17,824	18,220	19,027	62.3%	17.7%	1.4%
Physical Medicine and Rehabilitation	1,664	2,146	3,258	4,105	5,565	6,512	9,045	443.6%	120.3%	5.0%
Preventive Medicine	789	810	933	1,036	1,269	1,718	2,227	182.3%	115.0%	3.0%
Psychiatry	23,922	27,481	32,255	35,163	38,098	39,457	39,738	66.1%	13.0%	1.5%
Radiology	11,527	11,653	8,757	8,492	8,038	8,661	9,386	–18.6%	10.5%	–0.6%
Total	81,093	101,416	128,229	145,395	170,736	186,091	217,177	167.8%	49.4%	2.9%

American Medical Association, *Physician Characteristics and Distribution in the US*, 2012 Edition (Chicago: American Medical Association, 2012), pp. 440–444, 449–452.

for applicable certification boards, can be found online at http://www.wiley.com/go/healthcarevaluation

12.2.1.1.3 Surgical Practices *Surgeons* are practitioners who have obtained *certification* from a specialty board in either:

1. *General surgery;*
2. *Colon and rectal surgery;*
3. *Neurological surgery;*
4. *Ophthalmic surgery;*
5. *Orthopedic surgery;*
6. *Otolaryngology surgery;*
7. *Plastic surgery;*
8. *Thoracic and cardiovascular surgery; or*
9. *Urology surgery* or another surgical specialty.

The supply and distribution of surgeons in the United States, as of 2010, as reported by the AMA, is illustrated in Table 12.11.

The percentage change in the supply of *surgeons* in the United States, for the period from 1975 to 2010, as reported by the AMA, is set forth in Table 12.12.

From 1975 to 2010, the number of *surgeons* in the United States increased 63.3 percent, from 74,284 surgeons to 121,311 surgeons, representing a per capita growth from 33.9 surgeons per 100,000 persons in 1975 to 39.3 surgeons per 100,000 persons in 2010.[23] This growth may likely be largely attributable to a trend toward *surgical subspecializations*, with 70 percent of all medical residents completing surgical fellowships in 2004.[24] The decline of *general surgeons* and the increasing trend toward *surgical subspecialization* may be due, in part, to the decline in the average general surgeon's income from 2011 to 2012, which, at 12 percent, was the largest income decrease for any physician specialty.[25] Despite the decline in

[23] American Medical Association, *Physician Characteristics and Distribution in the US*, 2012 Edition (Chicago: American Medical Association, 2012), pp. 440–444, 449–452.

[24] Josef E. Fischer, "The Impending Disappearance of the General Surgeon," *Journal of the American Medical Association* 298, no. 18 (November 14, 2007), p. 2191; Heather Yeo, Kate Viola, David Berg, Zhenqiu Lin, et al., "Attitudes, Training, Experiences, and Professional Expectations of US General Surgery Residents: A National Survey," *Journal of the American Medical Association* 302, no. 12 (September 23/30, 2009): 1301.

[25] "*Physician Compensation Report 2012*," Medscape, 2012, http://www.medscape.com/features/slideshow/compensation/2012/public (accessed December 18, 2012), p. 3.

TABLE 12.11 Supply of Surgeons in the United States by Specialty

	General Surgery	Colon and Rectal Surgery	Neurological Surgery	Ophthalmic Surgery	Orthopedic Surgery	Otolaryngology Surgery	Plastic Surgery	Thoracic and Cardiovascular Surgery
Total General Practice Physicians	37,100	1,491	5,781	18,457	25,241	10,326	7,418	4,605
Office-Based	24,327	1,275	3,998	15,723	19,325	7,964	6,810	3,601
Hospital-Based Staff	3,655	109	501	862	1,518	662	335	566
Mean Age (Office-Based)	52.6	49.2	52.2	51.9	53	51.6	52.6	54.4
Certified	25,334	1,398	3,809	15,394	19,125	7,982	6,025	4,225
Gender (Overall)								
Male	30,460	1,245	5,351	14,561	23,804	8,779	6,389	4,384
Female	6,640	246	430	3,896	1,437	1,547	1,029	790
Gender (Office-Based)								
Male	21,204	1,079	3,775	12,749	18,537	7,035	5,421	3,462
Female	3,123	196	223	2,980	788	929	759	458

American Medical Association, *Physician Characteristics and Distribution in the US*, 2012 Edition (Chicago: American Medical Association, 2012), pp. 9, 15–19, 22, 31–33, 67.

TABLE 12.12 Supply of Surgeons in the United States, 1975–2010, by Specialty

	1975	1980	1985	1990	1995	2000	2010	Percentage Change (1975–2010)	Percentage Change (1990–2010)	Compound Annual Growth Rate (1975–2010)	Compound Annual Growth Rate (1990–2010)
General Surgery	31,562	34,034	38,169	38,376	37,569	36,716	37,291	18.2%	–2.8%	0.5%	–0.1%
Colon and Rectal Surgery	661	719	817	882	990	1,127	1,491	125.6%	69.0%	2.4%	2.7%
Neurological Surgery	2,926	3,341	4,019	4,358	4,888	4,997	5,781	97.6%	32.7%	2.0%	1.4%
Ophthalmic Surgery	11,129	12,974	14,881	16,073	17,464	18,126	18,457	65.8%	14.8%	1.5%	0.7%
Orthopedic Surgery	11,379	13,996	17,166	19,138	22,037	22,287	25,241	80.3%	31.9%	2.3%	1.4%
Otolaryngology Surgery	5,745	6,553	7,267	8,138	9,086	9,417	10,326	57.6%	26.9%	1.7%	1.2%
Plastic Surgery	2,236	2,980	3,951	4,590	5,493	6,200	7,418	148.9%	61.6%	3.5%	2.4%
Thoracic and Cardiovascular Surgery	1,979	2,133	2,183	2,063	2,310	4,953	4,605	115.9%	123.2%	2.4%	4.1%
Urology Surgery	6,667	7,743	8,836	9,372	9,886	10,301	10,701	38.2%	14.2%	1.4%	0.7%
Total	74,284	84,478	97,289	102,990	109,723	114,125	121,311	63.3%	17.8%	1.4%	0.8%

American Medical Association, *Physician Characteristics and Distribution in the US,* 2012 Edition (Chicago: American Medical Association, 2012), pp. 440–444, 449–452.

Factoid

General surgeons ranked among the top ten specialty fields for physicians in 2010, representing 6.5 percent of the total physician population.

American Medical Association, Physician Characteristics and Distribution in the US, *2012 Edition (Chicago: American Medical Association, 2012), p. 1.*

the number of general surgeons, in 2010, with 37,100 general surgeons, this specialty still ranked among of the top ten fields for physicians, representing 6.5 percent of the total physician population.[26]

A table of the certification requirements related to each type of surgeon can be found online at http://www.wiley.com/go/healthcarevaluation.

12.2.1.2 Current and Future Trends: Regulatory, Reimbursement, Competition, and Technology

12.2.1.2.1 Regulatory Improving *access to primary care* services is a primary goal of the *Patient Protection and Affordable Care Act* (ACA). As discussed in Chapter 6, "Healthcare Reform," the ACA has ushered in a host of reform initiatives that are likely to have a significant impact on physician professional practices, for example (1) the *individual mandate*, (2) the *voluntary Medicaid expansion program*, (3) increased *funding for primary care services*, (4) increased *fraud and abuse scrutiny*, and (5) *various reimbursement cuts*.[27]

12.2.1.2.2 Reimbursement While physician professional practices may be reimbursed by numerous different payors (see the discussion of the payor mix, later), Medicare acts as the *gold standard*, with most other payors, for example, commercial payors, typically reimbursing physicians at a multiple of the Medicare established rate. Accordingly, trends within the Medicare program are often mimicked in reimbursement trends for other payors.

---

[26] American Medical Association, *Physician Characteristics and Distribution in the US*, 2012 Edition (Chicago: American Medical Association, 2012), p. 1.

[27] Within the June 28, 2012, Supreme Court ruling upholding most of the ACA, the required Medicaid expansion (whereby states would have to increase Medicaid eligibility to 133 percent of the Federal Poverty Limit in 2014) was changed to a voluntary program. (See Chapter 6, "Healthcare Reform.") For more information on how these regulations affect all healthcare enterprises, see Chapter 3, "Regulatory Environment."

During the last several years, physicians have faced decreasing Medicare reimbursements. Since 2002, the *sustainable growth rate* (SGR) formula used under the *Medicare Physician Fee Schedule* (MPFS) has indicated that reimbursement should be adjusted *downward*. While Congress has *intervened* every year since 2003 to *maintain* physician payment rates and frequently increased payments slightly instead, the topic regarding the continued threat of the application of SGR cuts to physician reimbursement (which are estimated to reach 30 percent in 2014) has become an increasingly heated debate and a source of uncertainty regarding reimbursement.[28] While the topic of the SGR was not specifically addressed in the ACA, the possible repeal of the SGR has been suggested by many physician advocacy groups, as well as by the *Medicare Payment Advisory Commission* (MedPAC).[29]

A survey performed by *the Physicians Foundation* found that in 2012, 8.6 percent of those physicians surveyed had closed their practice to Medicare patients due to reimbursement constraints, as compared to 6.2 percent of physicians surveyed in 2008. The survey also indicated that in 2012, 22.9 percent of surveyed physicians "*place[d] new or additional limits on Medicare acceptance*," and an additional 28.3 percent of surveyed physicians would do so if Medicare reimbursements were to decrease by 10 percent or more.[30]

As discussed in Chapter 2, "Reimbursement Environment," physicians bill for their *professional services* through the use of the *current procedural terminology* (CPT) codes. *Primary care physicians* generally bill under *evaluation and management* (E/M) codes (CPT codes 99201–99499) that quantify the cost of a *patient visit* or a *diagnostic consultation*, rather than for procedures (all remaining CPT Codes). In contrast, specialty physicians

[28] See Table 2.8, "Annual Updates to the MPFS CF (CMS Final Rule v. Congressional Action), 1997–2013," in Chapter 2, "Reimbursement Environment." Of note is that on January 1, 2013, the 112th Congress passed *The American Taxpayer Relief Act of 2012*, which averted the "*fiscal cliff*" and prevented the threatened 27 percent SGR cuts for another year. "American Taxpayer Relief Act of 2012" H.R.8 (January 1, 2013), p. 84. "CBO Estimate of Changes in Net Federal Outlays from Alternative Proposals," Congressional Budget Office, April 30, 2010, http://www.coburn.senate.gov/public//index.cfm?a=Files.Serve&File_id=a7b5187f-3998-4685-9a5a-6b764e8ba14f (accessed February 7, 2013).

[29] For more information on the continued *SGR debate* and proposals for the *repeal* of the SGR, see Section 2.4.1.3.2.6, "The Sustainable Growth Rate—a Continuing Saga," in Chapter 2, "Reimbursement Environment."

[30] *A Survey of America's Physicians: Practice Patterns and Perspectives*, The Physicians Foundation, 2012, pp. 42, 47.

and surgeons more often bill under *procedure codes*. Physician services performed in an *office setting* are reimbursed by Medicare, under the MPFS for both the *technical* and the *professional components;* however, similar physician services provided in a *hospital outpatient department* are reimbursed at a higher rate under the *Outpatient Prospective Payments System* (OPPS).

Unique to anesthesiology reimbursement is the application of a *specialty specific conversion factor* (CF) to anesthesiology services performed under the MPFS, rather than the CF applied for all other physician services. From 1992 (when the current *Resource Based Relative Value Scale* [RBRVS] physician fee schedule and the associated CF methodology went into effect) to 2012, the percentage change for the *anesthesia* CF (157 percent from 1992 to 2012) has been significantly larger than the *general* CF (109.8 percent from 1992 to 2012).[31] For a detailed discussion of the MPFS and a description of the conversion factor, see Chapter 2, "Reimbursement Environment."

Under the current reimbursement environment, it is critical that physicians and support staff collaborate together to ensure that all services rendered are accurately and completely captured in the charges to third-party payors. However, with the passage and affirmation of the ACA (see Chapter 6, "Healthcare Reform"), the reimbursement environment is slowly shifting from the current *fee-for-service* (FFS) *model* (where purely higher utilization leads to higher reimbursement) to a *value-based reimbursement model* emphasizing *episodes of care*, *quality outcomes*, and the *reduction of costs*.

In addition to these *regulatory reforms* mandated under the ACA related to physician professional practices, several *reimbursement reforms* have also been initiated by the legislation. For example, in an attempt to address the reimbursement gap between *primary care physicians* and *specialty physicians*, Congress enacted the *Medicare Primary Care Incentive Program* (PCIP) in 2010 as part of the ACA.[32] The *PCIP* provides a quarterly *incentive payment* of 10 percent of Medicare's program payments to *qualified*

---

[31] Tony Mira, "The Anesthesia Conversion Factor and the Medicare Fee Schedule," *The Anesthesia Insider*, July 2, 2012, http://www.anesthesiallc.com/easyblog/entry/the-anesthesia-conversion-factor-and-the-medicare-fee-schedule (accessed November 15, 2012), pp. 1–2.

[32] Medicare generally reimburses medical procedures, typically provided by specialists and surgeons, at significantly higher rates than office visits, which are typically provided by primary care physicians. See the discussion on evaluation and management (E/M) codes and the current debate regarding the specialist heavy makeup of the Relative Value Scale Update Committee (RUC) (Section 2.4.1.3.2.7) in Chapter 2, "Reimbursement Environment." "Patient Protection and Affordable Care Act: Section 550l (a)," *Pub. L.* 111-148, March 23, 2010, p. 124, Stat. 652.

primary care physicians, for eligible primary care *services*, which include (1) *office and other outpatient visits*; (2) *nursing facility, domiciliary, rest home, or custodial care*; and (3) *home health services*.[33]

In addition to increasing the reimbursement yields for primary care services, the ACA implemented several *episode-based payment* models designed to promote lower costs and higher quality of care, for example, *Bundled Payments for Care Improvement Initiative* (*Bundled Payments Initiative*). CMS recently implemented the *Bundled Payments Initiative* on August 23, 2011, presenting four options, that is, (1) apply a discounted *inpatient prospective payment system* (IPPS) payment only to inpatient services; (2) apply a retrospective comparison of target price and actual FFS payment to inpatient stay, as well as postdischarge services; (3) apply a retrospective comparison of target price and actual FFS payment to postdischarge services only; and (4) apply a prospectively set payment only to inpatient services, through which participating physicians could receive *incentive payments* for achieving certain objectives, all of which are designed to encourage *coordination of care* and *lower costs* by allowing providers to *share in the cost savings achieved*, based on the historic *FFS payment rate* and a *discounted target price per episode of care*.[34] For more information on bundled payments, see Section 2.7.1.1.1, "Bundled Payments," in Chapter 2, "Reimbursement Environment."

12.2.1.2.3 Competition The ACA's *individual mandate*, as well as the demographic time bomb resulting from the aging U.S. population, may result in a physician manpower shortage in the United States

[33] Qualified physicians include those providers with specially designations of family medicine, internal medicine, geriatric medicine, or pediatric medicine, and whose historical Medicare claims data for the previous two-year period (or the total amount of historical data available less than two years old) consists of at least 60 percent eligible primary care services (CPT codes 99201 through 99215, office and other outpatient visits; 99304 through 99340, nursing facility, domiciliary, rest home, or custodial care; and 99341 through 99350, home services). Nurse Practitioners (NP), Clinical Nurse Specialists (CNS), or Physician Assistants (PA) who meet the eligibility criteria set forth above may also qualify for incentive payments. "Summary Information Regarding Medicare's Primary Care Incentive Payment Program (PCIP)," Centers for Medicare and Medicaid Services, MLN Matters Number: SE1109, November 27, 2012, http://www.cms.gov/Outreach-and-Education/Medicare-Learning-Network-MLN/MLNMattersArticles/downloads/SE1109.pdf (accessed December 8, 2012).

[34] "Bundled Payments for Care Improvement Initiative," Centers for Medicare and Medicaid Services, August 23, 2011, http://www.innovations.cms.gov/areas-of-focus/patient-care-models/bundled-payments-for-care-improvement.html (accessed October 24, 2011), pp. 3, 5–6.

(see Secion 4.3.4, "The Physician-Workforce Shortage: Demand Outpaces Supply" in Chapter 4, "Competition").[35] In 2010, prior to the passage of the ACA, there was a shortage of 13,700 physicians across all specialties.[36] The demand for physician services will only increase as the ACA makes healthcare available to the pool of uninsured individuals in the United States. In the specialty of cardiology, in particular, the *American College of Cardiology* (ACC) determined that as of 2009, "the overall demand for cardiologists in total and each of the 4 secondary specialty subgroups [i.e., general, interventional, electrophysiology, and pediatric cardiology] far exceeds the supply, currently and in the short term."[37] As the physician manpower shortage continues to worsen, *nonsurgical specialists* are projected to account for 6.3 percent of the shortage, while *surgeons* and *primary care physicians* are expected to account for 32.9 percent and 37.3 percent of the shortage, respectively.[38]

One reason for the continuing decline in the number of primary care physicians is the growing income gap between *primary care physicians* and *specialists*. This gap results in fewer new physicians choosing the primary care field.[39] For example, in 1985, a physician in *family practice* earned an

---

[35] "Patient Protection and Affordable Care Act, Sec. 10108" *Pub. L.* 111-148, 124 Stat (March 23, 2010); "Older Population by Age Group: 1900 to 2050 with Chart of the 65+ Population," U.S. Administration on Aging, Department of Health and Human Services, June 23, 2010, http://www.aoa.gov/AoARoot/Aging_Statistics/future_growth/future_growth.aspx#age (accessed June 25, 2012); "Older Population as a Percentage of the Total Population: 1900 to 2050," U.S. Administration on Aging, Department of Health and Human Services, June 23, 2010, http://www.aoa.gov/AoARoot/Aging_Statistics/future_growth/docs/By_Age_Total_Population.xls (accessed June 25, 2012).

[36] *The Impact of Health Care Reform on the Future Supply and Demand for Physicians Updated Projections through 2025*, Association of American Medical Colleges, June 2010,https://www.aamc.org/download/158076/data/updated_projections_through_2025.pdf (accessed August 14, 2012).

[37] George P. Rogers, et al., "ACC 2009 Survey Results and Recommendations: Addressing the Cardiology Workforce Crisis," American College of Cardiology, *Journal of the American College of Cardiology* 54, no. 13 (2009): 1201.

[38] Michael J. Dill and Edward S. Salsberg, *The Complex Dynamics of the Physician Workforce: Projected Supply and Demand through 2025*, Center for Workforce Studies, Association of American Medical Colleges, November 2008, p. 28.

[39] Robert L. Phillips, et al., "Specialty and Geographic Distribution of the Physician Workforce: What Influences Medical Student & Resident Choices?" The Robert Graham Center, March 2009, http://www.graham-center.org/online/etc/medialib/graham/documents/publications/mongraphs-books/2009/rgcmo-specialty-geographic.Par.0001.File.tmp/Specialty-geography-compressed.pdf (accessed April 4, 2012).

PRIMARY CARE AND SPECIALIST INCOME GAP

In the United States, there is a history of primary care physicians receiving a smaller income than specialists. In 2011, the gap in annual mean income between *family medicine physicians* and *radiologists and orthopedic surgeons* had reached approximately $325,000.

MGMA Physician Compensation and Production Survey: 2012 Interactive Report Based on 2011 Data*, Medical Group Management Association, 2012, Summary Tables 92.1, 114.1, and 143.1.*

annual median income of approximately $80,000, while a *radiologist* and an *orthopedic surgeon* earned an annual median income of approximately $170,000 and $190,000, respectively, or 2.25 times the income of a *family practice physician*.[40] By 2011, the gap in annual mean income had grown so that *radiologists* and *orthopedic surgeons* earned 2.48 times the income earned by *family medicine physicians*; in other words, *family physicians* earned an annual mean income of approximately $218,000, and *radiologists* and *orthopedic surgeons* earned an annual mean income of approximately $516,500 and $569,000, respectively.[41]

In addition to the ACA's provisions designed to improve the primary care physician workforce, for example, §5501, *Expanding Access to Primary Care Services and General Surgery Services*, *family medicine physicians* are attempting to reinforce the supply of *primary care physicians* through a collaboration between the *American Board of Family Medicine*, the *Association of Family Medicine Residency Directors*, and *TransforMed* (a subsidiary of the *American Academy of Family Physicians*).[42] The *Preparing the Personal Physician Initiative* (P4) is a six-year comparative case study of 14 residency programs across the country, with the goal of restructuring the educational models used for primary care training to remove requirements that are no longer relevant, and to instead focus on the treatment of patients

[40] Ibid., p. 32.

[41] *MGMA Physician Compensation and Production Survey: 2012 Interactive Report Based on 2011 Data*, Medical Group Management Association, 2012, Summary Tables 92.1, 114.1, and 143.1.

[42] "Patient Protection and Affordable Care Act: Section 550l," *Pub. L.* 111-148, March 23, 2010, p. 124, Stat 652.

with chronic conditions.[43] One anticipated outcome of the *P4* initiative is a better understanding of how *family medicine residency programs* can best train physicians to use the *Patient Centered Medical Home* (PCMH) healthcare delivery model.[44]

As discussed throughout this book, in Chapter 2, "Reimbursement Environment," Chapter 4, "Competition," and Chapter 6, "Healthcare Reform," the PCMH was developed as a mechanism for "*reengineering*" the healthcare delivery system to focus on *coordinated care* and *preventative health services*.[45] The *American Academy of Pediatrics (AAP)* pioneered the *medical home model* in 1967, in an effort to recognize the unique needs of children and families and to focus on such *key principles* as (1) *family-centered partnerships*, (2) *community-based systems*, (3) and *comprehensive care*.[46]

Factoid

In 1967, the American Academy of Pediatrics first pioneered the medical home model meeting children's and families' unique needs and focusing on key principles, including family-centered partnerships, community-based systems, transitions, and value.

"What Is a Medical Home?" by the American Academy of Pediatrics, September 21, 2009, http://www.medicalhomeinfo.org/ (accessed October 2, 2009); "The Medical Home: An Idea Whose Time Has Come . . . Again," by Leigh Ann Backer, Family Practice Management*, September 2007, www.aafp.org/fpm (accessed October 2, 2009), p. 38.*

[43]The 14 residency programs were selected in February 2007. "P4 is Preparing the Personal Physician for Practice," TransforMed, http://www.transformed.com/p4.cfm (accessed December 4, 2012); Michael E. Whitcomb, "Preparing the Personal Physician for Practice (P4): Meeting the Needs of Patients: Redesign of Residency Training in Family Medicine," *Journal of the American Board of Family Medicine* 20, no. 4 (July–August 2007): 356–364.

[44]"Preparing the Personal Physician for Practice," TransforMed, http://www.transformed.com/p4.cfm (accessed April 5, 2012).

[45]Leigh Ann Backer, "What Is a Medical Home?" American Academy of Pediatrics, September 21, 2009, http://www.medicalhomeinfo.org/ (accessed October 2, 2009); Leigh Ann Backer, "The Medical Home: An Idea Whose Time Has Come . . . Again," *Family Practice Management*, September 2007, www.aafp.org/fpm (accessed October 2, 2009), p. 38.

[46]"What Is a Medical Home?" American Academy of Pediatrics, September 21, 2009, http://www.medicalhomeinfo.org/ (accessed October 2, 2009); Leigh Ann Backer, "The Medical Home: An Idea Whose Time Has Come . . . Again," *Family Practice Management*, September 2007, www.aafp.org/fpm (accessed October 2, 2009), p. 38.

12.2.1.2.4 Competition between Physicians Increased access to specialists and improved technologies have amplified the amount of competition among physician practices, particularly for those providers who have a large portion of their practice revenue attributed to *ancillary services and technical component* (ASTC) *services*, for example, diagnostic imaging. As imaging technology is becoming more advanced, there is a growing trend toward *cardiologists*, instead of *radiologists*, reading images for cardiac-related imaging services, for example, coronary CT and coronary PET scans.[47] Proponents of *cardiologist's* interpretation of imaging scans have suggested that having *cardiologists* trained in reading the images will provide more continuity of care for patients.[48] As might be expected, *radiologists* took exception to the concept that a *cardiologist* may be better suited to interpret scans.[49]

There is also likely to be increased competition among physician providers with the advent of ACOs under the *Medicare Shared Savings Program* (MSSP) *Final Rule*, which governs federal ACOs. As discussed in Chapter 2, "Reimbursement Environment," under the MSSP, if a Medicare beneficiary receives his or her primary care services from a *specialist*, that specialist is considered a *primary care physician* for the purposes of *beneficiary assignment* to the ACO.[50] In addition, these *specialists* are restricted to only participating in one ACO per *tax identification number* (TIN), an *exclusivity requirement* generally reserved for *primary care physicians*.[51]

Factoid

With the advancement of imaging technology, there is a growing trend toward cardiologists, as opposed to radiologists, reading images for cardiac-related imaging services.

"Are Cardiologists the QB of Cardiac Imaging?" by Cristen C. Bolen, Diagnostic & Invasive Cardiology, *Reilly Communications Group, May/June 2008, http://new.reillycomm.com/diagnostic/article_detail.php?id=611 (accessed August 19, 2008).*

[47] Cristen C. Bolen, "Are Cardiologists the QB of Cardiac Imaging?" *Diagnostic & Invasive Cardiology*, Reilly Communications Group, May/June 2008, http://new.reillycomm.com/diagnostic/article_detail.php?id=611 (accessed August 19, 2008).

[48] Ibid.

[49] Ibid.

[50] "Medicare Program; Medicare Shared Savings Program: Accountable Care Organizations," *Federal Register* 76, no. 212 (November 2, 2011): 67867.

[51] Ibid., p. 67809.

Factoid

The number of hospital-based physicians has increased significantly from 2005 to 2010, while the number of office-based physicians has declined, both by 3.3 percent.

Physician Characteristics and Distribution in the US, *American Medical Association, 2002–2003 edition, p. 329; 2003–2004 edition. p. 320; 2004 edition, p. 322; 2005 edition, p. 311; 2006 edition, p. 311; 2007 edition, p. 311; 2008 edition, p. 403; 2009 edition, p. 406; 2010 edition, p. 438; 2011 edition, p. 436; 2011 edition, p. 436; 2012 edition, p. 440.*

In addition to competition between *physician specialties*, competition for the employment of *physicians* has also increased. Since 2005, the number of physicians in *hospital-based practices* has increased significantly from 155,248 physicians (21.6 percent of active physicians) in 2005 to 752,572 physicians (24.9 percent of active physicians) in 2010, while the number of physicians in *office-based practices* has declined, from 563,225 physicians (78.4 percent of active physicians) in 2005 to 565,024 physicians (75.1 percent of active physicians) in 2010.[52]

Among the main drivers of *hospital-physician alignment* are *economic changes*, for example, the *Great Recession* and the *downward pressure on reimbursement rates*, which have resulted in reduced profitability for *independent practitioners* and *small group practices*, straining their *capital resources*.

From a *physician perspective*, hospital employment provides *value* through *decreased financial risk* and more *desirable work-life balance*.[53] Accordingly, younger physicians are less likely to (1) *take call coverage*, (2) *work longer hours*, and (3) undertake the *entrepreneurial challenge* of opening private practice, in contrast to collecting a salary. This change in the style of practice aligns with recent demographic shifts related to age and gender. Mimicking national population trends, the physician population is *aging* and *diversifying*. A greater percentage of physicians are over

[52] *Physician Characteristics and Distribution in the US*, American Medical Association, 2002–2003 edition (p. 329); 2003–2004 edition (p. 320); 2004 edition (p. 322); 2005 edition (p. 311); 2006 edition (p. 311); 2007 edition (p. 311); 2008 edition (p. 403); 2009 edition (p. 406); 2010 edition (p. 438); 2011 edition (p. 436). 2011 edition (p. 436); 2012 edition (p. 440).

[53] Healthcare Financial Management Association, "The New Era for Hospital-Physician Alignment," January 2011, p. 2.

55 years old, and the number of female physicians is increasing.[54] These changing demographics influence providers' *perceptions of value*. Whereas in the past, providers generally valued profits over personal time, today's providers prioritize a more flexible *work-life balance*.

Of note is that the increasing trend in *hospital employment of physicians* may act to *limit* the *potential investor/buyer pool* and decrease the number of *joint ventures between physicians* and *hospitals*, which may affect the *valuation of physician practices* (discussed later).

12.2.1.2.5 Competition with Midlevel Providers In addition to competition among physician providers, there is also likely to be increased competition among *physicians* and *midlevel providers*, as the *scope of services* these nonphysician practitioners may perform continues to expand (see Section 3.8.2.2.2, "Nonphysician Scope of Practice," in Chapter 3, "Regulatory Environment"). An increased growth in patient demand for healthcare services, along with the lagging shortage of physicians, has resulted in increased volumes of *nonphysician practitioners* providing heretofore traditionally physician services.[55] For example, there has been an increase in the utilization of emergency department *nurse practitioners* and *physician's assistants*, which have reportedly been acceptable to patients, as providing quality care, thereby alleviating the *volume-induced pressure* placed on emergency departments and allowing for improved patient satisfaction and shorter wait times.[56] Several studies have indicated that a *physician assistant* can perform approximately 80 percent of the services typically provided by a *primary care physician*.[57]

In addition, in the primary care arena, the services offered by *certified nurse midwives* and *certified midwives* have begun to overlap with physicians, particularly those specializing in *obstetrics and gynecology*. The *scope of service* for these two midlevel providers includes (1) *primary care*, (2) *gynecologic and family planning services*, (3) *preconception care*, (4) *care*

[54] American Medical Association, *Physician Characteristics and Distribution in the US*, 2011 Edition (Chicago: American Medical Association Press, 2011), p. 8; American Medical Association, *Physician Characteristics and Distribution in the US*, 2012 Edition (Chicago: American Medical Association, 2012), p. 8.

[55] Alexa Boer Kimball and Jack S. Resneck Jr., "The US Dermatology Workforce: A Specialty Remains in Shortage," *Journal of the American Academy of Dermatology* 59, no. 5 (November 2008): 742.

[56] Michael D. Menchine, Warren Wiechmann, and Scott Rudkin, "Trends in Midlevel Provider Utilization in Emergency Departments from 1997 to 2006," *Society for Academic Emergency Medicine* 16, no. 10 (October 2009): 963.

[57] Linda J. Vorvick, "Physician Assistant Profession (PA)," U.S. National Library of Medicine, August, 12, 2011, http://www.nlm.nih.gov/medlineplus/ency/article/001935.htm (accessed December 18, 2012).

during pregnancy, (5) *childbirth and the postpartum period*, (6) *care of the normal* newborn during the first 28 days of life, and (7) treatment of *male partners for sexually transmitted infections*.[58] While legislation that expands the scope of practice for nurse midwives has been strongly opposed by physicians in some states, for example, the *American Congress of Obstetricians and Gynecologists* (ACOG) opposed a New York bill (*The Midwifery Modernization Act*) that repealed the requirement that midwives must have a "*written practice agreement*" with a physician, although, more recently, the *American College of Nurse-Midwives* (ACNM) and the ACOG have emphasized increased *collaboration* between these two providers.[59]

Similarly, *gastroenterologists* are facing increased competition from *nonphysician endoscopists* (e.g., nurses, nurse practitioners, physician and medical assistants), for procedures such as *flexible sigmoidoscopies* for colorectal cancer screenings, *colonoscopies*, and *upper endoscopies*.[60]

Factoid

Ophthalmologists face competition from optometrists, as 44 percent of the refractive surgeries, preliminary discussions and initial screenings, performed in 2006, were done by optometrists rather than ophthalmic surgeons.

"State of the Profession: 2008," Richard C. Edlow, OD, and Glenn R. Markus, January 2008, Information & Data Committee, p. 5.

[58] "Definition of Midwifery and Scope of Practice of Certified Nurse-Midwives and Certified Midwives," American College of Nurse-Midwives, December 2011, http://www.midwife.org/ACNM/files/ACNMLibraryData/UPLOADFILENAME/000000000266/Definition%20of%20Midwifery%20and%20Scope%20of%20Practice%20of%20CNMs%20and%20CMs%20Dec%202011.pdf (accessed December 5, 2012).

[59] Despite opposition, the Midwifery Modernization Act passed the New York Legislation in August 2010. "Midwife Reform Bill Signed into Law," New York State Assembly, August 2, 2010, http://assembly.state.ny.us/comm/?sec=post&id=019&story=40267 (accessed December 5, 2012); Anemona Harocollis, "Doctors' Group Fights a Bill That Would Ease Restrictions on Midwives," *New York Times*, June 17, 2010, http://www.nytimes.com/2010/06/18/nyregion/18midwives.html (accessed December 5, 2012); "Midwifery Modernization Act," Congress of New York 8117—B (May 5, 2009); "Joint Statement of Practice Relations between Obstetrician-Gynecologists and Certified Nurse-Midwives/Certified Midwives," American College of Nurse-Midwives and American College of Obstetricians and Gynecologists, College Statement of Policy, February 2011, p. 1.

[60] American Society for Gastrointestinal Endoscopy, "Endoscopy by Nonphysicians," *Gastrointestinal Endoscopy* 69, no. 4 (2009): 767–768.

Likewise, *ophthalmologists* continue to face competition from *optometrists*, as 44 percent of the refractive surgeries, preliminary discussions, and initial screenings performed in 2006 were done by optometrists, rather than ophthalmic surgeons.[61] Of these patients, one-third received preoperative care from an optometrist and 16 percent received optometric postoperative care.[62]

Physician professional practices, particularly primary care practices, may also face growing competition from those *sites of service* focused on providing "*convenient care*," for example, retail clinics, which have been gaining an increased presence in the current healthcare marketplace. These *sites of service* (discussed later) benefit from *economies of scale* resulting from the size of their *retail affiliates*, for example, *Walgreens* and *Wal-Mart*, as well as from typically lower overhead costs than those generally experienced by physician practices.[63] In response to the increase in prevalence of *retail clinics* in the United States, some physician practices have increased their *hours of operation* and shifted to a *customer service–focused* practice.[64]

As discussed in Chapter 4, "Competition," the *corporatization of medicine* has intensified, driven, in part, by the growth of *retail clinics*. In November 2011, it was leaked to the press that Wal-Mart intended to become the "*largest provider of primary healthcare services in the nation.*"[65] Although Wal-Mart recanted parts of its claim as "*overwritten and incorrect,*" nationally, the use of retail clinics has grown significantly in recent years, for example, from 2007 to 2009 the use of retail clinics increased by a *factor of 10* among

---

[61] Richard C. Edlow and Glenn R. Markus, "State of the Profession: 2008," January 2008, Information & Data Committee, pp. 2–3, 5; "Eye Health Statistics at a Glance," American Academy of Ophthalmology, May 2009, http://www.aao.org/newsroom/press_kit/upload/Eye-Health-Statistics-June-2009.pdf (accessed May 24, 2009); Kenneth Chang, "Laser Eye Surgery's Turf War," *New York Times*, August 1, 2000, http://www.nytimes.com/2000/08/01/science/laser-eye-surgery-s-turf-war.html?pagewante (accessed May 24, 2009).

[62] Richard C. Edlow and Glenn R. Markus, "State of the Profession: 2008," January 2008, Information & Data Committee, p. 5.

[63] Paul H. Keckley, et al., "Retail Clinics: Facts, Trends, and Implications," Deloitte, 2008, p. 12.

[64] Ibid., p. 14.

[65] Wal-Mart, "Request for Information: Wal-Mart Health and Wellness," 2011, p. 6; Julie Appleby, "The Wal-Mart Opportunity: Can Retailers Revamp Primary Care?" *Kaiser Health News*, November 17, 2011, http://www.kaiserhealthnews.org/stories/2011/november/17/walmart-opportunity-can-retailers-revamp-primary-care.aspx (accessed January 3, 2013).

individuals with commercial insurance.[66] In many ways the *corporatization of medicine* is a throwback to the "*drugstore physician*" of the 1900s, when drug manufacturers marketed their products as if they were physicians, leading to published articles and pamphlets "discredit[ing] the claims of the patient medicine companies to provide personal medical advice," and the eventual passage of the *Pure Food and Drug Act of 1906*, which established the predecessor of the modern day *Food and Drug Administration* (FDA).[67]

12.2.1.2.6 Technology In addition to such process technologies as *(1) clinical protocols* and (2) *management protocols* (see Section 5.2.1, "Technology as 'Process'," in Chapter 5, "Technology"), physician professional practices are also experiencing a rapid evolution in *clinical treatment technologies*, for example, (1) *pharmaceuticals*, (2) *surgical devices,* and (3) *minimally invasive techniques*. Further, as new drugs designed to manage a host of chronic conditions continue to enter the healthcare market, the *demand for*, and *amount spent on*, *specialty drugs* is expected to increase during the next decade.[68] Specifically, as of 2011, four specialty classes accounted for 70 percent of all spending on specialty drugs, that is, *inflammatory conditions*, *multiple sclerosis* (MS), *cancer*, and *human immunodeficiency virus* (HIV).[69]

Another significant technological advancement in professional practices is the implementation of *electronic health records* (*EHR*) systems, to assist providers in the timely collection, storage, and analysis of patient health information. Through healthcare reform legislation, such as the ACA, quality metrics are becoming a more important factor in determining reimbursement rates. This movement necessitates the collection of not only

---

[66] John Agwunobi, MD, Senior Vice President and President of Wal-Mart, "Wal-Mart Statement in Response to Health & Wellness Request for Information," *U.S. Health & Wellness*, November 9, 2011, http://news.walmart.com/news-archive/2011/11/09/walmart-statement-in-response-to-health-wellness-request-for-information (accessed January 3, 2013); J. Scott Ashwood, et al., "Trends in Retail Clinic Use among the Commercially Insured," *American Journal of Managed Care* 17, no. 11 (2011): e443.

[67] Paul Starr, *The Social Transformation of American Medicine: The Rise of a Sovereign Profession and the Making of a Vast Industry* (New York: Basic Books, 1982), pp. 130–131.

[68] Ha T. Tu and Divya R. Samuel, "Limited Options to Manage Specialty Drug Spending," Center for Studying Health System Change, Research Brief, no. 22, April 2012, p. 1.

[69] "Specialty Drugs," Express Scripts Holding Company, *Drug Trend Report, 2012*, http://www.drugtrendreport.com/specialty/specialty-drugs (accessed December 8, 2012).

patients' vital statistics, symptoms, and physicians' clinical determinations, but also the collection of data related to the *quality of care* provided, as well as the clinical outcomes of the patient. This information will need to be summarized and transmitted to payors to verify that the subject enterprise has met the quality standards necessary for reimbursement. Should this trend toward *quality-based payments* continue, then the effective use of EHR systems may be a necessity in maintaining a professional practice's ability to generate *net economic benefit* into the future. For a more thorough discussion of the use of EHR systems, see Chapter 5, "Technology."

12.2.1.3 Value Drivers As noted in Chapter 7, "Basic Valuation Tenets," and in Chapter 11, "Inpatient Enterprises," the *value* of a healthcare enterprise is predicated on the enterprise's ability to generate an anticipated *net economic benefit* in the future, in an amount that is sufficient to support the investment in the assets making up the enterprise, which *net economic benefit* accrues to the owners of the enterprise and is available to be capitalized into an indication of *value*. Some of the factors to be examined in identifying the *risk adjustments* and potential *value drivers* for healthcare outpatient enterprises are the (1) *Scope of Services*, (2) *Capacity* for future growth, (3) nature and stability of the *Revenue Stream*, (4) *Payor Mix*, (5) efficiency of *Operating Expenses*, (6) adequacy of the *Capital Structure*, (7) stability of the *Supply Chain*, (8) *Market Rivalries and Competitors*, and (9) *Subject Entity–Specific/Nonsystematic Risk*.

The impact of these *value drivers*, within the context of the *Four Pillars* of the healthcare industry discussed earlier, were mentioned in the July 19, 2012, meeting of the *House Committee on Small Business* titled, "Health Care Realignment and Regulation: The Decline of Solo and Small Medical Practices?" at which Mark Smith, the president of Merritt Hawkins, the largest physician recruitment and consulting firm in the United States, noted that physicians are more readily choosing *not* to be in private practice, and that it was projected that within the next two years, "*75 percent of all newly hired physicians will be hospital employees.*"[70] Specifically, Smith cited five primary reasons for this "*industry transformation*," including (1) flat or *declining reimbursement*, (2) *growing regulatory* and *administrative paperwork*, (3) *malpractice insurance costs*, (4) the implementation of *information technology*, and (5) the effects of *health reform*.[71]

[70] "Testimony of Mark Smith," at "The Decline of Solo and Small Medical Practices," Testimony before the United States House of Representatives, Committee on Small Business, Subcommittee on Investigations, Oversight and Regulations, July 19, 2012, pp. 2–3.

[71] Ibid., p. 3.

PRIVATE PRACTICE INDUSTRY TRANSFORMATION

There are five primary reasons why physicians are choosing hospital employment and no longer enter into private practice: (1) flat or declining reimbursement, (2) growing regulatory and administrative paperwork, (3) malpractice insurance costs, (4) the implementation of information technology, and (5) the effects of health reform.

"Testimony of Mark Smith," at "The Decline of Solo and Small Medical Practices," Testimony before the United States House of Representatives, Committee on Small Business, Subcommittee on Investigations, Oversight and Regulations, July 19, 2012, p. 3.

12.2.1.3.1 Scope of Services The *scope of services* offered by a physician professional practice affects the level of *revenue* (and subsequent *economic benefit*) generated by the enterprise. Some organizations may seek *economies of scope* by offering multiple service lines. For example, a *multi-specialty physician professional practice* may be able to add additional service lines with minimal incremental increases in expense levels, since it may already have in place the necessary equipment and personnel being used in similar functions. In contrast, a *single-specialty practice* may not be able to achieve profitability from adding new service lines, due to the additional operational and capital cost requirements, reducing the profit margins for the services already offered by the *single-specialty practice*.

As reimbursement rates for the *professional fee component* of physician practices have decreased, many physicians have attempted to offset diminished professional revenues by adding ASTC services, which are typically more *profitable* than professional services, to the services provided by their practices.

The top 10 utilized CPT codes for each subclassification of *primary care*, *specialty care*, and *surgical care* are set forth in Table 12.13, Table 12.14, and Table 12.15.

These tables reflect the existing scope of practice for various specialties and may provide an insight into the types of services that may be offered, should the organization decide to increase its scope of services.

SURGICAL CARE

Services that incorporate an operation to treat an illness or a condition.

TABLE 12.13 Top CPT Codes for Primary Care, by Subclassification

Primary Care	CPT Code	Description	Percentage	Primary Care	CPT Code	Description	Percentage
General Practice Physicians	99213	Office/outpatient visit est	15.02%	Pediatric Physicians	99213	Office/outpatient visit est	8.99%
	99214	Office/outpatient visit est	8.55%		99214	Office/outpatient visit est	3.44%
	99232	Subsequent hospital care	2.30%		J1785		3.24%
	99212	Office/outpatient visit est	2.10%		95004	Percut allergy skin tests	2.46%
	96372	Ther/proph/diag inj sc/im	1.65%		90471	Immunization admin	2.11%
	99308	Nursing fac car subseq	1.61%		170	Anesth procedure on mouth	2.09%
	90658	Flu vaccine 3 yrs & > im	1.30%		90472	Immunization admin each add	1.98%
	G0008	Admin influenza virus vac	1.23%		J0559		1.91%
	97110	Therapeutic exercises	1.21%		71020	Chest x-ray	1.80%
	99309	Nursing fac care subseq	1.17%		95165	Antigen therapy services	1.50%

Family Medicine Physicians	99213	Office/outpatient visit est	14.91%	Obstetric and Gynecologist Physicians	99213	Office/outpatient visit est	11.50%
	99214	Office/outpatient visit est	12.46%		G0101	CA screen; pelvic/ breast exam	8.94%
	99232	Subsequent hospital care	2.85%		Q0091	Obtaining screen pap smear	7.79%
	85610	Prothrombin time	1.95%		99214	Office/outpatient visit est	7.17%
	96372	Ther/proph/diag inj sc/im	1.93%		99212	Office/outpatient visit est	3.46%
	G0008	Admin influenza virus vac	1.92%		81002	Urinalysis nonauto w/o scope	3.17%
	90658	Flu vaccine 3 yrs & > im	1.91%		99397	Per pm reeval est pat 65+ yr	1.86%
	85025	Complete cbc w/ auto diff wbc	1.62%		76830	Trans vaginal us non-ob	1.68%
	99308	Nursing fac care subseq	1.38%		99204	Office/outpatient visit new	1.59%
	80061	Lipid panel	1.35%		99203	Office/outpatient visit new	1.50%

"Top 10 Codes 2011," by Frank Cohen, 2011, http://www.frankcohengroup.com/Library/ReferenceData.aspx (accessed October 12, 2011).

TABLE 12.14 Top CPT Codes for Specialty Care, by Subclassification

Medical Specialty	CPT Code	Description	Percentage	Medical Specialty	CPT Code	Description	Percentage
Allergists and Immunologists	95004	Percut allergy skin tests	33.50%	Nuclear Medicine	Q9967	LOCM 300–399mg/ml iondine,1	19.91%
	95165	Antigen therapy services	20.64%		78452	Ht muscle image spect mult	8.48%
	95117	Immunotherapy injections	7.92%		77080	Dxa bone density axial	6.13%
	J2357	Omalizumab injection	7.43%		78815	Pet image w/ct skull-thigh	6.11%
	95024	Id allergy test drug/bug	6.43%		71010	Chest x-ray	4.24%
	95115	Immunotherapy one injection	3.70%		78306	Bone imaging whole body	4.11%
	99213	Office/outpatient visit est	2.65%		71020	Chest x-ray	2.23%
	99214	Office/outpatient visit est	1.60%		95004	Percut allergy skin tests	2.10%
	94010	Breathing capacity test	1.07%		J2785	Regadenoson injection	1.51%
	95144	Antigen therapy services	1.06%		93016	Cardiovascular stress test	1.33%
Anesthesiologists	99213	Office/outpatient visit est	6.60%	Pathology	88305	Tissue exam by pathologist	38.05%
	77003	Fluoroguide for spine inject	5.99%		88342	Immunohistochemistry	10.45%
	G0431	Drug screen multip class	5.08%		88312	Special stains group 1	3.89%
	36620	Insertion catheter artery	4.22%		88313	Special stains group 2	3.74%
	62311	Inject spine 1/s (cd)	3.52%		88304	Tissue exam by pathologist	3.34%

Anesthesiologists (*cont.*)	99214	Office/outpatient visit est	3.40%
	J3301	Triamcinolone acet inj NOS	3.20%
	J3490	Drugs unclassified injection	2.45%
	J3010	Fentanyl citrate injection	2.22%
	99100	Special anesthesia service	2.14%
Cardiologists	93010	Electrocardiogram report	11.01%
	Q9967	LOCM 300–399mg/ml iodine,1	7.97%
	99214	Office/outpatient visit est	7.88%
	93000	Electrocardiogram complete	5.89%
	93306	Tte w/doppler complete	5.75%
	992123	Office/outpatient visit est	5.75%
	99232	Subsequent hospital care	4.98%
	85610	Prothrombin time	3.16%
	99211	Office/outpatient visit est	2.21%
	99233	Subsequent hospital care	2.01%
Pathology (*cont.*)	88307	Tissue exam by pathologist	3.14%
	88112	Cytopath cell enhance tech	2.75%
	88311	Decalcify tissue	2.15%
	88331	Path consult intraop 1 bloc	1.75%
	88367	Insitu hybridization auto	1.39%
Physical Medicine and Rehabilitation	J0585	Injection, onabotulinumtoxinA	20.58%
	99232	Subsequent hospital care	7.65%
	99213	Office/outpatient visit est	4.56%
	97110	Therapeutic exercises	4.13%
	99231	Subsequent hospital care	4.13%
	95904	Sense nerve conduction test	3.32%
	99214	Office/outpatient visit est	2.92%
	97140	Manual therapy	2.26%
	J3301	Triamcinolone acet inj NOS	2.12%
	G0431	Drug screen multip class	2.01%

(*continued*)

TABLE 12.14 Top CPT Codes for Specialty Care, by Subclassification (*continued*)

Medical Specialty	CPT Code	Description	Percentage	Medical Specialty	CPT Code	Description	Percentage
Dermatologists	17003	Destruct premal les 2–14	30.49%	Preventive Medicine	99213	Office/outpatient visit est	10.52%
	99213	Office/outpatient visit est	11.21%		99214	Office/outpatient visit est	6.74%
	17000	Destruct premal lesion	9.17%		99183	Hyperbaric oxygen therapy	3.86%
	99212	Office/outpatient visit est	5.90%		G0008	Admin influenza virus vac	3.18%
	88305	Tissue exam by pathologist	5.68%		J0585	Injection, onabotulinumtoxinA	2.98%
	11100	Biopsy skin lesion	5.40%		99212	Office/outpatient visit est	2.90%
	17110	Destruct b9 lesion 1–14	2.57%		90658	Flu vaccine 3 yrs & > im	2.83%
	11101	Biopsy skin add-on	2.36%		99232	Subsequent hospital care	2.61%
	99214	Office/outpatient visit est	1.86%		J1756	Iron sucrose injection	2.22%
	99202	Office/outpatient visit new	1.77%		90656	Flu vaccine no preserv 3 & >	2.14%
Emergency Medicine	99285	Emergency dept visit	27.11%	Radiation Oncologists	77300	Radiation therapy dose plan	11.75%
	99284	Emergency dept visit	14.6%		Q9967	LOCM 300–399mg/ml iodone,1	8.74%
	93010	Electrocardiogram report	11.04%		77418	Radiation tx delivery imrt	8.42%

Emergency Medicine (*cont.*)	99283	Emergency dept visit	8.89%	Radiation Oncologists (*cont.*)	77421	Stereoscopic x-ray guidance	7.86%
	99291	Critical care first hour	4.00%		77427	Radiation tx management x5	7.71%
	99213	Office/outpatient visit est	2.35%		77334	Radiation treatment aid(s)	5.94%
	99214	Office/outpatient visit est	2.04%		77014	Ct scan for therapy guide	5.94%
	93042	Rhythm ecg report	1.78%		77413	Radiation treatment delivery	3.54%
	99282	Emergency dept visit	1.10%		77336	Radiation treatment delivery	3.54%
	99232	Subsequent hospital care	1.07%		77414	Radiation treatment delivery	2.64%
Neurology	J0585	Injection, onabotulinumtoxinA	26.52%	Neurology	95903	Motor nerve conduction test	3.71%
	J2323	Natalizumab injection	13.00%		99232	Subsequent hospital care	3.51%
	99214	Office/outpatient visit est	6.12%		95900	Motor nerve conduction test	2.34%
	95904	Sense nerve conduction test	6.03%		99223	Initial hospital care	1.68%
	99213	Office/outpatient visit est	4.27%		99215	Office/outpatient visit est	1.67%

"Top 10 Codes 2011," by Frank Cohen, 2011, http://www.frankcohengroup.com/Library/ReferenceData.aspx (accessed October 12, 2011).

TABLE 12.15 Top CPT Codes for Surgical Care, by Subclassification

Surgical Specialty	Procedure	Description	Percent	Surgical Specialty	Procedure	Description	Percentage
General Surgery	99213	Office/outpatient visit est	10.05%	Otolaryngology	99213	Office/outpatient visit est	13.60%
	99212	Office/outpatient visit est	5.55%		95165	Antigen therapy services	11.97%
	99232	Subsequent hospital care	5.15%		99203	Office/outpatient visit new	5.49%
	99214	Office/outpatient visit est	4.58%		99214	Office/outpatient visit est	4.64%
	99231	Subsequent hospital care	4.24%		95004	Percut allergy skin tests	4.53%
	99203	Office/outpatient visit new	3.26%		69210	Remove impacted ear wax	4.02%
	99204	Office/outpatient visit new	2.68%		31575	Diagnostic laryngoscopy	3.44%
	99223	Initial hospital care	2.16%		95024	Id allergy test drug/bug	3.38%
	99222	Initial hospital care	2.16%		99212	Office/outpatient visit est	3.30%
	99233	Subsequent hospital care	2.08%		95117	Immunotherapy injections	2.86%
Colon and Rectal Surgery	99213	Office/outpatient visit est	11.55%	Plastic and Reconstructive Surgery	99213	Office/outpatient visit est	8.67%
	99212	Office/outpatient visit est	6.17%		99212	Office/outpatient visit est	6.38%
	99203	Office/outpatient visit new	5.61%		99203	Office/outpatient visit new	4.47%
	46600	Diagnostic anoscopy	5.35%		95004	Percut allergy skin tests	3.62%

Colon and Rectal Surgery (*cont.*)	99214	Office/outpatient visit est	4.11%	Plastic and Reconstructive Surgery (*cont.*)	J0585	Injectionk onabotulinumtoxinA	3.15%
	45378	Diagnostic colonoscopy	3.84%		99214	Office/outpatient visit est	2.56%
	99204	Office/outpatient visit new	3.57%		11042	Deb subq tissue 20 sq cm/<	2.45%
	99231	Subsequent hospital care	3.32%		99202	Office/outpatient visit new	2.42%
	99232	Subsequent hospital care	3.28%		99204	Office/outpatient visit new	2.05%
	45300	Proctosigmoidoscopy dx	3.18%		17003	Destruct premalg les 2–14	1.73%
Neurosurgery	J2323	Natalizumab injection	10.14%	Thoracic Surgery	99213	Office/outpatient visit est	7.03%
	99213	Office/outpatient visit est	9.68%		Q9967	LOCM 300–399mg/ml iodine,1ml	6.19%
	99214	Office/outpatient visit est	4.58%		99214	Office/outpatient visit est	3.67%
	99212	Office/outpatient visit est	4.20%		99223	Initial hospital care	3.21%
	99204	Office/outpatient visit new	3.87%		99212	Office/outpatient visit est	2.94%
	99203	Office/outpatient visit new	3.55%		99231	Subsequent hospital care	2.83%
	99231	Subsequent hospital care	2.73%		99232	Subsequent hospital care	2.75%
	99232	Subsequent hospital care	2.48%		99204	Office/outpatient visit new	2.60%
	63048	Remove spinal lamina add-on	1.99%		99205	Office/outpatient visit new	2.46%
	99205	Office/outpatient visit new	1.76%		93880	Extracranial study	2.35%

(*continued*)

TABLE 12.15 Top CPT Codes for Surgical Care, by Subclassification (*continued*)

Surgical Specialty	Procedure	Description	Percent	Surgical Specialty	Procedure	Description	Percentage
Ophthalmology	92135	OPHTH DX IMAGING POST SEG	13.68%	Urology	99213	Office/outpatient visit est	11.55%
	92014	Eye exam & treatment	12.76%		Q9967	LOCM 300–399mg/ml iodine,1ml	9.48%
	92012	Eye exam established pat	8.85%		99214	Office/outpatient visit est	5.79%
	92015	Refraction	4.55%		81000	Urinalysis nonauto w/ scope	5.36%
	J2778	Ranibizumab injection	4.27%		51798	Us capacity measure	4.88%
	99213	Office/outpatient visit est	4.08%		J9155	Degarelix injection	3.82%
	92226	Special eye exam subsequent	4.06%		81003	Urinalysis auto w/o scope	3.20%
	92083	Visual field examination(s)	3.27%		81002	Urinalysis nonauto w/o scope	2.63%
	J0585	Injection, onabotulinumtoxinA	3.00%		99212	Office/outpatient visit est	2.62%
	66984	Cataract sug w/iol 1 stage	2.72%		81001	Urinalysis auto w/scope	2.53%

Orthopedic Surgery	J7325	Syn visc-One	15.47%	Vascular Surgery	Q9967	LOCM 300–399mg/ml iodine,1ml	10.15%
	99213	Office/outpatient visit est	10.46%		99213	Office/outpatient visit est	7.07%
	20610	Drain/inject joint/bursa	7.26%		93880	Extracranial study	6.86%
	J3301	Triamcinolone acet inj NOS	5.43%		93970	Extremity study	5.11%
	97110	Therapeutic exercises	3.51%		J3490	Drugs unclassified injection	4.19%
	99121	Office/outpatient visit est	3.43%		99212	Office/outpatient visit est	3.81%
	99214	Office/outpatient visit est	3.41%		93971	Extremity study	3.52%
	99203	Office/outpatient visit new	3.01%		99214	Office/outpatient visit est	2.80%
	73560	X-ray exam of knee 1 or 2	2.05%		93923	Upr/lxtr art stdy 3+ lvls	2.72%
	73562	X-ray exam of knee 3	1.99%		93922	Upr/l xtremity art 2 levels	2.00%

"Top 10 Codes 2011," by Frank Cohen, 2011, http://www.frankcohengroup.com/Library/ReferenceData.aspx (accessed October 12, 2011).

12.2.1.3.2 Capacity The *capacity* of a physician practice may be defined as the availability of those *resources* needed to treat the *patient volume* and manage the *throughput* of a particular practice, and may include (1) *provider related resources*, (2) *building and office space*, and (3) *support staff. Provider considerations* include the determination as to whether a practice has a *sufficient number of physician/provider man-hours* to *efficiently* and *effectively* care for patient volumes. The *sufficiency* of a particular practice's *provider related resources* may be examined by comparing the practice's physician provider workload to *industry benchmarks*, using *work relative value units* (wRVUs) or *full-time equivalents* (FTEs), as the measure of *capacity.* Both the *Medical Group Management Association* (MGMA) and the *American College of Medical Practice Executives* (AMGA) publish *surveys* and *benchmarking analyses* related to *physician productivity.* A valuation analyst, in competing the required *due diligence* for an engagement, should ensure that the subject enterprise has *sufficient resources* to service its projected *patient volumes.* For a more detailed discussion of *benchmarking* and *benchmarking resources*, see Chapter 8, "Valuation Approaches and Methods."

12.2.1.3.3 Revenue Stream In healthcare, the *revenue* generated by a physician professional practice has traditionally been dependent on two factors: (1) the *volume* of services performed and (2) the reimbursement received for those services. Accordingly, increasing either the *volume* of services provided or the *reimbursement yield* will result in a corresponding increase in the *revenue* generated by a practice.

Changes in reimbursement for physician professional practices, as discussed in Chapter 8, "Valuation Approaches and Methods," are dependent on payments received from third-party payors, such as commercial and governmental payors. As has been previously noted, trends in reimbursement by commercial payors tend to be correlated with trends in Medicare reimbursement. In assessing the most probable changes to anticipate for reimbursement, the valuation analyst may begin with the historical trends in Medicare reimbursement for the physician professional services provided by the subject enterprise, as adjusted to reflect any anticipated changes in that historical relationship.

Changes in *volume* are a function of two factors: (1) *changes in utilization demand for services*, that is, the size of the pie, and (2) *changes in market share*, that is, the size of a practice's piece of the pie. In addition, an important consideration of the *revenue stream* is the *source* of patient *volumes.* For example, a *primary care practice* may attempt to form stable relationships with their patients in order to ensure repeat business, while the patient volumes of a *specialist or surgical practice* are more dependent on *referrals* from other physicians, emphasizing the *value* of the *relationship between physicians*, in contrast to the *relationship between a physician and a patient.* Of note is that as *chronic*

diseases remain the leading cause of deaths in the United States, specialists may also form more *long-term relationships* with patients, which may result in a greater proportion of patient *volumes* from returning patients.[72]

The main factor that affects how *volume* translates to *revenue* is *reimbursement yield*. A consideration related to reimbursement is the shift away from a *FFS reimbursement model* toward models of reimbursement that focus on the *value* of services provided, for example, *episode-based payment* models and *capitation-based models*. While *FFS reimbursement* remains the most significant *driver of reimbursement yield* today, as *value-driven methods of reimbursement* gain acceptance in the U.S. healthcare delivery system, valuation analysts may need to consider *alternative revenue* streams, for example, shared savings.[73]

Each payor's *reimbursement yield* is different. A review of a practice's *managed care contracts* and related *fee schedule* is imperative to developing a *reimbursement yield projection* for a payor. It should be noted that across the country, managed care provider reimbursement schedules are being linked to (normally as a multiple of) Medicare reimbursement. Therefore, the projected change for Medicare physician and ancillary services reimbursement may, if deemed appropriate, be used as a proxy for the projected reimbursement rate for the services rendered by a physician practice.

12.2.1.3.4 Payor Mix *Payor mix* may be defined as the percentage of an enterprise's *revenues*, *gross charges*, or another *defined category* that is derived from *reimbursement payments* received by the enterprise, for example, Medicare, Medicaid, commercial payors, or self-pay. *Payor mix* is often a significant factor driving the individual *value* of a specific enterprise, since it directly affects the level of *revenue* (and subsequently the *net economic benefit*) generated by a healthcare enterprise. As many physician practices continue to receive decreasing Medicare and Medicaid reimbursement rates, those enterprises that can maintain a *profitable payor mix*, under which those payors with typically higher reimbursement rates (e.g., commercial payors) subsidize the lower reimbursement rates, are likely to be the most financially stable. Payor mix may vary significantly by specialty. For example a *pediatric practice* will typically treat a lower percentage of Medicare beneficiaries than a *cardiology practice*. The payor mix maintained by a broad classification of physician practice types, as a percentage of gross charges and revenue, is set forth in Table 12.16.

---

[72] "Chronic Disease Prevention and Health Promotion," Centers for Disease Control and Prevention, August 13, 2012, http://www.cdc.gov/chronicdisease/overview/index.htm#1 (accessed February 7, 2013).

[73] See Section 2.7.1, "Shift from Fee-for-Service" in Chapter 2, "Reimbursement Environment."

TABLE 12.16 Physician Practice Payor Mix

	Gross Charges				Revenue			
	Primary Care Practices	Specialty Care Practices	Surgical Practices	Multispecialty Practices	Primary Care Practices	Specialty Care Practices	Surgical Practices	Multispecialty Practices
Medicare: FFS	13.28%	31.55%	26.81%	25.78%	12.54%	27.30%	19.87%	22.35%
Medicare: managed care FFS	0.23%	3.01%	0.82%	3.71%	0.20%	2.11%	0.98%	3.42%
Medicare: capitated	0.00%	0.00%	0.00%	0.99%	0.00%	0.00%	0.00%	1.08%
Medicaid: FFS	5.11%	3.92%	3.40%	7.21%	3.19%	3.08%	2.47%	6.16%
Medicaid: managed care FFS	0.45%	0.53%	0.00%	2.42%	0.31%	0.37%	0.00%	2.40%
Medicaid: capitated	0.46%	0.00%	0.00%	0.76%	0.23%	0.00%	0.00%	1.02%
Commercial: FFS	33.12%	24.63%	28.90%	37.05%	38.58%	30.30%	35.60%	39.73%
Commercial: managed care FFS	19.24%	9.49%	12.03%	13.92%	13.91%	6.45%	10.72%	13.66%
Commercial: capitated	0.00%	0.00%	0.00%	1.76%	0.00%	0.00%	0.00%	1.89%
Workers' compensation	0.06%	0.12%	1.87%	0.83%	0.07%	0.08%	2.14%	0.99%
Charity care and professional courtesy	0.18%	0.13%	0.04%	0.76%	0.00%	0.00%	0.00%	0.36%
Self-pay	2.37%	2.34%	2.33%	3.83%	3.30%	2.18%	2.79%	5.98%
Other government payers	0.45%	0.60%	0.76%	0.98%	0.39%	0.64%	0.56%	0.97%

"Cost Survey," Medical Group Management Association, CD, 2012—Table 3b, "Breakout of Total Medical Revenue by Type of Payer"; Table 3a, "Breakout of Total Gross Charges by Type of Payer" [1-multispecialty; 105—surgical; 104—nonsurgical specialties; 103—pediatric practices]—Average calculated from all national regions. Of note is that these payor mixes do not total to 100 percent, due to rounding errors and classification restraints.

12.2.1.3.5 Operating Expenses Generally, there are two types of expenses for a physician professional practice: (1) *non-provider compensation related operating expenses*, for example, overhead costs, and (2) *provider compensation related expenses*. The median expenses for *nonprovider compensation related operating expenses* (measured as a percentage of *medical revenue*) are set forth in Table 12.17.

TABLE 12.17 Physician Practice Operating Costs as a Percentage of Medical Revenue

Operating Costs	Primary Care Practices	Specialty Care Practices	Surgical Practices	Multispecialty Practices
Total support staff[1]	**33.51%**	**26.11%**	**17.34%**	**30.46%**
Total general operating cost	**42.53%**	**31.32%**	**26.18%**	**33.51%**
Building and occupancy	7.64%	5.25%	4.95%	6.54%
Cost allocated to practice from parent	6.77%	7.16%	*	3.34%
Management fees paid to MSO	4.86%	*	3.99%	4.49%
Drug supply	4.02%	2.68%	1.68%	3.99%
Billing and collection purchases services	2.52%	1.53%	1.14%	0.52%
Information technology	1.91%	1.54%	1.30%	1.64%
Admin. supplies and services	1.62%	1.20%	1.12%	1.21%
Prof. liability insurance	1.56%	1.34%	1.82%	1.45%
Misc. operating costs	1.47%	1.62%	1.53%	1.41%
Medical and surgical supply	1.46%	0.76%	1.20%	1.41%
Clinical laboratory	1.16%	0.62%	0.12%	0.77%
Building/occupancy depreciation	0.72%	0.15%	*	0.62%
Furniture and equipment	0.63%	0.66%	0.44%	0.47%
Furniture/equipment depreciation	0.53%	0.55%	0.56%	0.95%
Promotion and marketing	0.35%	0.23%	0.40%	0.32%
Outside professional fees	0.31%	0.28%	0.26%	0.32%
Consulting fees	0.24%	0.29%	0.20%	0.26%
Other insurance premiums	0.18%	0.20%	0.17%	0.17%

(*continued*)

TABLE 12.17 Physician Practice Operating Costs as a Percentage of Medical Revenue (*continued*)

Operating Costs	Primary Care Practices	Specialty Care Practices	Surgical Practices	Multispecialty Practices
Radiology and imaging	0.16%	*	1.00%	0.87%
Legal fees	0.13%	0.17%	0.15%	0.11%
Other ancillary services	0.02%	0.42%	0.94%	0.53%
Total Nonprovider Related Operating Cost	77.14%	61.34%	50.43%	71.62%

"Cost Survey," Medical Group Management Association, CD, 2012—Table 5b: "Operating Cost as a % of Total Medical Revenue" [103–Primary Care Practices; 104–Nonsurgical Medical Specialty Practices; 105–Surgical Practices; 1–Multispecialty Practices].

[1]Includes general administrative; patient accounting; general accounting; managed care administrative; information technology; housekeeping, maintenance, security; medical receptionists; medical secretaries, transcribers; medical records; other administrative support; registered nurses; licensed practical nurses; medical assistants, nurses' aides; clinical laboratory; radiology and imaging; and other medical support services.

*Not given.

As indicated in Table 12.17, a higher proportion of medical revenue in a *primary care practice* is expended on *nonprovider related expenses*, particularly as related to *general operating expenses*, which account for 42.53 percent of revenue in a *primary care practice* and are 9 percent higher than in a *multi-specialty practice*, 33.51 percent of revenue.

Provider compensation–related expenses may be defined as the *total compensation*—that is, salary, bonuses, and benefits paid to the physicians and midlevel providers of the practice—and often reflect a significant portion of a *professional practice's expense structure*. Management of *provider compensation–related expenses* can have a dramatic impact on the value of a professional practice enterprise.[74]

The ability to efficiently and effectively operate an enterprise can provide significant *value* to the owners of a business. *Operational efficiencies* typically include any means by which a business is able to reduce the *economic operating cost burden* associated with generating the *economic benefit* of the organization. Efforts to reduce operating costs for *physician professional practices* may include *renegotiating contracts with vendors*,

[74]For more information on *provider compensation–related expenses*, see Chapter 15, "Healthcare Services."

using new technologies to streamline processes, *replacing fixed costs* with more variable components, *implementing various policies* aimed at reducing workforce turnover, and a plethora of related concepts and methodologies.

Typically, the ability to operate more efficiently provides a *competitive advantage* to a firm. In the aggregate, operational efficiencies may be produced as an industry *integrates horizontally* (i.e., as firms in the industry merge together), and redundant fixed cost operating functions are consolidated to reduce costs, producing *economies of scale*. As healthcare expenditures continue to outpace the general rise in price of most other goods in the U.S. economy, and based on the fact that the U.S. government is one of the top payors for healthcare services, policies enacted by the central government may continue to increase the likelihood of consolidation in the industry in an effort to achieve some semblance of scale economies. This concept is embodied in a quote from Nick A. Fabrizio, PhD, FACHE, principal of *Medical Group Management Association*'s healthcare consulting group:

> *The economic reality of the past ten years is that the physician's overhead—the cost of having a medical practice—has increased every year. Total operating costs per FTE physician have been rising rapidly over the past several years.... This increase has occurred at a faster rate than increases in reimbursement—a recipe for disaster. Many physicians see only two ways to survive in today's environment: merge with another practice and form a larger group, thus taking advantage of economies of scale and enhanced revenues; or join a hospital and become a hospital employee, allowing the hospital to assume financial responsibility for their practice overhead.*[75]

As alluded to earlier, the trend in increased hospital employment of physicians may be due, in part, to the variance in the operating costs between *physician*- and *hospital*-owned practices, which for primary care practices was higher under *physician ownership* ($502,687 annually per FTE physician), as compared to hospital *ownership* ($465,565 annually per FTE physician).[76]

Another notable trend in the economic operating costs of *physician professional practices* is the continued increase in medical care costs, measured by the *Practice Expenses* component of the *Medicare Economic Index*

---

[75] Nick A. Fabrizio, "Employing Physicians: The Future Is Now," *Futurescan*, 2012, pp. 44–45.

[76] *Cost Survey for Primary Care Practices* (Englewood, CO: Medical Group Management Association, 2011), p.18.

(MEI), which is one factor used by CMS in the development of the *conversion factor* for payments to physicians through the MPFS, in comparison to a rise in general price inflation (as calculated by the percentage of change in the consumer price index). The percentage increase in the *Practice Expenses* component of the MEI has outpaced inflation as far back as Q1 of 1996, as illustrated in Exhibit 12.1.

Recent innovations in technology have increased the ability of physician professional practices (both hospital and physician-owned) to operate more efficiently, for example, the implementation of *electronic health records* (EHR), *computerized physician order entry* (CPOE), and so on, which allow an organization to use less human-related capital in favor of the less costly use of the physical capital that makes up the technology system. Larger organizations have an enhanced ability to amortize the capital expense burden associated with the investment in these technologies over a larger patient base, in comparison to a smaller organization, thus generating

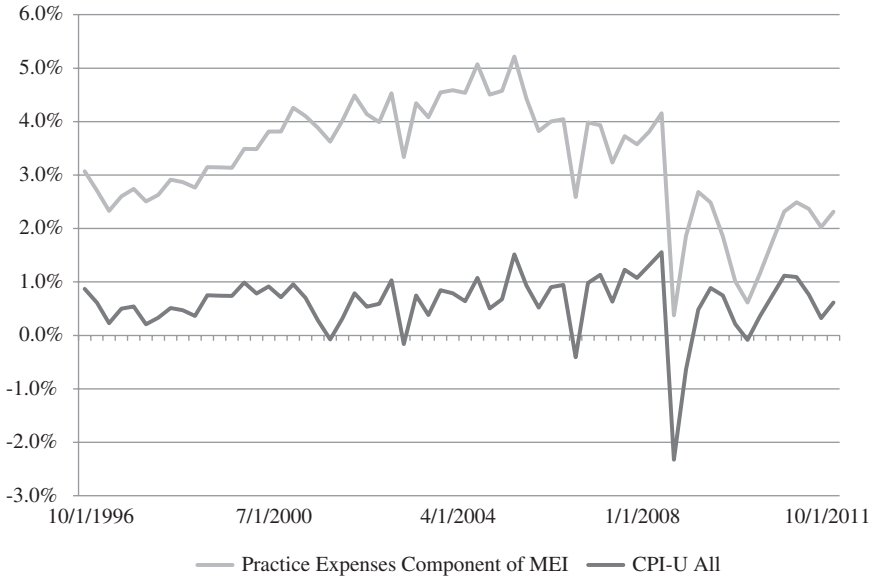


EXHIBIT 12.1 Inflation Compared to Practice Expense Component of MEI, by Quarter

"Quarterly Index Levels in the CMS Medicare Economic Index Using HIS Global Insight Inc. (IGI) Forecast Assumptions, by Expense Category, 1996–2021," Centers for Medicare and Medicaid Services, http://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/MedicareProgramRatesStats/downloads/mktbskt-economic-index.pdf (accessed December 13, 2012).

a larger efficiency gain, for example, in the case of EHR, the amount of administrative support staff cost burden reduced by the software system is higher on a percentage basis in terms of the cost of the EHR for larger organizations compared to smaller organizations.[77]

12.2.1.3.6 Capital Structure The *capital structure* of an enterprise, including *physician professional practices*, may be characterized by its *debt-to-equity ratio*, which is a measure of a company's *leverage* and indicates the proportion of *debt* and *equity* that a company uses to finance its assets (see Chapter 9, "Costs and Sources of Capital"). Other measures of the extent of *leverage* employed by an enterprise include, but are not be limited to, *total liabilities to book value of total capital*, *total liabilities to market value of equity*, *interest-bearing debt (IBD) to market value of invested capital (MVIC)*, *IBD to book value of total capital*, and *IBD to market value of equity, as well as others*.

The capital structure decision affects the *economic capital cost burden* of an enterprise. *Value* is created through the capital structure decision by affecting the *risk-adjusted required rate of return* that an investor would require to invest capital in the subject enterprise. The *risk-adjusted required rate of return* for debt is called the *cost of debt*, while the *risk-adjusted required rate of return* for equity is called the *cost of equity.* In combination, the *cost of debt* and the *cost of equity* form the total cost of capital for the firm, known as the *weighted average cost of capital* or *WACC*.[78]

In terms of *value* (all else being equal), the *lower* the *required rate of return on an investment* (i.e., the combination of equity and debt used in the investment's capital structure), the *greater* the *value* of the enterprise. *Debt financing* is typically cheaper than *equity*, in terms of the *risk-adjusted*

CAPITAL STRUCTURE OF AN ENTERPRISE

Capital structure is characterized by its debt-to-equity ratio, which is a measure of a company's leverage in the market and indicates what proportion of debt or equity a company uses to finance its assets.

[77] For more information regarding technological innovations in the healthcare industry see Chapter 5, "Technology."

[78] For a more thorough discussion of the *WACC* and its various components and calculations, see Section, 9.2.1.4, "Weighted Average Cost of Capital (WACC)," in Chapter 9, "Costs and Sources of Capital."

required rate of return demanded by each type of investor, due to the priority claim that lenders have on the assets of the firm in the case of bankruptcy, as well as the priority that lenders have on the income of the enterprise over that of the equity holders. The decision to add more debt to the capital structure typically involves an increase in the *risk perception* of the equity investors, since the increase in leverage typically increases the probability of financial distress and also lowers the amount of cash flow available to the equity holder. Therefore, generally speaking, if taxes, transaction costs, costs of financial distress, and other related economic costs of leverage are ignored, as the amount of debt in the capital structure of a particular enterprise increases, the *risk-adjusted required rate of return* demanded by equity investors should also increase, maintaining a constant *WACC* and creating no additional *value* in the firm due to the capital structure decision.[79]

However, if taxes are considered, and the tax code in which the enterprise operates allows for the deductibility of interest payments from taxable income, then a tax-paying entity would realize an increase in the indication of *value* through the use of additional debt financing.[80] It should be noted, however, that the benefit from tax deductibility must be weighed against any anticipated costs of financial distress (or bankruptcy) and transactions costs that may arise with the issuance of additional debt financing.

For illustration purposes, various metrics describing the *capital structure* of physician professional practices, which operate within SIC Code 8011, are presented in Table 12.18.

It is worth mentioning that a benchmark *debt-to-equity ratio* may be calculated by using two types of industry data: (1) a *composite of industry statistics sources*, for example, tax returns and balance sheets, which report the historical *value/cost* of the *debt* and *equity* employed, commonly referred to as *book value*, and (2) selected *guideline public companies in the industry*, for which current prices of the publicly traded debt and equity are reported and are commonly referred to as *market value*. It should be noted that for the purpose of establishing the *fair market value* of a business enterprise, it is important to use formulas based on *market values* of *equity* and *debt*, rather than *book values*.[81] However, in the healthcare industry,

---

[79] Franco Modigliani and Merton H. Miller, "The Cost of Capital, Corporation Finance and the Theory of Investment," *American Economic Review* 48, no. 3 (June 1958): 261–297; Franco Modigliani and Merton H. Miller, "Corporate Income Taxes and the Cost of Capital: A Correction," *American Economic Review* 53, no. 3 (June 1963): 433–443.

[80] Ibid.

[81] Shannon P. Pratt and Roger J. Garbowski, *Cost of Capital: Applications and Examples*, 3rd ed. (Hoboken, NJ: John Wiley & Sons, 2008), pp. 276–277.

TABLE 12.18 Leverage Ratios for Physician Offices (SIC 8011)

	2010
Debt/Market Value Equity	25.26%
Liquidity	*
Cost of Debt	*
Cost of Equity	14.27%

Ibbotson Cost of Capital Data is only available for SIC 8011 for 2010; all other capital analysis will contain a four-year trend from 2009 to 2012. *Ibbotson Cost of Capital Yearbook*, (Chicago: Morningstar, editions 2012, 2011, 2010, and 2009).
* Not given.

public markets do not exist for the debt of physician professional practices. Therefore, when appraising a physician professional practice, the valuation analyst will typically use the book value of debt, as reported on the subject enterprise's balance sheet. Accordingly, benchmark data sources also reflect leverage ratios that are calculated based on the book value of debt. (See *Key Sources* for benchmark data sources.)

Table 12.18 illustrates that in 2010, for every $100 of equity employed by the owners of the business enterprise, a corresponding $25.26 of debt (*debt/market value* equity) was used. The amount of leverage employed by an enterprise is determined by many factors, including but not limited to the *capital-intensive nature of the business operations*, for example, practices with ancillary services, rather than surgical or hospital-based physician practices, are highly leveraged due to the capital requirement needed to fund the assets of the business, such as expensive *imaging equipment*.

In addition, a firm's ability to access more *debt* in its capital structure may be constrained by lenders' concerns regarding the firm's ability to repay the liability in the future. A key factor affecting a lender's assessment of the potential risk of lending to an enterprise is the *liquidity profile* of that enterprise. Firms with higher *liquidity*, that is, a greater ratio of current assets to current liabilities, will appear to be better capable of meeting its obligations in the future, and lenders will therefore demand less compensation in the form of interest payments from the borrower, for providing capital to the subject enterprise.

12.2.1.3.7 Suppliers The supply chain may be defined as the set of relationships that manages the movement of supplies between the manufacture

Distributor

In the supply chain, a distributor is a company that acts as middleman between the manufacturer and the provider.

"The Post-Reform Environment for Distributors and Manufacturers," Health Industry Distributors Association, presented at Med SC Spring Meeting, May 18, 2011.

and the distributor through various distribution channels. The *supply chain* may also have a big impact on the *economic operating cost burden* incurred by a physician professional practice. The level of impact that the *supply chain* may have on the *value* of a healthcare provider enterprise depends on the level of *net economic cost burden* incurred by the enterprise, in relation to the amount of drugs and supplies required by the provisions of those *services* and the generation of *revenues* that provide a *net economic benefit* of ownership. Interruptions in the *supply chain* may limit a practice's ability to provide medical services and may therefore negatively affect the *generation of revenue*.

Many healthcare providers (typically, small to medium-size physician practices) usually do not obtain their supplies *directly* from a manufacturer, but instead use a *distributor or supplier.* In 2010, U.S. healthcare distributors delivered supplies to more than 200,000 sites of care, including 195,000 physician offices. Generally, physician practices order 96 percent of the medical products and supplies used from a distributor.[82]

12.2.1.3.8 Market Rivalries and Competitors Competition between physician professional practices (and other enterprises that offer similar services) affects both the *revenue* generated by an enterprise and the economic operating cost burden associated with the generation of that *revenue*. The *net economic benefit* generated from the operation of an enterprise is directly affected by increased/decreased competition, for example, as more competitors enter the market, existing providers may be forced to compete by either *accepting lower reimbursement* or *increasing the quality* of services, in order to retain market share. However, by the enterprise *accepting lower reimbursement*, the revenue generated by the enterprise would decrease, and

[82] "The Post-Reform Environment for Distributors and Manufacturers," Health Industry Distributors Association, presented at Med SC Spring Meeting, May 18, 2011.

by *increasing quality*, the economic operating cost burden may increase, in either of which events the amount of *net economic benefit* accruing to the owner would be reduced.

It is estimated that the segment of the U.S. population over age 65 will *double* between 2005 and 2030, resulting in a significant increase in *demand* for *preventive healthcare* and *chronic disease management services*, thereby increasing the amount of economic benefit accruing to professional physician practices.[83] In addition, as the general health status of the U.S. population declines, due to increased rates of chronic diseases, for example, *obesity*, *allergies*, and *cardiovascular disease*, the demand for specialists in these fields will likely increase.[84] The supply of physicians from 1975 to 2010, as compared to the total U.S. population, is set forth in Table 12.19.

---

[83] *Retooling for an Aging America: Building the Health Care Workforce*, Committee on the Future Health Care Workforce for Older Americans (Washington, DC: The National Academies Press, 2008), pp. ix, 39–73.

[84] Gailen D. Marshall, "The Status of US Allergy/Immunology Physicians in the 21st Century: A Report from the American Academy of Allergy, Asthma, & Immunology Workforce Committee," American Academy of Allergy, Asthma, & Immunology Workforce Committee, *Journal of Allergy and Clinical Immunology* 119, no. 4 (April 2007): 802; Alexa Boer Kimball and Jack S. Resneck Jr., "The US Dermatology Workforce: A Specialty Remains in Shortage," *Journal of the American Academy of Dermatology* 59, no. 5 (November 2008): 742; Veronique L. Roger, et al., "Heart Disease and Stroke Statistics 2012 Update," *Circulation—Journal of the American Heart Association* (December 15, 2011), http://circ.ahajournals.org/content/125/1/e2.full.pdf+html (accessed July 5, 2012): e3, 21; Joseph E. Marine, "Cardiology Workforce Crisis: Shortage or Surplus? [Reply]," *Journal of the American College of Cardiology* 55, no. 8 (February 23, 2010): 838; Clese Erikson, Edward Salsberg, Gaetano Forte, Suanna Bruinooge, and Michael Goldstein, "Future Supply and Demand for Oncologists: Challenges to Assuring Access to Oncology Services," *Journal of Oncology Practice* 3, no. 2 (March 2007): 79; Cheryl Clark, "Cancer Survivor Ranks Expanding," *HealthLeaders Media*, March 11, 2011, http://www.healthleadersmedia.com/print/COM-263583/Cancer-Survivor-Ranks-Expanding (accessed March 16, 2011); Cynthia L. Ogden, Margaret D. Carroll, Margaret A. McDowell, and Katherine M. Flegal, "Obesity among Adults in the United States—No Statistically Significant Change Since 2003–2004," Division of Health and Nutrition Examination Surveys, the National Center for Health Statistics, Centers for Disease Control and Prevention, U.S. Department of Health and Human Services, December 4, 2007, p. 1, http://www.cdc.gov/nchs/data/databriefs/db01.pdf (accessed October 6, 2009); Roni Caryn Rabin, "Gastroenterologist Shortage Is Forecast," *New York Times*, January 9, 2009, http://www.nytimes.com/2009/01/09/health/research/09gastro.html?_r=1&sq=1,050 GI physicians&st=cse&scp=1&pagewanted=print (accessed July 14, 2010), p. 1.

Factoid

It is estimated that the segment of the population over age 65 will double between 2005 and 2030, resulting in a significant increase in demand for preventive health care and chronic disease management services.

Retooling for an Aging America: Building the Health Care Workforce, *Committee on the Future Health Care Workforce for Older Americans (Washington, DC: The National Academies Press, 2008), pp. ix, 39–73.*

Factoid

As the general health status of the U.S. population declines, due to increased rates of chronic diseases, including obesity, allergies, and cardiovascular disease, the demand for specialists will likely increase.

"The Status of US Allergy/Immunology Physicians in the 21st Century: A Report from the American Academy of Allergy, Asthma, & Immunology Workforce Committee," Gailen D. Marshall, MD, FAAAAI, the American Academy of Allergy, Asthma, & Immunology Workforce Committee, Journal of Allergy and Clinical Immunology *119, no. 4 (April 2007): 802; "The US Dermatology Workforce: A Specialty Remains in Shortage," by Alexa Boer Kimball, MD, and Jack S. Resneck Jr. MD,* Journal of the American Academy of Dermatology *59, no. 5, (November 2008): 742; "Heart Disease and Stroke Statistics 2012 Update," by Veronique L. Roger et al.,* Circulation—Journal of the American Heart Association, *December 15, 2011, http://circ.ahajournals.org/content/125/1/e2.full.pdf+html (accessed July 5, 2012), pp. e3, 21; "Cardiology Workforce Crisis: Shortage or Surplus? [Reply]," Joseph E. Marine,* Journal of the American College of Cardiology *55, no. 8 (February 23, 2010): 838; "Future Supply and Demand for Oncologists: Challenges to Assuring Access to Oncology Services," by Clese Erikson, Edward Salsberg, Gaetano Forte, Susanna Bruinooge, and Michael Goldstein,* Journal of Oncology Practice *3, no. 2 (March 2007): 79; "Cancer Survivor Ranks Expanding," by Cheryl Clark,* HealthLeaders Media, *March 11, 2011, http://www.healthleadersmedia.com/print/COM-263583/Cancer-Survivor-Ranks-Expanding (accessed March 16, 2011); "Obesity among Adults in the United States—No Statistically Significant Change Since 2003–2004," by Cynthia L. Ogden, Margaret D. Carroll, Margaret A. McDowell, and Katherine M. Flegal, Division of Health and Nutrition Examination Surveys, the National Center for Health Statistics, Centers for Disease Control and Prevention, U.S. Department of Health and Human Services, December 4, 2007, p. 1, http://www.cdc.gov/nchs/data/databriefs/db01.pdf (accessed October 6, 2009); "Gastroenterologist Shortage Is Forecast," Roni Caryn Rabin,* New York Times, *January 9, 2009, http://www.nytimes.com/2009/01/09/health/research/09gastro.html?_r=1&sq=1,050GI physicians&st=cse&scp=1&pagewanted=print (accessed July 14, 2010), p. 1.*

TABLE 12.19 Population to Physician Ratio, 1975–2010

	1975	1980	1985	1990	1995	2000	2010	Percentage Change (1975–2010)	Percentage Change (1990–2010)	Compound Annual Growth Rate (1975–2010)
Total Population	219,272,000	231,266,000	242,946,000	252,164,000	262,755,000	282,217,000	309,051,000	**40.9%**	**22.6%**	**1.0%**
Total Number Physicians	393,742	467,679	552,716	615,421	720,325	813,770	985,375	**150.3%**	**60.1%**	**2.7%**
Ratio	557	494	440	410	365	347	314	**–43.7%**	**–23.5%**	**–1.6%**
Office-Based	215,429	272,000	330,197	360,995	427,275	490,398	565,024	**162.3%**	**56.5%**	**2.8%**
Ratio	1,018	850	736	699	615	575	547	**–46.3%**	**–21.7%**	**–1.8%**
Hospital-Based	96,508	104,512	118,623	142,875	154,856	157,032	187,548	**94.3%**	**31.3%**	**1.9%**
Ratio	2,272	2,213	2,048	1,765	1,697	1,797	1,648	**–27.5%**	**–6.6%**	**–0.9%**

American Medical Association, *Physician Characteristics and Distribution in the US,* 2012 Edition (Chicago: American Medical Association, 2012), pp. 440–444, 449–452.

Factoid

The population-to-physician ratio has decreased significantly during the last 25 years, and the decrease in the population-to-physician ratio for physicians practicing in an office-based setting was much more pronounced than for those physicians practicing in a hospital-based setting.

American Medical Association, Physician Characteristics and Distribution in the US, *2012 Edition (Chicago: American Medical Association, 2012), pp. 440–444, 449–452.*

As indicated in Table 12.19, the *population-to-physician ratio* has decreased significantly during the past 25 years. Of note is that the decrease in the *population-to-physician ratio* for a physicians practicing in an *office-based setting* (–43.7 percent from 1975 to 2010) was much more pronounced than for those physicians practicing in a *hospital-based setting* (–27.5 percent from 1975 to 2010).[85]

The percentage of growth in the supply of physicians from 1975 to 2010 is illustrated in Exhibit 12.2.

Physician practices compete with other *physician practices*, *midlevel providers*, *hospital outpatient departments*, and other *outpatient providers* that generate *ASTC revenues* (discussed earlier). In light of the continuing concerns regarding the supply of primary care physicians, specialists, and surgeons, those physician providers who have existing affiliation relationships with hospitals and health systems (e.g., participating in ACO or comanagement arrangements) may be in the best position to benefit in an era of reform that increasingly reimburses providers based on "*quality*" over "*quantity.*"

12.2.1.3.9 Subject Entity Specific/Nonsystematic Risk As discussed in Chapter 9, "Costs and Sources of Capital," the *discount rate* at which the measured expected future stream of economic benefit of ownership is discounted to present value is selected by the valuation analyst to represent the rate of return a typical investor in the enterprise being valued would require in *discounting* the expected *stream* of the *net economic benefits* of ownership in the subject enterprise, given the systematic risk of the market, as well as the unsystematic risk of investment in the enterprise. In contrast, the capitalization rate is the rate by which a single estimate of benefit is divided to determine value.

[85] American Medical Association, *Physician Characteristics and Distribution in the US*, 2012 Edition (Chicago: American Medical Association, 2012), pp. 440–444, 449–452.

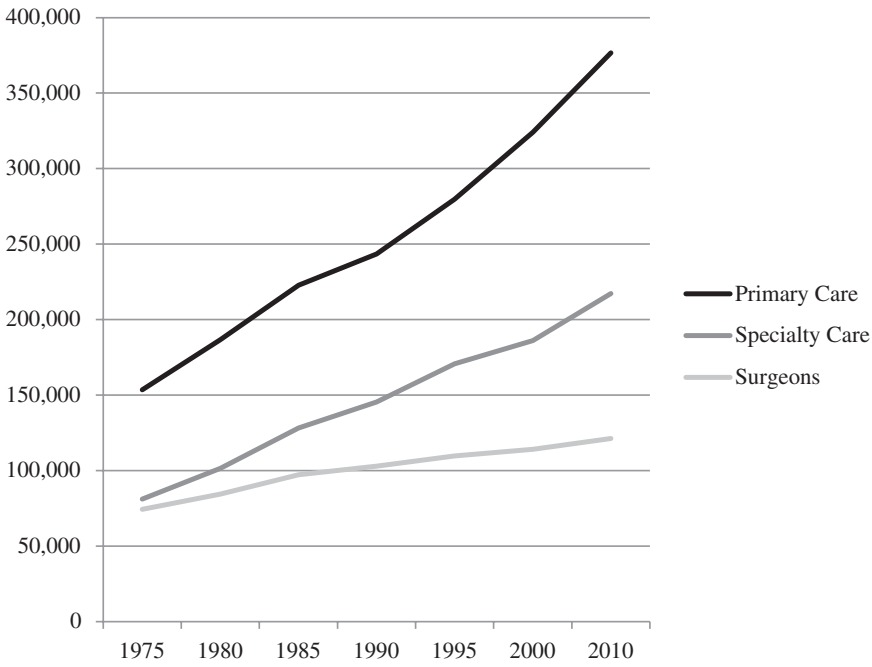


EXHIBIT 12.2 Supply of Physicians, 1975–2010

This exhibit does not include specialties not discussed (68,950 physicians), inactive physicians (125,928 physicians), or physicians who are not classified under a specific specialty (64,585 physicians); therefore, total supply numbers will not add up to the total number of physicians (985,375) indicated in Table 12-19: "Population to Physician Ratio, 1975–2010," earlier. American Medical Association, *Physician Characteristics and Distribution in the US*, 2012 Edition (Chicago: American Medical Association, 2012), pp. 440–444, 449–452.

As described in more detail in Chapter 8, "Valuation Approaches and Methods," the *cost of equity* may be developed by "*building up*" the aggregate elements of several rates and risk adjustments, including:

1. The *risk-free rate*;
2. The *investment alternative* (equity risk premium);
3. The *healthcare industry risk premium*;
4. The *small public company risk premium*; and
5. The *specific risk premium* for the particular physician practice being valued.[86]

[86] A discussion of the first four rates and risk adjustments is set forth in Chapter 9, "Costs and Sources of Capital."

The adjustment for the *specific risk premium* for the particular physician practice being valued is somewhat more subjective than the other four elements used in the *buildup method*, in that it reflects the valuation analyst's *informed assessment* of the various *risk factors* that are inherent and specific to the enterprise being valued and reflects the *extra return of required* by investors in the enterprise based on the valuation analyst's subjective assessment of the *risk factors* related to the enterprise.[87] Specific risk factors to consider when valuing a physician professional practice include:

1. *Uncertainty* related to the *continuity of the revenue stream* of the *subject enterprise*;
2. *Uncertainty* related to the *probability* of the subject enterprise *achieving the projections* used by the valuation analyst;
3. Level of *competition* in the subject enterprise's market service area;
4. *Stability of the subject enterprise's provider workforce* compared to that of normative industry benchmark survey data;
5. *Operational and financial performance* of the practice compared to normative industry benchmark survey data; and
6. The level of *technological obsolescence* of the services provided by the subject enterprise.

12.2.1.4 Pertinent Valuation Considerations: Physician Professional Practices In addition to the typical valuation considerations described earlier, the valuation of inpatient enterprises should also include specific considerations of the *type*, *nature*, and *scope* of the subject enterprise being appraised.

As discussed in Chapter 11, "Inpatient Enterprises," the valuation analyst should consider any necessary *normalizing adjustment* to the revenues and expenses of the subject enterprise. The specific purpose for and examples of *normalizing adjustments* the valuation analyst should consider in the valuation of professional physician practices are illustrated in Table 12.20. Further, revenue stream considerations are a significant value driver for the valuation of professional physician practices. Table 12.21 provides specific consideration for the projection of revenue for professional physician practices. Two examples of the application of pertinent valuation considerations for physician professional practices can be found online at http://www.wiley.com/go/healthcarevaluation.

12.2.2 Allied Health Practices

Allied health professionals include those providers who practice "*parallel*" to physicians, often striving to meet demands for care that *align* (and sometimes

[87] See Section 9.2.1.2.1.5, "Subject Entity Specific Risk Premium," in Chapter 9, "Costs and Sources of Capital," for further discussion of this method.

TABLE 12.20 Normalizing Adjustment Considerations pertinent to Professional Practices

Specific Purposes for Normalizing Adjustments for the Valuation of Physician Professional Practices	Specific Examples of Normalizing Adjustments for Physician Professional Practices
Level of Interest Normalizing Adjustments—Revenues and expenses are to be reflective of what the *typical* buyer (i.e., buyer of a controlling or a minority interest) should expect to realize.	Typical expenses requiring Normalizing Adjustments for the purposes of deriving cash flow related to a control/minority interest in a physician professional practice may include: (1) Owner's Discretionary Expenses (e.g., family members on a payroll, automobiles, etc.); (2) Office Rent Expense (if office space is leased from an entity with common ownership as the practice); and (3) Gifts and charitable donations, or other nonoperating expenses.
Adjustment of Owner-Provider Compensation to Fair Market Value—Typically, the owner compensation encompasses the most significant expenses for professional practices. As required by Revenue Rulings 59–60 and 68–609, as well as set forth under the definition of *Fair Market Value*, which assumes a *"hypothetical willing"* buyer of the subject enterprise, rather than an individual specific buyer,owner compensation should be adjusted to a *"reasonable amount for the services performed by the owner or partners engaged in the business."*	Typical steps for adjusting owner-provider's compensation to *Fair Market Value* should include the following: (1) Identifying the specific tasks, duties, responsibilities, and accountabilities (TDRAs) of the owner-provider; (2) Determining the range of industry compensation for the owner-provider's production/input based on the TDRAs of the owner-provider; and (3) Selecting the *Fair Market Value* cost to replicate or replace the owner-provider's services; See Chapter 15, "Healthcare Services," for further discussion of determining *Fair Market Value* for healthcare services.

(*continued*)

TABLE 12.20 Normalizing Adjustment Considerations pertinent to Professional Practices (*continued*)

Specific Purposes for Normalizing Adjustments for the Valuation of Physician Professional Practices	Specific Examples of Normalizing Adjustments for Physician Professional Practices
Adjustment for Nonrecurring and Extraordinary Revenue and Expenses—Revenue and expenses that are nonrecurring and/or extraordinary should be identified and adjusted appropriately to reflect the ongoing operations of the subject professional practices.	Typically nonrecurring and/or extraordinary revenues and expenses in a physician professional practice include: (1) Medicare payment settlements; (2) Legal expenses related to the defense of medical malpractice; (3) Certain furniture and equipment purchases; (4) Gains or losses on asset sales; and (5) Consulting expenses related to nonrecurring projects.
Adjustment for Timing of Revenue and Expense Recognition—Financial statements prepared for closely held physician professional practices (as with other small businesses) are most often prepared by tax counsel to reflect the specific circumstances of the individual owner's tax posture, and to minimize the client's exposure thereto, and therefore, are typically prepared on a *cash basis* or *income tax basis*. It is important that the valuation analyst make normalizing adjustments that match the timing of the subject practice's revenue to the period in which the expenses related to the generation of the revenue occurred (i.e., *accrual basis*).	In addition to the typical accrual adjustments required to convert cash basis financial statements to accrual basis (e.g., timing of revenue and estimating the practices accounts receivable and accounts payable), other revenue, expenses, assets, and liabilities that may require *adjustment for timing recognition* may include: (1) Medicare payment settlements; (2) Consideration of capitation and copay reimbursement; (3) Value of medical supply and other inventory on-hand; (4) Contingent liabilities (e.g., pending medical malpractice claims); (5) Incurred But Not Reported (IBNR) liabilities; and (6) *Fair Market Value* of key person life insurance policies.

compete) with those met by physicians. Allied health professionals are state licensed and credentialed healthcare providers who receive formal academic and clinical training. Allied health practitioners often work with physicians and other healthcare professionals to provide high-quality patient care.

Allied Health Professionals

Providers who practice "*parallel*" to physicians but provide a scope of services that is distinctly different from physicians, representing 60 percent of the U.S. healthcare workforce, providing diagnostic, technical, and therapeutic services *incident to* (supporting) or *in lieu of* (replacing) physicians.

"Allied Health Professionals Highlights: Workforce Shortage Crisis," Allied Health Professionals, November 12, 2006, http://www.californiahealthline.org/Features/2009/Shortage-of-Allied-Health-Workers (accessed April 10, 2009).

TABLE 12.21 Revenue Stream Considerations Pertinent to Professional Practices

Specific Purposes for the Projection of Revenue for the Valuation of Physician Professional Practices	Specific Considerations for the Projection of Revenue for Physician Professional Practices
Traditionally, revenue for physician professional practices has been based on the *Fee-for-Service* convention, which is driven by *patient volume*, based on changes in the *utilization demand/market share* for services provided.	Typical steps for projecting patient volume of a professional practice include: (1) Review and analyze *historical patient volume trends* and compare to industry benchmarks; (2) Obtain *demographic projections* of the subject practice's market service area; (3) Obtain projected *incidence and prevalence* of specific injuries, ailments, or diseases treated by the subject enterprise; (4) Research *new technologies and treatments* for the injuries, ailments, or diseases treated by the providers of the subject enterprise, and assess their impact on future patient volume; (5) Review the *payor contracts* of the subject professional practice and determine the likeliness of renewal and impact of nonrenewal; (6) Assess the *patient volume capacity* of the subject practice; (7) Assess the *competitive landscape* of the market service area; and (8) Conduct *management interviews* and assess the *achievability* of revenue projections.

(*continued*)

TABLE 12.21 Revenue Stream Considerations Pertinent to Professional Practices (*continued*)

Specific Purposes for the Projection of Revenue for the Valuation of Physician Professional Practices	Specific Considerations for the Projection of Revenue for Physician Professional Practices
In addition to patient volume, revenue for physician professional practices is dependent on the *reimbursement yield* (received) for services provided.	Typical steps for projecting *reimbursement yield* of a physician professional practice include: (1) Review and analyze historical trends in the subject professional practice's payor mix; (2) Review the payor contracts of the subject enterprise, and determine the reimbursement methodologies of each payor (e.g., % of Medicare, discounted fee-for-service, capitation, shared savings, etc.); (3) Research historical (and projected, if available) trends in government payor reimbursement for the services provided at the subject enterprise; (4) Research historical (and projected, if available) trends in commercial and other payor reimbursement for the services provided at the subject enterprise; and (5) Review changes in CMS coding procedures for the services rendered by the providers of the subject enterprise, i.e., CMS annually updates the Physician Fee Schedule, and periodically bundles, or roll-ups, CPT codes. For example, in 2010 three former SPECT related CPT codes (i.e., 78465—SPECT myocardial perfusion imaging multiple study, 78480, and 78478—add on codes for wall motion and ejection fraction) were combined into one new CPT code (i.e., 78452). Note that the bundling of these codes had a significant impact (decrease) on the revenue of cardiology practices beginning in 2010. See Chapter 2, "Reimbursement Environment," for further discussion.

12.2.2.1 Types of Allied Health Professional Practices Types of allied health professionals include (1) *dentists*, (2) *optometrists*, (3) *chiropractors*, (4) *psychologists*, and (5) *podiatrists*. These professionals typically provide a *scope of services* that is distinct from an *allopathic* or *osteopathic* physician's *scope of practice*. However, even though the services rendered by an allied health professional may differ from those of an *allopathic* or *osteopathic* physician, the valuation methodology for a*llied health professional practices* is similar in nature to *physician professional practices*. A brief classification and current overview of each type of allied health professional practice is set forth below.

12.2.2.1.1 Dental Practices Dental practitioners provide a broad range of services to patients, including (1) *prophylaxis* (e.g., cleaning), (2) periodic *oral evaluation*, and (3) *direct restoration*.[88] As of 2012, in the United States there were 170,725 dental offices and clinics. Although most dentists operate *private practices* consisting of one or two dentists (68.7 percent and 19.6 percent, respectively), *dental practice management companies* have gained traction in the market as the continually rising cost of operating a practice has driven increased consolidation of the dental industry.[89] It is estimated that in the United States, as of 2012, there were more than 4,000 publicly traded or privately held *dental management companies*.[90]

There are currently 64 accredited *dental education programs* in the United States, each accredited by the *Commission on Dental Accreditation* (*CODA*), an accreditation authority acting under the *American Dental Association* (*ADA*). Most dental education programs require students to have at least a bachelor degree prior to acceptance. While no specific undergraduate degree is required by dental schools, an undergraduate degree in a science, such as biology, may increase the probability of acceptance. Most undergraduates applying for acceptance to a dental program will, typically in their junior year, take the Dental Acceptance Test (DAT), which is used by dental schools, in addition to other factors, in determining those applicants who are most likely to succeed in a dental education program.[91] Individuals

[88] U.S. Bureau of Labor Statistics, "Dentists," in *Occupational Outlook Handbook*, 2013–2013 Edition, March 29, 2012.

[89] Anna Son, *IBISWorld Industry Report 62121: Dentists in the US*, IBISWorld, August 2012, p. 22.

[90] John K. McGill and Charles Blair, "The Future of Dentistry (Part 3)—Where Will the Growth of Corporate Dentistry End?" *McGill Advisory* 27, no. 7 (July 2012): 1.

[91] U.S. Bureau of Labor Statistics, "Dentists," in *Occupational Outlook Handbook*, 2013–2013 Edition, March 29, 2012.

Factoid

There are currently 64 accredited dental education programs in the United States, each accredited by the Commission on Dental Accreditation (CODA), an accreditation authority acting under the American Dental Association (ADA).

"DDS/DMD Programs—U.S.," American Dental Association, http://www.ada.org/267.aspx (accessed August 22, 2012).

who successfully complete a *dental education program* are awarded either a *Doctorate of Dental Surgery* (*D.D.S.*) or a *Doctorate of Dental Medicine* (*D.M.D.*), two degrees that are functionally *identical*.[92]

Dental specialists, for example, *orthodontists*, *periodontists*, or *oral and maxillofacial surgeons*, must complete additional *postgraduate training*, as well as a separate *competency exam* administered by the national board for the specialty in order to become "*board certified*."[93] There are currently nine dental specializations recognized by the ADA, including (1) *dental public health*, (2) *endodontic*, (3) *oral and maxillofacial*, (4) *oral and maxillofacial surgery*, (5) *oral pathology*, (6) *orthodontia*, (7) *pediatric dentistry*, (8) *periodontics*, and (9) *prosthodontics*.[94] As of December 2011, the most popular dental specializations were *Oral and Maxillofacial Surgery* (7,335 certified practitioners) and *Orthodontics* (7,708 certified practitioners).[95] However, most dentists are general practitioners, accounting for 84 percent of the dental industry as of 2012.[96]

---

[92] "DDS/DMD Programs—U.S.," American Dental Association http://www.ada.org/267.aspx (accessed August 22, 2012); "Commission on Dental Accreditation (CODA)," American Dental Association, http://www.ada.org/100.aspx (accessed December 12, 2012); American Dental Association, "DDS/DMD," 2012, http://www.mouthhealthy.org/en/az-topics/d/dds-dmd.aspx(accessed December 7, 2012).

[93] American Dental Association, "DDS/DMD," 2012, http://www.mouthhealthy.org/en/az-topics/d/dds-dmd.aspx (accessed December 7, 2012); American Dental Association, "*Report of the ADA-Recognized Dental Specialty Certifying Boards*," April 2012, p. 7.

[94] U.S. Bureau of Labor Statistics, "Dentists," in *Occupational Outlook Handbook*, 2013–2013 Edition, March 29, 2012.

[95] American Dental Association, *Report of the ADA-Recognized Dental Specialty Certifying Boards*, April 2012, p. 7.

[96] U.S. Bureau of Labor Statistics, "Dentists," in *Occupational Outlook Handbook*, 2013–2013 Edition, March 29, 2012; Anna Son, *IBISWorld Industry Report 62121: Dentists in the US*, IBISWorld, August 2012, p. 14.

Operatory

The space and equipment used in the provision of professional dental services.

Dental offices are typically organized around the *operatory*, that is, the space and equipment used in the provision of professional dental services. *Efficient design management* related to the use of the *operatories* within a dental practice is key to *maximizing* the practice's ability to generate *net economic benefit*, whereby greater patient throughput in the *operatories* will translate into *greater productivity* (measured by procedure volume) *per unit of output*, thereby lowering *total cost per unit of output*, which in turn will increase the practice's *profit margin per unit of output*. *Operatories* may be used as a *unit metric* during the benchmarking process to *compare* the subject dental practice's *historical operating performance* against *industry normative data*. Typically, the valuation analyst will express the *subject data* as a *percentage of revenue*, referred to as "*common sizing*," to allow for a comparison across practices; for example, the valuation analyst may compare the *revenue*, *expenses*, *profit*, or *support staff* of the subject enterprise to *industry-indicated normative data* on a *per operatory* basis.[97] The *operatory* may also be used as a unit metric to analyze the *capacity utilization* of the subject enterprise. The comparison of *output measures* (e.g., *procedure volume* or *patient visits*) *per operatory* can provide insight regarding the ability of the subject enterprise to achieve the *output* (revenue) projected by the valuation analyst within the *capacity* of the current *level of capital* employed by the subject enterprise.

The SIC and NAICS codes for *dentists* are set forth in Table 12.22.

12.2.2.1.2 Optometric Practices *Optometrists*, or *Doctors of Optometry (OD)*, are the primary providers of eye and vision-related care, providing primary eye care to two-thirds of U.S. patients.[98] Optometrists are trained to examine a patient's eyes to determine the nature and degree of a vision problem, as well as diagnose, treat, and manage diseases, injuries, and disorders of the visual system, including a patient's eyes and associated structures.[99] As

[97] Common size refers to expressing the historical financial metrics as a percentage or ratio of some measure. See Section 8.3.1, "Financial and Operational Benchmarking," in Chapter 8, "Valuation Approaches and Methods."

[98] "About the AOA," American Optometric Association, 2012, http://aoa.org/x4670.xml?prt (accessed November 26, 2012).

[99] American Optometric Association, "Doctors of Optometry and their Education," http://www.aoa.org/x5879.xml (accessed December 7, 2012).

TABLE 12.22 SIC and NAICS Codes for Dentists

SIC		NAICS		
Code	Title	Code	Title	Description
8021	"Offices and Clinics of Dentists"	621210	"Offices of Dentists"	This code is used for doctors of dental medicine (DMD), dental surgery (DDS), or dental science (DDSc) who have independent practices, either general or specialized, in dentistry or dental surgery. The practice setting may be either office-based or hospital-based.

"Division of Corporate Finance: Standard Industrial Classification (SIC) Code List," U.S. Securities and Exchange Commission, October 26, 2011, http://www.sec.gov/info/edgar/siccodes.htm (accessed October 31, 2012); *Annual Statement Studies: Financial Ratio Benchmarks*, 2011–2012 Edition, Risk Management Association (Philadelphia: Risk Management Association, 2011), pp. 84, 85.

of 2010, a majority (75 percent) of optometrists operated in private practice, with the remaining workforce operating in corporate practice (8.6 percent) or other practice types (16.4 percent).[100] Of note is that on average, those

Optometrists

Optometrists are the primary providers of eye and vision-related care, providing primary eye care to two-thirds of U.S. patients. Optometrists are trained to examine patients' eyes to determine the nature and degree of vision problems, as well as to diagnose, treat, and manage diseases, injuries, and disorders of the visual system, including a patient's eyes and associated structures.

"About the AOA," American Optometric Association, 2012, http://aoa.org/x4670.xml?prt (accessed November 26, 2012); "Doctors of Optometry and Their Education," American Optometric Association, 2009, http://www.aoa.org/x5879.xml (accessed August 12, 2009); "Health Care Careers Directory 2009–2010," American Medical Association, http://www.ama-assn.org/ama1/pub/upload/mm/40/vrp03-optometry.pdf (accessed August 12, 2009); "Optometry," in The Health Care Almanac: A Resource Guide to the Medical Field, *edited by Lorri A. Zipperer, American Medical Association, 1995, p. 225.*

[100] Mark K. Colip, "AOA Research and Information Center (RIC): Building a New Information Resource for Our Profession and Industry," American Optometric Association, Spring 2011, p. 1.

Factoid

As of 2010, a majority of optometrists operated in private practice (75 percent), with the remaining workforce operating in corporate practice (8.6 percent) or other practice types (16.4 percent).

"AOA Research and Information Center (RIC): Building a New Information Resource for Our Profession and Industry," by Mark K. Colip, American Optometric Association, Spring 2011, p. 1.

optometrists operating in a corporate practice are approximately 10 years younger than those operating in private practice.[101]

Individuals seeking employment must first complete a *Doctor of Optometry* (OD) degree. In 2011, there existed 20 accredited *Doctor of Optometry* programs in the United States, including one in Puerto Rico. Applicants to OD degree programs are required to have at least three years of postsecondary education but are not required to have a bachelor's degree. An OD degree requires four years of study, beyond the three-year prerequisite for acceptance to the program.[102]

In addition to completing an OD degree, optometrists must also pass a national examination administered by the *National Board of Examiners in Optometry* (NBEO) in order to practice.[103] Some optometrists also participate in residency programs (often one year) following optometry school, which offer training in optometric subspecialties such as family practice optometry, pediatric optometry, geriatric optometry, vision therapy and rehabilitation, low-vision rehabilitation, cornea and contact lenses, refractive and ocular surgery, primary eye care optometry, ocular disease, and community health optometry.[104]

In addition to the *provision of medical services* by optometrists, as noted earlier, a significant portion of an *optometric practice's revenue* may be generated from the *retail sales of optical lenses and frames*. In 2012,

[101] Ibid., pp. 2–3.

[102] Bureau of Labor Statistics, "Optometrists," in *Occupational Health Handbook*, 2012– 2013 Edition, May 24, 2012, http://www.bls.gov/ooh/healthcare/optometrists.htm#tab-4 (accessed December 7, 2012).

[103] "Doctors of Optometry and Their Education," American Optometric Association, http://www.aoa.org/x5879.xml (accessed December 7, 2012).

[104] Bureau of Labor Statistics, "Optometrists," in *Occupational Health Handbook,* 2012– 2013 Edition, May 24, 2012, http://www.bls.gov/ooh/healthcare/optometrists.htm#tab-4 (accessed December 7, 2012).

Exam Lane

Refers to the area where optometrists assess the patient's visual acuity, eye, and systemic health, in determining the appropriate prescription an/or course of treatment required by the patient.

43 percent of revenue in the optometric industry was generated by the *sale of optical goods*.[105] The economic factors affecting the *retail portion* of an optometric practice may be *distinct* from the economic factors affecting the *professional services portion* of the practice and are subject to those factors considered by the *Four Pillars*, that is, *regulatory, reimbursement, competition, and technology.* Consequently, the valuation analyst should consider performing his or her *analyses* and *projections* related to the subject optometric practice as *two separate* and *distinct service lines*, that is, the *professional service line*, as well as a *retail sales service line* with *revenues* and *economic operating* and *economic capital cost burdens* projected *separately* for each service line.

A typical unit of *capacity measure* for optometric enterprises is the "*lane*," which refers to the exam lane where optometrists assess the patient's *visual acuity*, *eyes*, and *systemic health*, in determining the *appropriate prescription* and/or *course of treatment* required by the patient. Similar to the *operatories* discussed for dental practices, the number of *optometry lanes* used at an optometric practice can provide insight to the valuation analyst regarding the *efficiency* of the subject enterprise in using its assets, as well as provide a convenient *measure of capacity* utilization for comparison to *industry normative data*.

The SIC and NAICS codes for optometrists are set forth in Table 12.23.

12.2.2.1.3 Chiropractic Practices *Chiropractic treatment* focuses on *spinal manipulation* to treat *neuromusculoskeletal* conditions, for example, *back pain, neck pain, joint pain*, and *headaches*. Treatments can include natural and noninvasive physical therapy modalities, exercise programs, nutritional advice, orthotics, lifestyle modifications, and other patient education.[106] Chiropractors often assess patients through clinical examinations, laboratory testing, diagnostic imaging, and other diagnostic

[105] Anna Son, *IBISWorld Industry Report 62132: Optometrists in the US*, IBISWorld, October 2012, p. 12.

[106] American Chiropractic Association, "What Is Chiropractic?" 2012, http://www.acatoday.org/level2_css.cfm?T1ID=13&T2ID=61 (accessed December 7, 2012).

TABLE 12.23 SIC and NAICS Codes for Optometrists

SIC		NAICS	
Title	**Code**	**Title**	**Description**
"Offices and Clinics of Optometrists"	61320	"Offices of Optometrists"	This code is used for doctors of optometry (OD) who have independent practices, either office-based or hospital-based, specializing in optometry to conduct eye exams and prescribe visual aids.

"Division of Corporate Finance: Standard Industrial Classification (SIC) Code List," U.S. Securities and Exchange Commission, October 26, 2011, http://www.sec.gov/info/edgar/siccodes.htm (accessed October 31, 2012); *Annual Statement Studies: Financial Ratio Benchmarks,* 2011–2012 Edition, Risk Management Association (Philadelphia: Risk Management Association, 2011), pp. 84, 85.

interventions.[107] The chiropractic industry is dominated by independent practices, with the top four chiropractic providers accounting for less than 2 percent of the total U.S. market (56,314 chiropractic establishments), as of 2012.[108]

Acceptance to a chiropractic college typically requires completion of, at a minimum, 90 credit hours of undergraduate education. It is not required, but completion of a bachelor program may be helpful in gaining acceptance to a chiropractic college. The completion of a chiropractic degree requires four years and may include coursework in biology, anatomy, and physics.

Chiropractors

Chiropractic treatment focuses on spinal manipulation (referred to as spinal adjustment) and the body's natural power to heal itself without relying on drugs or surgery. Chiropractors use various forms of therapy including massage, ultrasound, electric, acupuncture, or heat, and various supports (e.g., braces) in providing patient care

"The Chiropractic Profession," by David A. Chapman-Smith, NCMIC Group Inc., 2000, p.1; "Chiropractors," Occupational Outlook Handbook, *Bureau of Labor Statistics, 2008–2009 Edition, p. 1.*

[107] Ibid.

[108] Anna Son, *IBISWorld Industry Report 62131: Chiropractors in the U.S.,* IBISWorld, January 2013.

Some chiropractors may also complete residency programs to obtain additional training in chiropractic specialties.[109]

In addition to achieving a doctor of chiropractic degree from a chiropractic college accredited by the *Council on Chiropractic Education*, chiropractors must pass a national board examination in order to practice.[110] As of 2012, there are only 18 accredited chiropractic colleges in the United States.[111] *Specialization* is a growing trend within the chiropractic profession, as many chiropractic colleges offer postgraduate specialty education in *sports injuries* and *occupational health* to orthopedics and neurology.[112] Specializations can also be obtained from various specialty boards, for example, *American Academy of Chiropractic Physicians* (AACP), *the American Chiropractic Board of Sports Physicians* (ACBSP), *the College on Forensic Sciences* (CFS), and *the International Academy of Chiropractic Neurology* (IACN).[113]

The revenue stream of a chiropractic practice, to a great extent, relies primarily on the labor of the chiropractor as the main input in generation of revenue. As such, the most efficacious measures of *efficiency*, as well as *capacity utilization,* are based on a *per provider* metrics, for example, *revenue, expenses, profits,* or *support staff* per practitioner. However, the valuation analyst may consider other capacity measures, such as *revenue, expenses, profit,* or *support staff* per *chiropractic table* or on a *per square foot* basis. In addition, it should be noted that modern chiropractic practices provide related ancillary services, such as *massage therapy*, *acupuncture*, and *nutritional supplements*, as well as *retail sales* of certain medical devices, such as *transcutaneous electrical nerve simulation units* (TEN units).

The SIC and NAICS codes for chiropractors are set forth in Table 12.24.

---

[109] Bureau of Labor Statistics, "Chiropractors," in *Occupational Health Handbook*, 2012–2013 Edition, May 24, 2012, http://www.bls.gov/ooh/healthcare/optometrists.htm#tab-4 (accessed December 7, 2012).

[110] American Chiropractic Association, "What Is Chiropractic?" 2012, http://www.acatoday.org/level2_css.cfm?T1ID=13&T2ID=61 (accessed December 7, 2012).

[111] "Chiropractic Colleges," American Chiropractic Association, 2012, http://www.acatoday.org/content_css.cfm?CID=32 (accessed December 7, 2012).

[112] Gina Shaw, "Chiropractic Specialties on the Rise," American Chiropractic Association, July 9, 2009, http://www.acatoday.org/print.cfm?CID=2323 (accessed July 9, 2009), p.1; "What Is Chiropractic?" American Chiropractic Association, 2012, http://www.acatoday.org/level2_css.cfm?T1ID=13&T2ID=61 (accessed December 7, 2012).

[113] Clair Johnson, "The Journal of Chiropractic Medicine and Selected Specialties in the Chiropractic Profession," *Journal of Chiropractic Medicine* 9, no. 2 (June 2010) 47.

TABLE 12.24 SIC and NAICS Codes for Chiropractors

SIC		NAICS		
Code	**Title**	**Code**	**Title**	**Description**
8041	"Offices and Clinics of Chiropractors"	62130	"Offices of Chiropractors"	This code is used for doctors of chiropractic (DC) who have independent practices, either office-based or hospital-based, specializing in chiropractic diagnostics and therapeutic manipulation of the neuromusculoskeletal system.

"Division of Corporate Finance: Standard Industrial Classification (SIC) Code List," U.S. Securities and Exchange Commission, October 26, 2011, http://www.sec.gov/info/edgar/siccodes.htm (accessed October 31, 2012); *Annual Statement Studies: Financial Ratio Benchmarks*, 2011–2012 Edition, Risk Management Association (Philadelphia: Risk Management Association, 2011), pp. 84, 85.

12.2.2.1.4 Psychology Practices *Psychologists* conduct *psychological* and *neuropsychological* testing, make clinical diagnoses, and design treatment plans related to mental health.[114] Psychologists who practice in the healthcare industry provide care in clinics, hospitals, schools, and private settings,[115] while other psychologists who choose to work in businesses, industry, government, and nonprofit organizational settings often providing training, conduct research, and design organizational systems.[116] In 2012, there were 117,827 psychology-related enterprises in the United States, with most having fewer than five employees, and the four largest enterprises accounted for less than 1 percent of the total industry revenue.[117]

While licensed clinical, counseling, and research psychologists are typically required to have a doctoral degree, either a PhD in psychology or a Doctor of Psychology (PsyD), *school psychologists* are generally only required to obtain a master's degree.[118] In addition, the *Commission for*

[114] U.S. Bureau of Labor Statistics, "Psychologists," in *Occupational Outlook Handbook*, 2013–2013 Edition, March 29, 2012.

[115] Ibid.

[116] Ibid.

[117] Anna Son, *IBISWorld Industry Report 62133: Psychologists, Social Workers and Marriage Counselors in the US*, IBISWorld, May 2012, pp. 23, 34.

[118] U.S. Bureau of Labor Statistics, "Psychologists," in *Occupational Outlook Handbook*, 2013–2013 Edition, March 29, 2012.

Psychologists

Psychologists conduct psychological and neuropsychological testing, make clinical diagnoses, and design treatment plans for patients.

"Comparison of Psychiatrists and Psychologists in Clinical Practice," by David P. Pingitore, et al., Psychiatric Services *53, no. 8 (2002): 977, http://psychservices.psychiatryonline.org/cgi/reprint/53/8/977 (accessed September 1, 2009).*

the Recognition of Specialties and Proficiencies in Professional Psychology (CRSPPP) recognizes 12 specialties, including (1) *clinical neuropsychology*, (2) *clinical health psychology*, (3) *psychoanalysis psychology*, (4) *school psychology*, (5) *clinical psychology*, (6) *clinical child psychology*, (7) *counseling psychology*, (8) *industrial-organizational psychology*, (9) *behavioral psychology*, (10) *forensic psychology*, (11) *family psychology*, and (12) *professional geropsychology*, which require additional postdoctoral training.[119]

Similar to chiropractic practices, psychology practices typically require limited amounts of *physical capital*, that is, the key input in the production of output in a psychology practice is the psychologist. Assessment of *resource utilization*, as well as the assessment of *capacity utilization*, is therefore typically performed on a *per provider* basis. Metrics related to *physical capital* that may be informative to the valuation analyst include *revenue*, *expenses*, or *profit* per number of providers, while certain *occupation cost metrics* that may be informative include *number of providers* or *support staff* per *occupation cost dollars* expended or per *square foot*. In this regard, occupation costs typically include furniture, rent, amortization of tenant build-out, depreciation, and return on capital equipment.

The SIC and NAICS codes for psychologists are set forth in Table 12.25.

12.2.2.1.5 Podiatry Practices The recognition of podiatry as a healthcare profession is relatively recent, with the AMA formally recognizing the practice of podiatry in 1939.[120] *Podiatry* is a health profession concerned with medical and surgical treatment of disorders of the foot, ankle, and related

[119] "Recognized Specialties and Proficiencies in Professional Psychology," American Psychological Association, 2012, http://www.apa.org/ed/graduate/specialize/recognized.aspx (accessed December 7, 2012).

[120] U.S. Bureau of Labor Statistics, "Podiatrists," in *Occupational Outlook Handbook*, 2012–2013 Edition, April 6, 2012.

TABLE 12.25 SIC and NAICS Codes for Psychologists

SIC		NAICS		
Code	**Title**	**Code**	**Title**	**Description**
8049	"Offices and Clinics of Health Practitioners, NEC"	621330	"Offices of Mental Health Practitioners (except Physicians)"	This code is used for mental health practitioners who have independent practices, either office-based or hospital-based, focused on the diagnosis and treatment of mental, emotional, behavioral, or social dysfunctional disorders.

"Division of Corporate Finance: Standard Industrial Classification (SIC) Code List," U.S. Securities and Exchange Commission, October 26, 2011, http://www.sec.gov/info/edgar/siccodes.htm (accessed October 31, 2012); *Annual Statement Studies: Financial Ratio Benchmarks*, 2011–2012 Edition, Risk Management Association (Philadelphia: Risk Management Association, 2011), pp. 84, 85.

structures of the leg.[121] Podiatrists must obtain a *Doctor of Podiatric Medicine* (DMP) from an accredited podiatric college of medicine in order to provide services. Most accredited podiatric colleges require a bachelor's degree prior to acceptance to their program, although some applicants may be accepted with only three years of undergraduate education.[122] Education and training programs in the podiatry field will typically last for four years, with an additional three years spent completing a residency program. In 2011, there were only nine accredited programs in the United States.[123] Currently, specialty certifying boards exist in the recognized areas of *podiatric orthopedics*, *podiatric surgery*, and *primary podiatric medicine*.[124]

Many podiatrists operate as solo practitioners.[125] In 2012, there were 11,920 enterprises providing podiatric services in the United States, with

[121] Ivy Alexander, "Podiatry and the Detection of Foot Problems," in *Podiatry Source Book* (Detroit: Omnigraphics, 2007), p. 15; Institute for Career Research, "Career As a Podiatrist," 2002, p. 1.

[122] U.S. Bureau of Labor Statistics, "Podiatrists," in *Occupational Outlook Handbook*, 2012–2013 Edition, April 6, 2012.

[123] Ibid.

[124] Council on Podiatric Medical Education, "Specialty Certifying Boards," 2012, http://www.apma.org/Members/Education/CPMEAccreditation/SpecialtyCertifyingBoards.aspx (accessed December 7, 2012).

[125] Anna Son, *IBISWorld Industry Report 62139a: Podiatrists in the US*, IBISWorld, May 2012, pp. 27, 32.

Podiatry

A health profession concerned with medical and surgical treatment of disorders of the foot, ankle, and related structures of the leg.

"Podiatry and the Detection of Foot Problems," in Podiatry Source Book *by Ivy Alexander (Detroit: Omnigraphics, 2007), p.15; "Career as a Podiatrist," by the Institute for Career Research, 2002, p.1.*

Podiatrists

Podiatrists are the only medical professionals trained exclusively to provide total care of the foot. Podiatric treatment can include a multitude of invasive and noninvasive therapies. Treatments can include the prescription of medication and/or orthotics, surgical procedures, the establishment of the therapeutic programs for patients, and the application of appliances to feet or footwear.

"Career As a Podiatrist," Institute for Career Research, 2002, p. 5; "Podiatrist Consumer Fact Sheet," Division of Professional Licensure, Massachusetts Office of Consumer Affairs and Business Regulations, 2009, http://www.mass.gov (July 16, 2009).

92 percent of them having fewer than 10 employees, and the four largest enterprises accounting for 1.5 percent of the total industry revenue, making podiatry the allied health profession with the smallest U.S. market presence.[126]

While some podiatry practices also use limited amounts of *physical capital*, similar to chiropractic and psychology practices, podiatry practices are in many ways more similar to physician medical practices than other allied

Factoid

Podiatry is the allied health profession with the smallest U.S. market presence, and many podiatrists operate as solo practitioners.

Podiatrists in the U.S., *by Anna Son, IBISWorld, May 2012, pp. 27, 32.*

[126] Ibid., p. 27.

TABLE 12.26 SIC and NAICS Codes for Podiatrists

SIC		NAICS		
Code	**Title**	**Code**	**Title**	**Description**
8043	"Offices and Clinics of Podiatrists"	621391	"Offices of Podiatrists"	This code is used for doctors of podiatry (D.P.) who have independent practices, either office-based or hospital-based, focused on the diagnosis and treatment of diseases and deformities of the foot.

"Division of Corporate Finance: Standard Industrial Classification (SIC) Code List," U.S. Securities and Exchange Commission, October 26, 2011, http://www.sec.gov/info/edgar/siccodes.htm (accessed October 31, 2012); *Annual Statement Studies: Financial Ratio Benchmarks*, 2011–2012 Edition, Risk Management Association (Philadelphia: Risk Management Association, 2011), pp. 84, 85.

health professions. *Resource* and *capacity utilization* is commonly measured on a *per provider* basis. Some podiatry practices include facilities for certain surgical procedures and require greater *physical* plant and *investment capital* for FF&E, tenant build-out, and medical technology. Accordingly, the valuation analyst should develop metrics related to the subject *podiatry practice's* historical operating data related to *revenue, expenses*, *profits*, and *support staff*, on a *per exam room* of *per square foot* basis, to *benchmark* to *industry normative data* in determining the relative *capacity utilization* of the subject enterprise. This serves as the basis for determining the comparative operating and performance risk in investing in the subject podiatry practice.

The SIC and NAICS codes for podiatrists are set forth in Table 12.26.

12.2.2.2 Current and Future Trends: Regulatory, Reimbursement, Competition, and Technology

12.2.2.2.1 Regulatory All allied health professionals are regulated at both the state and federal level. Perhaps the primary regulatory issue affecting *healthcare providers,* including *allied health professionals,* is related to state laws that typically control the *licensure* of *healthcare providers* and regulate entry into the medical field and the professional's scope of practice. Similar to the *licensure* requirements for physicians, each state has a *board* that *certifies* and *licenses* each type of allied health professional. State *licenses by credentials* are, in some states, granted to individuals who already hold a license in another state and have been in continuous practice for a specified period of time (generally, five years), in order to allow seasoned professionals to practice outside of their home state without the burden of

taking additional state examinations.[127] Significant regulatory concerns for allied health professional include their *scope of practice*, that is, which services they may provide. A table of the requirements for certification for each type of allied health professional can be found online at www.wiley.com/go/healthcarevaluation.

12.2.2.2.2 Reimbursement *Allied health* professional practices are typically more heavily reimbursed through *private payors* (i.e., *commercial insurance* or *self*-pay) than medical physician practices, for example, the optometric practice industry has historically been reimbursed through *out-of-pocket* payments received directly from patients, as well as through *stand-alone vision care insurance plans,* which may provide coverage for basic services, such as routine eye exams, or comprehensive coverage, including primary eye care benefits, as well as eye glasses and contacts. In addition to *private pay*, certain *allied health professional services* may be reimbursed under *Medicare* and *Medicaid*. The *Social Security Act, §1861(r)(5)*, which determines which services are paid for by Medicare, defines "*physician*s" to include not only MDs and DOs but also (1) *dentists*, (2) *podiatrists*, (3) *optometrists*, and (4) *chiropractors*; however, payment for chiropractic treatment is limited to manual manipulation of the spine to correct subluxations.[128] While not included in the definition of a "*physician*" under the *Social Security Act, §1861(r) (5)*, Medicare will also reimburse for *diagnostic* and *therapeutic services* provided by *clinical psychologists*.[129]

However, in contrast to Medicare reimbursement for physician services, there are typically *greater limitations* placed on the scope of *allied health* services that are covered. For example, Medicare coverage for *dental services* is statutorily *restricted* under the *Social Security Act* to a very limited set of circumstances, that is, typically "*necessary care*" that is not *primary care* or *preventative* in nature. However, most state *Medicaid* programs include some coverage for dental services as part of Medicaid's *Early Periodic Screening, Diagnosis, and Treatment* (EPSDT) *Program*, which requires

[127] American Dental Association, "License Recognition: Dentists," April 6, 2009, http://www.ada.org/prof/prac/licensure/licensure_recognition.pdf (accessed October 6, 2009).

[128] "Definitions," Social Security Act §1861(r)(5), 42 U.S.C.1395x, page 2434; "Limitations on Services of a Chiropractor," 42 CFR Ch. IV, Section 410.21, p. 246. See also, Centers for Medicare & Medicaid Services, "Medicare Physician Guide: A Resource for Residents, Practicing Physicians, and Other Healthcare Professionals," October 2009, p. 19, http://www.cms.hhs.gov/MLNProducts/Downloads/physicianguide.pdf (accessed November 10, 2009).

[129] Ingenix, "Current Procedural Coding Expert," 2010, p. 452.

that dental coverage be made available to eligible individuals age 20 and younger, with an optional benefit for adults.[130]

Similar to medical physician reimbursement initiatives mandated under the ACA, there are also ACA provisions applicable to services provided by *allied health professionals*. For example, the ACA provides that *stand-alone vision insurance plans* will be excluded from participation in the *health insurance exchanges* (HIE) unless they are contracted to provide services through a *comprehensive qualified health plan* (QHP).[131]

Significantly, several states have cut funding for *adult Medicaid* coverage for various allied health services, for example, in nearly half of the states, dental coverage includes only services related to *pain relief* and *emergencies*.[132] In addition, five states eliminated Medicaid coverage for chiropractic services completely in fiscal years 2009 and 2010.[133] Similar reductions in coverage have also occurred for mental health services.[134] However, despite these reductions, the ACA has expanded access to the Medicaid program for many individuals, which may have the potential to offset previously mandated state coverage reductions.[135]

12.2.2.2.3 Competition *Allied health professionals may* be classified as providers who practice *"parallel"* to physicians, that is, while allied health professionals often strive to meet demands that *align* (and sometimes compete) with those met by physicians, they typically provide a scope of services that is distinctly different from a physician's scope of practice, as

---

[130] Centers for Medicare and Medicaid Services, "Medicaid Dental Coverage: Overview," August 7, 2009, http://www.cms.hhs.gov/MedicaidDentalCoverage/ (accessed October 9, 2009).

[131] See Section 6.4.3.3, "ACA's Establishment of Health Insurance Exchanges," in Chapter 6, "Healthcare Reform" for further discussion.

[132] Abby Goodnough, "Sharp Cuts in Dental Coverage for Adults on Medicaid," *New York Times*, August 28, 2012, http://www.nytimes.com/2012/08/29/health/policy/hard-to-grin-while-bearing-cuts-in-medicaid-dental-coverage.html?pagewanted=all (accessed November 28, 2012).

[133] Kaiser Commission on Medicaid and the Uninsured, "The Crunch Continues: Medicaid Spending, Coverage and Policy in the Midst of a Recession," September 2009, pp. 72–75, http://www.kff.org/medicaid/upload/7985.pdf (accessed October 20, 2009).

[134] APA Help Center, "Medicaid and Psychology," American Psychological Association, 2009.

[135] See Section 6.4.3.2, "ACA's Impact on the Medicaid Program," in Chapter 6, "Healthcare Reform," for further discussion of the impact of the ACA on the Medicaid program.

further discussed in Section 12.2.1, "Physician Professional Practices." Some *allied health professionals* compete directly with their respective "*physician counterparts*," for example, *optometrists* and *ophthalmologists*.[136] In recent years, advances in optometric technology, such as *laser eye surgery*, have escalated the "*financial turf wars*" between these two providers, particularly as related to whether optometrists may perform the often profitable *LASIK procedures*.[137]

Similar to the competition among optometric and ophthalmology providers, *psychologists* and *psychiatrists* have had a long history of competition in the United States, related to the right of psychologists to prescribe medication, which has historically been restricted to psychiatrists only.[138] Since 1990, twelve states have rejected legislation that would allow psychologists to have prescribing privileges, and to date, *New Mexico* and *Louisiana* are the only two states that grant licensed *doctoral-level psychologists* any level of *prescribing rights*.[139] In addition, technological developments related to the surgical treatment of foot and ankle conditions and the resulting overlap among those procedures that may be performed by *podiatrists* and *orthopedic surgeons* have also led to increased competition between these providers. Further, "*nontraditional*" healthcare providers, such as chiropractors, have taken a larger share of the *medical physician practice market*, which may be in part due to the wide range of services provided by many *chiropractic practices*, for example, *acupuncture*, *massage therapy*, *neuropathy*, and *nutritional supplements*, among others.[140]

---

[136] Scott Warnock, "The Optometrist's Rise to Power in the Health Care Market, or 'It's Optometric Physician to You,'" *Science Communication* 27, no. 1 (September 2005): 100.

[137] Kenneth Chang, "Laser Eye Surgery's Turf War," *New York Times*, August 1, 2000, http://www.nytimes.com/2000/08/01/science/laser-eye-surgery-s-turf-war.html (accessed August 17, 2009); Carolyne Krupa, "Optometrists Seek Surgery Rights in More States after Kentucky Victory," *American Medical News*, May 23, 2011.

[138] National Alliance on Mental Illness, "Prescribing Privileges for Psychologists: An Overview," http://www.nami.org/Template.cfm?Section=Issue_Spotlights&template=/ContentManagement/ContentDisplay.cfm&ContentID=8375 (accessed August 27, 2009).

[139] Ibid.; Alaska, California, Connecticut, Florida, Georgia, Hawaii, Illinois, Louisiana, Missouri, Montana, Tennessee, and Texas have all rejected legislation that would give psychologists prescribing rights. Jennifer D. Holloway, "Louisiana Grants Psychologists Prescriptive Authority," American Psychological Association, May 5, 2004, http://www.apa.org/monitor/louisianarx.html (accessed July 14, 2009); "Senate Bill 1046," OregonLive.com, http://gov.oregonlive.com/bill/2010/SB1046/ (accessed November 21, 2012).

[140] See Section 4.4.3, "Threats from Substitute Products or Services," in Chapter 4, "Competition" for further discussion.

PSYCHOLOGISTS AND PSYCHIATRISTS DISTINCTION

The primary distinction between the two professions, in addition to educational requirements, is that while both psychologists and psychiatrists make clinical diagnoses based on the *Diagnostic and Statistical Manual of Mental Disorders* (*DSM*), psychologists in most states do not have legal authority to prescribe medications, whereas psychiatrists do.

DSM-IV Basics: A Primer for School Psychologists, *by Ken Merrell, School Psychology Program, University of Iowa (December 2000) http://www.education.uiowa.edu/schpsych/handouts/DSM-IV.pdf (accessed September 2, 2009); "Clinical Judgment and Decisionmaking," by Howard N. Garb,* Annual Review of Clinical Psychology *1 (2005): 70–71; "Comparison of Psychiatrists and Psychologists in Clinical Practice," by David P. Pingitore, et al.,* Psychiatric Services *53, no. 8 (2002): 997, http://psychservices.psychiatryonline.org/cgi/reprint/53/8/977 (accessed September 1, 2009).*

Significantly, the dental profession has not experienced the same "*turf wars*" seen in the other allied health professions, likely due, in large part, to the fact that the dental profession does not have a "*substitute service*" provider.[141] However, despite the fact that many dental practices typically

Factoid

New Mexico and Louisiana are the only two states that grant licensed doctoral-level psychologists the right to prescribe medication.

"Prescribing Privileges for Psychologists: An Overview," National Alliance on Mental Illness, http://www.nami.org/Template.cfm?Section=Issue_Spotlights&template=/ContentManagement/ContentDisplay.cfm&ContentID=8375 (accessed June 30, 2009); "Louisiana Grants Psychologists Prescriptive Authority," by Jennifer D. Holloway, American Psychological Association, May 5, 2004, http://www.apa.org/monitor/louisianarx.html (accessed July 14, 2009); "Senate Bill 1046," OregonLive.com, http://gov.oregonlive.com/bill/2010/SB1046/ (accessed November 21, 2012).

[141] Michael E. Porter, *Competitive Strategy: Techniques for Analyzing Industries and Competitors* (New York: Free Press, 1980), p. 4. See Section 4.4, "Porter's Five Forces of Competition," in Chapter 4, "Competition," for further discussion.

generate only 8.5 percent of their revenue from *oral surgery*, certain practices with an *oral surgery* service line component may experience competition from *oral and maxillofacial surgeons*.[142]

12.2.2.2.4 Technology Similar to physician practices, advancements in various technologies have improved the *efficiency*, *productivity*, and *quality*, as well as *expanded the scope of service* and potential revenue stream for many allied health professional practices, for example, *laser therapy* may be used for the treatment of many eye conditions, as well as for the treatment of *psoriatic plaque* and *plantar verruca* in some podiatric patients.[143] In addition to the *clinical technological* advancements used by many allied health professionals, psychology practices have taken advantage of *management technology* developments related to *telehealth services*, that is, "providing psychological services remotely, via telephone, email or videoconferencing," through the utilization of *distance therapy* and *web-based teleconferencing*.[144] Similar to *medical physician* practices, many *allied health* practices have the potential to gain efficiencies from the utilization of other *management technologies*, such as *electronic medical records* and *computerized physician order entry*.[145]

12.2.2.3 Value Drivers As with the valuation any other type of healthcare enterprise, the appraisal of *allied health professional practices* should include consideration of the *key metrics* that determine the value of the subject enterprise. These metrics are referred throughout this text as "*value drivers*." Most of the *value drivers* that may have an impact on the appraisal of an *allied health professional enterprise* are similar to those for *physician professional practices*, that is, (1) *Scope of Services*, (2) *Capacity* for future growth, (3) nature and stability of the *Revenue Stream*, (4) *Payor Mix*, (5) efficiency of *Operating Expenses*, (6) adequacy of the *Capital Structure*, (7) stability of the *Supply Chain*, (8) *Market Rivalries and Competitors*, and (9) *Subject Entity Specific/Nonsystematic Risk*.

---

[142] Anna Son, *IBISWorld Industry Report 62121: Dentists in the US*, IBISWorld, August 2012, p. 15.

[143] RO Staff, "For Cataract Surgery, Laser Is a Bit Better," *Review of Optometry*, December 17, 2012; Brian McCurdy, "C-Beam Technology May Open New Horizons for DPMs," *Podiatry Today* 15, no. 7 (July 2002).

[144] Amy Novotney, "A New Emphasis on Telehealth," *American Psychology Association* 42, no. 6 (June 2011): 40.

[145] See Section 5.2.2, "Electronic Health Records," and 5.2.3, "Electronic Prescribing: Computerized Physician Order Entry (CPOE)," in Chapter 5, "Technology," for a further discussion of these technologies.

12.2.2.3.1 Scope of Services Diversifying service offerings may provide added *patient convenience* translating into *increased customer loyalty,* which may increase the *net revenue* generated by the enterprise, thereby increasing its *value*, all else being equal. In addition to the *revenue stream opportunities* created by *diversifying service offerings*, an enterprise may be able to *decrease* the risk from *potential negative changes* in *reimbursement, regulatory, competitive, and/or technological factors* associated with the particular services already being offered by the organization. This decrease in exposure to negative industry trends through diversification of services may lower the actual and/or perceived risk of investment in the *subject allied health professional practice*, decreasing the *risk-adjusted required rate of return* and thereby increasing the value of the enterprise. Note that any additional economic benefit in achieving the expansion of services should also include any *economic operating* and *capital costs* required in expanding the *scope of services* offered.

Among the most prevalent services offered by each type of allied health professional enterprise are those set forth in Table 12.27.

12.2.2.3.2 Capacity In performing the requisite *due diligence* for an appraisal, the valuation analyst should ensure that the subject enterprise has *sufficient resources* and *capacity* to support the projected *patient volumes*. This *consideration of capacity* should be addressed regardless of the type of practice enterprise being appraised. *Capacity* metrics that may be used for benchmark comparison purposes can be differentiated into (1) *Labor-based metrics* and (2) *Capital-based metrics*.

Labor-based metrics measure the *labor available* (e.g., staff and/or provider FTEs) for the *provision of patient services* (measured in number of visits, work RVUs, procedure volume, etc.). *Capital-based metrics* measure the amount of *equipment and technology used,* as well as the *physical space available* for the *provision of patient services*. While *labor-based metrics* are generally similar for each type of allied health professional practice discussed in this chapter, the *capital-based metrics* for each type of entity are considered unique. The typical *capital-based metrics* of the various allied health professional practices are summarized in Table 12.28.

Benchmarking analysis, for those metrics that are reported in normative industry benchmark survey data, may assist in (1) *determining the efficacy* of the analyst's projections of *patient volume* and *requisite economic operating and capital costs*, and (2) *assessing the efficiency* of the enterprise's use of *capital.*[146] Note that should the forecasted level of *patient/procedure*

[146] See Section 8.3.1, "Financial and Operational Benchmarking," in Chapter 8, "Valuation Approaches and Methods," for further discussion of benchmarking.

TABLE 12.27 Allied Health Industry Service Segmentation

Dentists		Optometrists		Chiropractors		Psychologists		Podiatrists	
Examinations	20.0%	Patient Care	47.0%	Manual Manipulation	25.0%	Mental Health Social	39.0%	Other Services	35.0%
Radiographs	20.0%	Sale of Optical Goods	43.0%	Rehabilitation	20.0%	Clinical Psychology	33.0%	Care of Musculoskeletal and Connective Tissue	34.0%
Caries Treatments	18.0%	Nonsurgical Patient Care	5.0%	Extremity Manipulating and Adjusting	15.0%	Marriage and Family Therapy	23.0%	Care of Skin and Subcutaneous Tissue	23.0%
Cleanings and Oral Hygiene Treatments	18.0%	Patient Care from Other Services	2.0%	Nonmanual procedures	15.0%	Industrial Org. Psychology	3.0%	Care of Injuries and Adverse Effects	8.0%
Oral Surgery	8.5%	Lab Services	1.5%	Diet and Nutritional Counseling	10.0%	Other	2.0%		

IBISWorld Industry Report 62121: Dentists in the US, by Anna Son, IBISWorld, August 2012, p. 19; *IBISWorld Industry Report 62131: Chiropractors in the US*, by Anna Son, IBISWorld, September 2012, p. 17; *IBISWorld Industry Report 62132: Optometrists in the US*, by Anna Son, IBISWorld, October 2012, p. 19; *IBISWorld Industry Report 62133: Psychologists, Social Workers and Marriage Counselors in the US*, by Anna Son, IBISWorld, May 2012, p. 20; *IBISWorld Industry Report 62139a: Podiatrists in the US*, by Anna Son, IBISWorld, May 2012, p. 17.

TABLE 12.28 Typical Labor and Capital Metrics for Allied Health Professional Practices

Allied Health Professional Practice Type	Labor-Based Metric	Capital-Based Metric
Dental Practice	Number of FTE Dentists, Hygienists, or Dental Assistants	Per Exam Room, per Office Square Foot, and/or per Operatory
Optometric Practice	Number of FTE Optometrists or Optometric Assistants	Per Exam Room, per Office Square Foot, and/or per Lane
Chiropractic Practice	Number of FTE Chiropractors or Other Rehabilitative Therapists	Per Table, per Exam Room, and/or per Office Square Foot
Psychological Practice	Number of FTE Psychologists or Psychologist Assistants	Per Provider Office and/or per Office Square Foot
Podiatric Practice	Number of FTE Podiatrists, Podiatric NPs, or Podiatric Assistants	Per Exam Room and/or per Office Square Foot

volume, which consists of both *utilization demand* and *market share*, be higher than the *current capacity levels* of the subject enterprise, for example, the *projected patient visits per exam room* exceeds the industry benchmark norm of *patient visits per exam room* by a significant margin, then the valuation analyst should consider either *reducing the projected patient/procedure volume* or *increasing the expected capital and operating expense burdens* to reflect the costs that would be incurred to create the *necessary capacity levels* to render the amount of forecasted services.

12.2.2.3.3 Revenue Stream Similar to that of physician professional practices, the revenue stream for *allied health professional practices*, is primarily driven by two factors: (1) *patient volume*, which is based on *changes* in the *utilization demand for services* provided by the subject enterprise, as well as *changes* in the subject enterprise's *market share* and (2) the *reimbursement yield* for those services provided at the subject enterprise. The current levels of revenue produced by the subject enterprise, as well as the anticipated level of revenue to be generated in the future, are key factors in determining the economic value of an ownership interest in the subject enterprise. All else being equal, specifically: (1) *operating profit margins*, (2) *requisite working and fixed capital expenditure levels*, and (3) *investment risk profile*,

the higher the level of revenue produced by the subject enterprise, the higher the net economic benefit that would accrue to the owner of the subject enterprise, and therefore the higher the economic value.

12.2.2.3.4 Payor Mix In contrast to a professional physician practice, whose primary source of reimbursement is *Medicare* and other *third party payors*, a significant portion of allied health professional services are the patient's responsibility (i.e., they are considered *out-of-pocket* payments). See Table 12.29 for an illustration of the payor mix for different types of allied health professional practices, as well as that for physician professional practices.

As a consequence, the utilization of allied health professional services and the revenue derived from those activities may be more significantly affected by *general economic trends* because of their direct correlation with the individual patient's ability to pay for healthcare, some of which may be discretionary, in contrast to those instances where patients use services, but the cost of those services is reimbursed by third party payors. This reliance on *out-of-pocket* payments *increases the volatility of the revenue stream* for allied health professional practice enterprises, which may *increase the risk-adjusted required rate of return* associated with an investment in these types of enterprises, thereby decreasing their value.

12.2.2.3.5 Operating Expenses *Operating expenses* for *allied health professional practices* can be classified into two types of expenses: (1) *non-provider compensation–related operating expenses* (i.e., practice overhead costs) and (2) *provider compensation–related expenses*, which are similar to those of professional physician practices (see Section 12.2.1.3.5, "Operating Expenses"). The median *total operating expenses,* which include both of these categories of expenses, measured as a percentage of *medical revenue*, for each type of allied health practice, are set forth in Table 12.30.

While the variation in total operating expenses reported in Table 12.30 may not seem significant, it should be noted that certain types of *allied health professional practices* require less *supplies and capital* than other types of outpatient enterprises, for example, a *psychology practice* typically does not require a *significant amount of supplies* and does not use *specialized medical tools or equipment* and therefore would have *lower* economic operating and capital costs, in contrast to that of a *physician professional practice* or even other types of *allied health professional practices*.

As previously mentioned, one category of expenses for *allied health professional practices* is the *provider compensation–related expenses*. The *median compensation* for various types of allied health providers is set forth in Table 12.31.

TABLE 12.29 Allied Health Payor Mix

Payor Type	Physician Multispecialty Practice (MGMA)	Dentists (ADA)	Chiropractors (IBIS)	Optometry (AOA)	Psychology (IBIS)	Podiatry (IBIS)
Private Insurance	55.28%	44.1%	42.0%	19.0%	27.0%	51.2%
Patient Out-of-Pocket	5.98%	37.9%	28.0%	29.0%	22.0%	12.6%
Medicare	26.84%	*	8.0%	*	6.0%	27.9%
Medicaid	9.58%	*	1.0%	*	14.5%	N/A
Other Government Payors	0.97%	*	N/A	*	17.0%	N/A
Other Insurance (e.g., Prop. & Caus.)	N/A	N/A	14.0%	N/A	N/A	N/A
Workers Comp	0.99%	N/A	5.0%	N/A	N/A	N/A

IBISWorld Industry Report 62121: Dentists in the US, by Anna Son, IBISWorld, March 2013, p. 19; *IBISWorld Industry Report 62132: Optometrists in the US*, by Austen Sherman, IBISWorld, February 2013, p. 19; I*BISWorld Industry Report 62131: Chiropractors in the US*, by Austen Sherman, IBISWorld, January 2013, p. 17; *IBISWorld Industry Report 62133: Psychologists, Social Workers and Marriage Counselors in the U.S.*, by Anna Son, IBISWorld, May 2012, p. 20; *IBISWorld Industry Report 62139a: Podiatrist in the US*, by Nikolas Hulewsky, IBISWorld, December 2012, p. 17; and *Cost Survey*, Medical Group Management Association, CD, 2012—Table 3b "Breakout of Total Medical Revenue by Type of Payer," all regions for physician multispecialty practices.

*Breakdown of government mix not provided. Dentists' government programs accounted for 5.7% of gross billings, while optometry government programs accounted for 19.0% of gross billings received.

TABLE 12.30 Analysis of Operating Expenses—Allied Health Practices

Allied Health Professional Practice Type	Operating Expenses as a Percentage of Revenue
Dental Practices	88.37%
Optometric Practices	89.78%
Chiropractic Practices	86.92%
Psychology Practices	86.24%
Podiatry Practices	89.57%

Bizminer 5 Year Industry Financial Report, released December 2012, for: (a) NAICS Code 6212—Offices of Dentists; (b) NAICS Code 621320—Offices of Optometrists; (c') NAICS Code 621310—Offices of Chiropractors; (d) NAICS Code 621330.02—Clinical Psychologists; and, (e) NAICS Code 621391—Offices of Podiatrists.

Note: Operating expenses represent the cost of sales plus operating expenses, as a percentage of revenue, which includes the clinical provider's compensation.

TABLE 12.31 Median Annual Compensation Rates for Allied Health Providers

Allied Health Occupation Type	OES—May 2011 Release	MGMA—2012 Report	Sullivan & Cotter—2012 Data	AMGA—2012 Report
Psychologists	$90,010	*	$102,043	$106,969
Chiropractors	$66,060	*	*	$106,657
Dentists	$142,740	$182,401	$157,013	$169,747
Optometrists	$94,690	*	$134,950	$140,815
Podiatrists	$119,250	$198,134	$163,388	$193,790

May 2011 data from the Occupational Employment Statistics Query System for each allied health professional practice, http://data.bls.gov/oes/ (accessed February 27, 2013); *2012 Physician Compensation and Production Survey*, by Medical Group Management Association (MGMA), 2012 report based on 2011 data; *2012 Physician Compensation and Productivity Survey Report*, by Sulliven, Cotter, and Associates, Inc., effected January 1, 2012; and,*2012 Medical Group Compensation and Financial Survey* by American Medical Group Association (AMGA), 2012 report based on 2011 data.

OES = Occupational Employment Statistics; MGMA = Medical Group Management Association; and AMGA = American Medical Group Association.

When appraising the entirety of an *allied health professional practice* where the owner is also a provider of professional clinical services to patients of the subject enterprise, an adjustment to reflect the *most probable compensation* for the services rendered by the owner is typically warranted. In this circumstance, the valuation analyst should first determine the amount and classification of the specific *tasks, duties, responsibilities, and accountabilities* (TDRAs) rendered by the owner provider to patients of the subject enterprise. Then, applicable benchmark survey compensation data can be used to calculate the *most probable price* those TDRAs would command in the marketplace, which should replace the reported owner compensation, if any, for the subject enterprise (see Chapter 15, "Healthcare Services," for more information on valuing healthcare services).

Two elements that may affect the level of *allied health provider compensation expense* in the future are (1) the *forecasted level of supply* of allied health professional services and (2) the *forecasted level of demand* for allied health professional services. Table 12.32 sets forth the projected level of employment for various types of allied health providers (i.e., the supply of allied health professional services).

Table 12.33 sets forth the projected growth in *revenue* for the various types of *allied health professional practices*, as well as the forecasted compound annualized growth rate (CAGR) in the largest patient demographic for each type of allied health professional practice. Note that, as set forth in Table 12.33, *revenue projections* consist of (1) forecasts of *utilization demand/market share* (i.e., *patient/procedure volume*) and (2) forecasts of *reimbursement yield per patient/procedure*. In addition, the level of *demand* for most healthcare services is typically a function of (1) *population growth* for the patient population who will use the services provided at the subject enterprise and (2) the *incidence and prevalence of specific injuries, ailments, and diseases* treated by the providers of the subject enterprise. The reported CAGR in revenue presented in Table 12.33 includes any projected changes in *utilization demand/market share* for allied health professional services, as well as any projected changes in *reimbursement yield per service*. Therefore, the variance between the growth rates reported in Table 12.32 and Table 12.33 does not directly reflect the difference in *projected supply* and

ALLIED HEALTH PROVIDER CLASSIFICATION

Allied health professionals can be classified into five categories: dentists, optometrists, chiropractors, psychologists, and podiatrists.

TABLE 12.32 Employment Projections for Allied Health Professionals

Provider	Employment in 2010	Projected Employment in 2020	CAGR in Employment 2010–2020
Dentists	155,700	187,900	1.90%
Optometrists	34,200	45,500	2.90%
Chiropractors	52,600	67,400	2.51%
Psychologists	174,000	211,600	1.98%
Podiatrists	12,900	15,500	1.85%
Total	429,400	527,900	2.09%

"Dentists," in *Occupational Outlook Handbook*, U.S. Bureau of Labor Statistics, 2013–2013 Edition, March 29, 2012; "Optometrists," in *Occupational Outlook Handbook*, U.S. Bureau of Labor Statistics, 2013–2013 Edition, March 29, 2012; "Chiropractors," in *Occupational Outlook Handbook*, U.S. Bureau of Labor Statistics, 2013–2013 Edition, May 24, 2012; "Psychologists," in *Occupational Outlook Handbook*, U.S. Bureau of Labor Statistics, 2013–2013 Edition, March 29, 2012; and "Podiatrists," in *Occupational Outlook Handbook*, U.S. Bureau of Labor Statistics, 2013–2013 Edition, April 6, 2012.

projected demand for allied health professional services. However, based on these tables it appears that (1) *revenue* for allied health professional practices is expected to increase above the current U.S. long-term inflation target of 2 percent set by the Federal Reserve,[147] and (2) the *supply* of allied health professional services will outpace population growth in the largest patient demographic for each of the types of allied health professional practices, except psychology practices (1.98 percent vs. 2.39 percent) and podiatry practices (1.85 percent vs. 2.39 percent).

12.2.2.3.6 Capital Structure The implications of the capital structure decision for allied health professional practices are similar to those of physician professional practices, as discussed in Section 12.2.1.3.6, "Capital Structure." These implications include (1) the mix of debt and equity financing affects the *risk-adjusted required rate of return* for investment in the subject enterprise, (2) *debt financing* is typically cheaper than *equity financing*, and (3) *financing costs* reflect the risks associated with each type of capital provided, for example, debt financing typically considers the four C's of the

[147] Board of Governors of the Federal Reserve System, "Federal Reserve Press Release," January 25, 2012, http://www.federalreserve.gov/newsevents/press/monetary/20120125c.htm (accessed April 9, 2013).

TABLE 12.33 Compound Annualized Growth Rate in Revenue and Largest Patient Demographic for Allied Health Professional Practices[148]

Allied Health Professional Practice Type	Projected Revenue CAGR (5 Years)	Largest Patient Demographic (LPD)	Projected CAGR in LPD (5 Years)
Dental Practices	3.40%	Individuals Aged 35–54 (31.7% of All Patients)	–0.51%
Optometric Practices	3.60%	Individuals Aged 35–54 (24.0% of All Patients)	–0.51%
Chiropractic Practices	2.20%	Individuals Aged 31–55 (29.0% of All Patients)	–0.51%
Psychology Practices	4.50%	Individuals Aged >56 (46.6% of All Patients)	2.39%
Podiatry Practices	3.90%	Individuals Aged >55 (66.5% of All Patients)	2.39%

obligor, that is, ***c****redit risk* (default risk) of the borrower, ***c****apacity of the borrower* to make timely repayments of both principal and interest (short term liquidity and interest coverage), ***c****ollateral* to cover the lender in case of borrower default, and an analysis of the ***c****ovenants* included in the indenture agreement, and equity financing considers the risks associated with

[148]The compound annualized growth rate (CAGR) in revenue and the Largest Patient Demographic (LPD) are from the IBIS World Report for each type of practice, i.e., *IBISWorld Industry Report 62121: Dentists in the US*, by Anna Son, IBISWorld, March 2013, pp. 4 and 18, respectively; *IBISWorld Industry Report 62132: Optometrists in the US*, by Austen Sherman, IBISWorld, February 2013, pp. 3 and 16, respectively; *IBISWorld Industry Report 62131: Chiropractors in the US*, by Austen Sherman, IBISWorld, January 2013, pp. 3 and 15, respectively; *IBISWorld Industry Report 62133: Psychologists, Social Workers and Marriage Counselors in the US,* by Anna Son, IBISWorld, May 2012, p. 3; and *IBISWorld Industry Report 62139a: Podiatrists in the US*, by Nikolas Hulewsky, IBISWorld, December 2012, pp. 3 and 15, respectively, except for the LPD for psychology practices, which data is from *2008 APA Survey of Psychology Health Service Providers*, by the American Psychology Association, 2008, Table 1. The CAGR in the LPD is from *Pop-Facts: Demographic Trend 2013: USA*, Claritas, Nielson SiteReports, http://www.claritas.com/Reports/ba-671283447.pdf (accessed April 8, 2013). Note that the growth rate for the U.S. population demographic of individuals 35 to 54 was used as a proxy for the growth rate in the 31 to 55 demographic, and the growth rate in the U.S. population demographic of individuals age 55 and older was used as a proxy for the 56 and older demographic.

an investment in the residual ownership interest (subordinate to any debt holders) of the subject enterprise.[149]

As noted in Table 12.3, when appraising an ownership interest that is at a *control level of value*, it is assumed that the owner of that property interest would be able to change the *capital structure* of the enterprise. Since there are not, currently, any publicly traded allied health professional practices, data and information pertaining to the most probable capital structure for these types of enterprises can be derived from normative industry benchmark survey data (see *Key Sources* at the end of this chapter) or through techniques such as the *iterative method*.[150] Note that most normative industry benchmark survey data reports capital structures based on book values, which may not accurately reflect the capital structure based on market values, and, as previously mentioned, for the purpose of establishing the *fair market value* of a business enterprise, it is important to use formulas based on *market values* of *equity* and *debt*, rather than *book values*.[151]

12.2.2.3.7 Market Rivalries and Competitors As previously discussed in the classification sections for each type of allied health professional practice and as set forth in Table 12.34, the majority of *allied health professionals* are in *private practice*. However, it should be noted that some allied health professionals operate in either *corporate* or *not-for-profit facilities*, for example, podiatrists often work within *hospitals* or *orthopedic and primary care group practices*; psychologists work within *psychiatry practices, physician group practices*, *schools*, and *research facilities*; and optometrists practice in *ophthalmology practices, physician offices*, *hospitals*, or *retail clinics*.[152] In addition to practice structure, most allied health professional practices are relatively small, in terms of the number of employees per practice, as set forth in Table 12.35.

---

[149] Frank Fabozzi, *Fixed Income Analysis for the Chartered Financial Analyst Program*, 2nd ed. (New York: CFA Institute, 2005), p. 572.

[150] See Section 9.2.1.3, "Capital Structure," in Chapter 9, "Costs and Sources of Capital," for further discussion of determining the capital structure.

[151] Shannon P. Pratt and Roger J. Garbowski, *Cost of Capital: Applications and Examples*, 3rd ed. (Hoboken, NJ: John Wiley & Sons, 2008), pp. 276–277.

[152] U.S. Bureau of Labor Statistics, "Podiatrists," in *Occupational Outlook Handbook*, 2012–2013 Edition, April 6, 2012; U.S. Bureau of Labor Statistics, "Psychologists," in *Occupational Outlook Handbook*, 2013–2013 Edition, March 29, 2012; U.S. Bureau of Labor Statistics, "Optometrists," in *Occupational Health Handbook* 2012–13, May 24, 2012, http://www.bls.gov/ooh/healthcare/optometrists.htm#tab-4 (accessed December 7, 2012).

TABLE 12.34 Practice Structure of Allied Health Professional Practices

Allied Health Practice Type	Practice Structure
Dental Practices	About 68.7% of practices are solo practices, with more than 90.0% of dentists in private practice.
Optometric Practices	Industry is dominated by independent and small practices; two-thirds (roughly 66%) of optometrists are in private practice.
Chiropractic Practices	Industry is dominated by independent and small practices.
Psychology Practices	Industry is dominated by independent and small practices.
Podiatry Practices	Industry is dominated by small practices.

IBISWorld Industry Report 62121: Dentists in the US, by Anna Son, IBISWorld, March 2013, p. 24; *IBISWorld Industry Report 62132: Optometrists in the US*, by Austen Sherman, IBISWorld, February 2013, p. 26; *IBISWorld Industry Report 62131: Chiropractors in the US*, by Austen Sherman, IBISWorld, January 2013, p. 25; *IBISWorld Industry Report 62133: Psychologists, Social Workers and Marriage Counselors in the U.S.*, by Anna Son, IBISWorld, May 2012, pp. 25–26; and, *IBISWorld Industry Report 62139a: Podiatrists in the US*, by Nikolas Hulewsky, IBISWorld, December 2012, p. 21.

TABLE 12.35 Allied Health Professional Practices by Employment Size

Allied Health Professional Practice Type	Number of Employees per Practice						
	1–4	5–9	10–19	20–49	50–99	100–249	250 or more
Dental Practices	40.5%	39.9%	16.8%	2.5%	0.1%	0.0%	0.0%
Optometric Practices	56.7%	30.0%	11.3%	1.8%	0.1%	0.0%	0.0%
Chiropractic Practices	78.2%	17.6%	3.8%	0.4%	0.0%	0.0%	0.0%
Psychology Practices	82.1%	8.0%	5.3%	3.1%	1.1%	0.4%	0.1%
Podiatry Practices	67.1%	25.1%	6.8%	0.9%	0.1%	0.0%	0.0%

"2010 County Business Patterns (NAICS)," by United States Census Bureau, http://censtats.census.gov/cgi-bin/cbpnaic/cbpdetl.pl (accessed April 8, 2013).

Due to the fragmented nature of the allied health professional practice industry, intermarket rivalry is considered to be above average for each type of allied health professional practice.[153] In addition, as the scope of practice of some allied health professionals is expanded, for example, *optometrists performing surgery*, competitive rivalries between allied health professionals and physicians are likely to increase.[154] The enactment of the ACA's *individual mandate* may also affect the competitive market for some allied health professions, as a greater number of individuals are anticipated to obtain commercial insurance, either directly or indirectly through mandated state health insurance exchanges, allowing for an increase in the utilization of services provided by allied health professionals.[155]

12.2.2.3.8 Subject Entity Specific/Nonsystematic Risk When using a *build-up method* to calculate an appropriate *risk-adjusted required rate of return* for investment in an *allied health professional practice*, the elements that should be considered in determining the appropriateness and level of *Subject Entity Specific/Nonsystematic Risk* to be included in the analysis are similar to those discussed for appraising a *physician professional practice*.[156] These elements include:

1. *Uncertainty* related to the *continuity of the revenue stream* of the *subject enterprise*;
2. *Uncertainty* related to the *probability* of the subject enterprise *achieving the projections* used by the valuation analyst;

---

[153] Anna Son, *IBISWorld Industry Report 62121: Dentists in the US*, IBISWorld, March 2013, p. 24; Austen Sherman, *IBISWorld Industry Report 62132: Optometrists in the US*, IBISWorld, February 2013, p. 23; Austen Sherman, *IBISWorld Industry Report 62131: Chiropractors in the US*, IBISWorld, January 2013, p. 23; Anna Son, *IBISWorld Industry Report 62133: Psychologists, Social Workers and Marriage Counselors in the US,* IBISWorld, May 2012, p. 25; and Nikolas Hulewsky, *IBISWorld Industry Report 62139a: Podiatrists in the US*, IBISWorld, December 2012, p. 21.

[154] Scott Warnock, "The Optometrist's Rise to Power in the Health Care Market, or 'It's Optometric Physician to You,'" *Science Communication* 27, no. 1 (September 2005): 100.

[155] Deloitte Center for Health Solutions, "The Impact of Health Reform on the Individual Insurance Market: A Strategic Assessment," 2011, http://www.deloitte.com/assets/Dcom-UnitedStates/Local%20Assets/Documents/Health%20Reform%20Issues%20Briefs/us_chs_HealthReformAndTheIndividualInsuranceMarkHe_IssueBrief_101011.pdf (accessed April 9, 2013).

[156] See Section 12.2.1.3.9, "Subject Entity Specific/Nonsystematic Risk," in this chapter.

3. Level of *competition* in the *subject enterprise's market service area*;
4. *Stability of the subject enterprise's provider workforce*, compared to that of normative industry benchmark survey data;
5. *Operational and financial performance* of the practice, compared to normative industry benchmark survey data; and
6. The level of *technological obsolescence* of the services provided by the subject enterprise.

Note that factors that have the potential to increase the *Subject Entity Specific/Nonsystematic Risk* would increase the *risk-adjusted required rate of return* and thereby decrease the *value of the subject allied health professional practice*.

12.2.2.4 Other Pertinent Valuation Considerations: Allied Health Professional Practices In addition to the *value drivers* previously discussed for *allied health professional practices*, as well as the *normalizing adjustments* for *physician professional practices* discussed in Section 12.2.1.4, "Pertinent Valuation Considerations: Physician Professional Practices," which approximate the types of adjustments that should be made when appraising an *allied health professional practice*, Tables 12.36 and 12.37 illustrate *other pertinent valuation considerations* related to the appraisal of *allied health professional practices*.

12.2.3 Non-physician Providers

Nonphysician providers (NPPs) are often referred to by many in the healthcare industry as "*midlevel providers*." Although *nurse practitioners* and *physician assistants* are often thought of as having "*pioneered*" the *midlevel provider* subset of *nonphysician providers*, in recent years, the designation "*midlevel provider*" has been expanded to encompass many other nonphysician clinical practitioners, including *advanced practice nurses*, *clinical nurse specialists*, *certified nurse midwives*, *certified registered nurse anesthetists*, and *rehabilitation therapists* (e.g., *physical therapists*, *occupational therapists*, and *audiologists and speech-language pathologists*). In addition, there has been a growing trend of relaxing the scope of practice related to regulatory restraints for certain types of NPPs. It should be noted that the intent of this section is not to delve into the particular nuances between every type of *midlevel provider* but rather to provide an overview of this increasingly important "*class*" of *licensed nonphysician* providers vis-à-vis their role in the provision of healthcare services to a growing patient population, as well as the specific *drivers of value* that may be attributed to their practice, particularly in light of the anticipated *primary care* physician manpower shortage.

A unique *scope of practice* is attributed to each type of *midlevel provider* and varies on the basis of practice setting and, accordingly, on the

TABLE 12.36 Other Pertinent Valuation Considerations for Appraising Allied Health Professional Practices—Demand Factors

Demand Factors	Impact on Value of Allied Health Practice	Source
Dentistry		
Provisions of the Affordable Care Act (ACA) enable approximately 3 million children to gain dental benefits by 2018, since certain dental services are considered *essential health benefits*.	Potential for increase in *utilization demand for services*, which may yield a higher level of a net economic benefit, ceteris parabis, thereby producing an increase in value to the subject enterprise.	*Potential Effects of the Affordable Care Act on Dentistry* (Chicago: American Dental Association, October 2012), https://www.ada.org/sections/newsAndEvents/pdfs/PotentialEffectsoftheACAonDentistry_NewsStory_Fiinal.pdf (accessed April 1, 2013).
Optometry		
Similar to the demand factor for dentistry, provisions of the Affordable Care Act (ACA) *enable children to gain access to vision care* as an *essential care benefit*.	Increased demand for services, ceteris paribus, may increase the *utilization demand/market share* of the enterprise, yielding increased economic benefit, and thereby increased value for the subject enterprise.	"AOA's Patient Access Message Key as HHS Releases Plan for Pediatric Essential Eye Health Benefit," *American Optometric Association News* 51, no. 7 (January 2013): 1 and 17.
Incidence and prevalence of certain diseases that affect vision typically increase with age, e.g., *diabetes and macular degeneration*; as the *baby boomer generation continues to increase in age* the demand for optometric services should also increase.	Increased *demand for services*, ceteris paribus, may *increase the utilization demand/market share of the enterprise*, yielding increased economic benefit, and thereby increased value of the subject enterprise.	"Baby Boomers Are Coming: is Your Practice Ready?" American Optometric Association, November 28, 20122, http://newsfromaoa.org/2011/11/28/baby-boomers-are-coming-is-your-practice-ready/ (accessed April 1, 2013).

Chiropractic		
A particular provision of the ACA (i.e., Section 2706—*Harkin Amendment*) has been interpreted by some to mean that chiropractic services should receive *equal consideration* for reimbursements from insurers as other service providers.	Potential for increase in *reimbursement yield* for services rendered, which may enable the subject entity to generate a higher level of net economic benefit, ceteris parabus, thereby producing an increase in value of the subject enterprise.	"Chiropractors Hope Affordable Care Act Levels Field for Treatment, Reimbursements" by Robert Joiner, St. Louis, MO, *STL Beacon*, November 27, 2012, https://www.stlbeacon.org/#!/content/28166/chiropractorsandaca (accessed April 1, 2013).
Similar to that for other healthcare enterprises, creating a *niche focus* may increase patient volume.	Potential for increase in *utilization demand for services*, which may yield a higher level of net economic benefit, ceteris parabus, thereby producing an increase in value to the subject enterprise.	"The Secrets of Specialty Practice," by Karen Appold, *Chiropractic Economics*, no. 4 (March 15, 2013): 34–40.
Psychology		
Similar to other services offered by allied health professionals, mental health and substance abuse services are designated by the ACA as *essential health benefits.*	Potential for increase in *utilization demand for services*, which may yield a higher level of net economic benefit, ceteris parabus, thereby producing an increase in value to the subject enterprise.	"Supreme Court upholds Affordable Care Act: What Psychologists Need to Know," by Government Relations and Legal & Regulatory Affairs staff, Practice Update, July 16, 2012, American Psychological Association, http://www.apapracticecentral.org/update/2012/07–16/affordable-care-act.aspx (accessed April 1, 2013).
Podiatry		
Increase in the *incidence and prevalence* of diseases treated by podiatrists, in particular *diabetes*, is anticipated to occur due to various factors, e.g., the *aging of the baby boomer population.*	Potential for increase in *demand for services*, ceteris paribus, which may *increase the utilization demand/market share of the enterprise*, yielding increased economic benefit, and thereby increased value of the subject enterprise.	"Podiatrists Finding New Demand for Their Specialized Care," *Chicago Tribune News*, February 26, 2013, http://articles.chicagotribune.com/2013–02–26/classified/chi-podiatrist-careers-20130227_1_podiatric-medicine-podiatrists-internal-medicine (accessed April 1, 2013).

TABLE 12.37 Other Pertinent Valuation Considerations for Appraising Allied Health Professional Practices—Supply Factors

Supply Factors	Impact on Value of Allied Health Practice	Source
Dentistry		
Disproportionate number of physicians in suburban areas, and overall lack of dentists in general to meet current dental care needs.	Workforce shortage may cause *compensation levels to be elevated*, *decreasing the net economic benefit* generated by the enterprise, which in turn produces a *lower value for the organization*, all other things being equal.	*Dental Crisis in America*, A Report from Chairman Bernard Sanders Subcommittee on Primary Health and Aging, US Senate Committee on Health, Education, Labor & Pensions, February 29, 2012, http://www.ada.org/sections/newsAndEvents/pdfs/dental_crisis_in_america_the_need_to_expand_access.pdf (accessed April 1, 2013).
Introduction of a "midlevel" dental provider to perform basic oral health services, currently used in Minnesota and some Alaska territories.	Increased *competition* may increase the *risk-adjusted required rate of return*, ceteris paribus, thereby decreasing the value of the enterprise.	*Dental Crisis in America*, A Report from Chairman Bernard Sanders Subcommittee on Primary Health and Aging, US Senate Committee on Health, Education, Labor & Pensions, February 29, 2012, http://www.ada.org/sections/newsAndEvents/pdfs/dental_crisis_in_america_the_need_to_expand_access.pdf (accessed April 1, 2013).
Optometry		
Provisions of the ACA include a 2.3% medical device excise tax.	The *retail device segment* of an allied health practice may see a *decrease in profit margin* with the additional tax burden, at least to the extent that the taxes are passed on in the form of price increases for devices to the practice from the manufacturer who incurs the tax, which the practice is not able to again pass along to the retail consumer.	"Price Hikes Likely," by Jaimy Lee, ModernHealthcare.com, December 8, 2012, http://www.modernhealthcare.com/article/20121208/MAGAZINE/312089973/ (accessed April 1, 2013).

Employment of optometrists expected to grow by 33% from 2010 to 2020, which is above average for all occupations.	*Increase in the supply* of optometrist services, excluding consideration of any changes in demand, would tend to *decrease compensation levels*, thereby *increasing the net economic benefit* generated by an optometric practice; however, as mentioned earlier, there are significant factors that are affecting the demand side of the equation, therefore the valuation impact of increased employment of optometrists is *ambiguous*.	"Optometrists," in *Occupational Outlook Handbook,* U.S. Bureau of Labor Statistics, May 24, 2012, http://www.bls.gov/ooh/healthcare/optometrists.htm (accessed April 1, 2013)
Chiropractic		
Employment of chiropractors expected to grow by 28% from 2010 to 2020, which is above average for all occupations.	*Increase in the supply* of chiropractor services, excluding consideration of any changes in demand, would tend to *decrease compensation levels*, thereby *increasing the net economic benefit* generated by and *value* of the subject enterprise.	"Chiropractors," in *Occupational Outlook Handbook,* U.S. Bureau of Labor Statistics, March 29, 2012, http://www.bls.gov/ooh/healthcare/chiropractors.htm (accessed April 1, 2013).
Psychology		
Employment of psychologists expected to grow by 22% from 2010 to 2020, which is above average for all occupations.	*Increase in the supply* of psychology services, excluding consideration of any changes in demand, would tend to *decrease compensation levels*, thereby *increasing the net economic benefit* generated by and *value* of the subject enterprise.	"Psychologists," in *Occupational Outlook Handbook,* U.S. Bureau of Labor Statistics, March 29, 2012, http://www.bls.gov/ooh/Life-Physical-and-Social-Science/Psychologists.htm (accessed April 1, 2013).
Podiatry		
Employment of podiatrists expected to grow by 20% from 2010 to 2020, which is above average for all occupations.	*Increase in the supply* of podiatry services, excluding consideration of any changes in demand, would tend to *decrease compensation levels*, thereby *increasing the net economic benefit* generated by and *value* of the subject enterprise.	"Podiatrists," in *Occupational Outlook Handbook,* U.S. Bureau of Labor Statistics, April 6, 2012, http://www.bls.gov/ooh/healthcare/podiastrists.htm (accessed April 1, 2013).

types of services that they perform.[157] Generally, these *licensed professionals* must work under the *supervision of a physician*; however, in response to the anticipated *physician workforce shortage*, many states have expanded the *scope of practice* for these providers, which authorizes them to act, under certain conditions, independently, that is, *in lieu* of physician supervision.[158] Table 12.38 illustrates the typical scope of services, as well as the level of autonomy, for various classifications of NPPs.

12.2.3.1 Current and Future Trends for Nonphysician Practices

12.2.3.1.1 Regulatory Perhaps the most significant regulatory question pending for *nonphysician providers* is *the level of physician supervision* mandated by state and federal law.[159] In addition, the *degree of autonomy* differs for each type of midlevel provider and is typically mandated on a state-by-state basis.[160]

In light of the anticipated physician workforce shortage, the *scope of services* granted to certain midlevel providers has gained some regulatory traction in many states, for example, as set forth in Table 12.39, in 17 states CRNAs may receive Medicare reimbursement for anesthesia services performed *without* the supervision of a physician anesthesiologist.[161]

In addition, under the January 2010 update of the *Hospital Outpatient Prospective Payment System Final Rule*, *outpatient therapeutic services* provided in a hospital setting may be directly supervised by certain NPPs who are permitted to provide direct supervision *in lieu* of physicians, if they are authorized by statute or regulations to *personally perform* the services they are overseeing.[162]

---

[157] Institute for the Future and the Robert Wood Johnson Foundation, *Health and Health Care 2010: The Forecast, the Challenge* (Princeton, NJ: Jossey-Bass, 2003), p. 106.

[158] See Section 3.8.2.2.3, "Nonphysician Scope of Practice," in Chapter 3, "Regulatory Environment," for further discussion.

[159] Ibid.

[160] Institute for the Future and the Robert Wood Johnson Foundation, *Health and Health Care 2010: The Forecast, the Challenge* (Princeton, NJ: Jossey-Bass, 2003), p. 108; "Report of the Council on Medical Service: Ratio of Physician to Physician Extenders," presented by Kay K. Hanley, December 1998, p. 1.

[161] "Medicare and Medicaid Programs; Hospital Conditions of Participation: Anesthesia Services: Final Rule," *Federal Register* 66, no. 219 (November 13, 2001): 56762.

[162] Centers for Medicare and Medicaid Services, "January 2010 Update of the Hospital Outpatient Prospective Payment System (OPPS)," Transmittal 116, Pub. 100-02 Medicare Benefit Policy, Section 20.5.1, December 11, 2009.

TABLE 12.38 Nonphysician Provider Classification

Provider Classification	Typical Scope of Services	Level of Autonomy	Source
Physician Assistant	Practice medicine under the direction of physician or surgeon; perform physicals; order and interpret diagnostic tests; make preliminary diagnoses; provide treatment, i.e., set bones; counsel patients; prescribe medicine.	low	"Physician Assistants," in *Occupational Outlook Handbook*, U.S. Bureau of Labor Statistics, 2012 Edition, http://www.bls.gov/ooh/healthcare/physician-assistants.htm#tab-2 (accessed March 25, 2013).
Advanced Practice Nurse	Scope of service is determined by the APN's specialty area.	med-high	"Scope of Practice," American Nurses Association, 2013, http://www.nursingworld.org/EspeciallyForYou/AdvancedPracticeNurses/Scope-of-Practice-2 (accessed 3/25/13).
Nurse Practitioner	Order, perform, interpret diagnostic testing; diagnose and treat acute and chronic conditions; prescribe medications and other treatments; manage patients' overall care; counsel and educate patients.	med-high	"What's an NP?" American Association of Nurse Practitioners, 2013, http://www.aanp.org/all-about-nps/what-is-an-np (accessed March 25, 2013).
Clinical Nurse Specialist	Practice in a wide variety of healthcare settings; provide direct patient care; provide expert consultation for nursing staffs; implement improvements in healthcare delivery systems.	med-high	"CNS FAQs," National Association of Clinical Nurse Specialists, 2013, http://www.nacns.org/html/cns-faqs.php (accessed March 25, 2013).
Certified Nurse Midwife	Diagnose and coordinate birthing process; provide GYN care to women; provide medical care to newborns for a month after birth; perform physicals; prescribe medication and order lab testing; educate and counsel women.	med-high	"Become a Midwife," American College of Nurse-Midwives, 2010, http://www.midwife.org/Become-a-Midwife (accessed March 25, 2013); "Nurse Midwives," U.S. Bureau of Labor Statistics, 2010 Edition, http://www.bls.gov/soc/2010/soc291161.htm (accessed March 25, 2013).

(*continued*)

TABLE 12.38 Nonphysician Provider Classification (*continued*)

Provider Classification	Typical Scope of Services	Level of Autonomy	Source
Certified Registered Nurse Anesthetist	Administer anesthesia; monitor patient's vital signs; oversee patient recovery from anesthesia; assist anesthesiologists, surgeons, physicians, or dentists.	low	"Nurse Anesthetists," in *Occupational Outlook Handbook*, U.S. Bureau of Labor Statistics, 2010 Edition, http://www.bls.gov/soc/2010/soc291151.htm (accessed March 25, 2013).
Rehabilitation Therapist	Provide various therapies to patients recovering from injury or trauma; help patients return to normal life; analyze disorders and provide treatment.	low	"Rehabilitation Counselors," in *Occupational Outlook Handbook*, U.S. Bureau of Labor Statistics, 2012 Edition, http://www.bls.gov/ooh/community-and-social-service/rehabilitation-counselors.htm#tab-2 (accessed March 25, 2013).
Physical Therapist	Diagnose patients' dysfunctional movements; plan treatment; use exercise and hands-on therapy to treat patients; evaluate patients' progress; educate patients and their families about injury and illness.	high	"Physical Therapists," in *Occupational Outlook Handbook*, Bureau of Labor Statistics, 2012, http://www.bls.gov/ooh/healthcare/physical-therapists.htm#tab-2 (accessed March 25, 2013).
Occupational Therapist	Treat patients with injuries or disabilities through the therapeutic use of everyday activities; help patients develop, recover, and improve skills needed for daily living and working; establish treatment plan, demonstrate exercises; evaluate patient's home or workplace; educate patients and their families.	high	"Occupational Therapists," in *Occupational Outlook Handbook*, U.S. Bureau of Labor Statistics, 2012 Edition, http://www.bls.gov/ooh/healthcare/occupational-therapists.htm#tab-2 (accessed March 25, 2013).
Audiologist and Speech Language Pathologist	Diagnose patients by listening to and communicating with patient to determine level of speech or language difficulty; identify treatment options; teach patients how to make sounds and improve their voices; teach alternative communication methods; counsel patients and families.	high	"Speech-Language Pathologists," in *Occupational Outlook Handbook*, U.S. Bureau of Labor Statistics, 2012 Edition, http://www.bls.gov/ooh/healthcare/speech-language-pathologists.htm#tab-2 (accessed March 25, 2013).

TABLE 12.39 States That Have Implemented the Supervision Opt-Out Option, as of April 2012

State	Date of Implementation
Iowa	December 2001
Nebraska	February 2002
Idaho	March 2002
Minnesota	April 2002
New Hampshire	June 2002
New Mexico	November 2002
Kansas	March 2003
North Dakota	October 2003
Washington	October 2003
Alaska	October 2003
Oregon	December 2004
Montana	January 2004 (Reversed in May 2005 and reinstated in June 2005)
South Dakota	March 2005
Wisconsin	June 2005
California	July 2009
Colorado (For critical access hospitals [CAHs] and specified rural hospitals)	September 2010
Kentucky	April 2012

"Fact Sheet Concerning State Opt-Outs and November 13, 2001 CMS Rule," American Association of Nurse Anesthetists, April 2012, http://www.aana.com/advocacy/stategovernmentaffairs/Pages/Fact-Sheet-Concerning-State-Opt-Outs.aspx (accessed November 15, 2012).

12.2.3.1.2 Reimbursement Reimbursement for services provided by *nonphysician providers* is distinct from *reimbursement* provided to *physicians*. Services provided by *nonphysicians* that are rendered under the supervision of a *physician* are typically defined as *incident-to* services.[163] These

[163] Centers for Medicare and Medicaid Services, "'Incident to' Services," MLN Matters, SE0441, 2004, http://www.cms.hhs.gov/mlnmattersarticles/downloads/se0441.pdf (accessed February 1, 2010).

services are reimbursed by Medicare under *incident-to rules*, which allow *physicians* to bill for the services provided by *nonphysician providers* at 100 percent of the amount published in the *Physician Fee schedule* for those services. Conversely, services provided by *physician assistants*, *nurse practitioners*, and *clinical nurse specialists* independently, that is, *in lieu* of physician supervision, may be billed to Medicare *directly*, generally at 85 percent of the amount published by CMS in the *Physician Fee Schedule* for those services.[164]

Similar to *physicians*, who have been facing *decreased reimbursement* for their professional clinical services under traditional *fee-for-service* (FFS) reimbursement models during the last decade, many *nonphysician providers* are also experiencing declining reimbursement trends, likely due to the fact that their reimbursement is often tied to the reimbursement of the physician who is "*supervising*" their work. Significantly, however, the ACA includes provisions allowing for certain midlevel providers to be eligible for many of the same reimbursement incentives designed to increase payments to *primary care physicians*, for example, *nurse practitioners* are eligible for the same 10 percent bonus reimbursement paid to primary care providers by Medicare during the 2011–2016 period.[165] As there continues to be an increasing movement toward reimbursing providers based on alternative reimbursement structures that emphasize *value-based purchasing* (which shift a portion of the financial risk from the insurer to the provider), in contrast to FFS models, which have traditionally incentivized the volume of patients treated, in contrast to the *value* of care provided, it is likely that *nonphysician providers* will be an important component in future *value-based* reimbursement models.

12.2.3.1.3 Competition The impending *physician workforce shortage*, paired with declining reimbursement rates for physician *professional* and *technical component revenue streams*, has fueled demand for alternative provider manpower.[166] To meet this demand, the healthcare workforce has

[164] Centers for Medicare and Medicaid Services, "Medicare Claims Processing Manual," Chapter 12, Sections 110–120, December 18, 2009. See Section 3.8.2.2.2, "Nonphysician Scope of Practice," in Chapter 3, "Regulatory Environment," for additional information.

[165] "Patient Protection and Affordable Care Act, Sec. 5501," *Pub. L.* 111-148, 124 Stat. 652 (March 23, 2010).

[166] See Section 4.3.4, "The Physician-Workforce Shortage: Demand Outpaces Supply," in Chapter 4, "Competition," for further discussion.

continued to diversify, with versatility no longer limited to the *horizontal expansion* of specialty and subspecialty areas of medical expertise. Rather, healthcare enterprises are increasingly relying on *nonphysician providers* to meet the growing demand for healthcare services and have solicited a *vertical expansion* in the role of the *nonphysician workforce* to provide services that *support, supplement, and parallel physician services*.[167] In light of the fact that the gap between the *supply* and *demand* for physician services is projected to increase significantly, as the *sources* of physician manpower remain insufficient, and the *drivers* of demand (i.e., the *aging population* and the expected increase in the number of insured under the ACA's *individual mandate*) intensify, the *nonphysician provider workforce* is expected to see continued growth in both *scope* and *volume* in the future, as enterprises adopt care models that strategically allocate physician and nonphysician manpower resources.[168]

12.2.3.1.4 Technology *Clinical-related diagnostic* and *therapeutic technologies* continue to *emerge* and *evolve* at a rapid pace throughout the entire U.S. healthcare delivery system, as further discussed in Section 5.3, "Clinical Technology," in Chapter 5, "Technology." Technological advancements in the healthcare industry have produced: (1) less *invasive procedures*, (2) shorter *recovery times*, and (3) a lower probability of *complications* during and after a procedure, all of which have served as a catalyst to shift the delivery of certain services from an *inpatient setting* to more of an *outpatient setting*.[169]

In addition, these technological developments have afforded physicians the *capability* and *opportunity* to provide *safe*, *effective*, and *efficient*

---

[167] A 2009 Office of the Inspector General (OIG) report indicated that approximately 50 percent of Medicare-billed physician services that exceed a 24-hour workday were actually performed by qualified nonphysician practitioners, i.e., midlevel providers. "Prevalence and Qualifications of Nonphysicians Who Performed Medicare Physician Services," Office of the Inspector General, August 2009, p. 8; "Nurse Practitioners and Primary Care," Health Policy Brief, *Health Affairs*, October 25, 2012, p. 1.

[168] See Section 6.3.2, "Physician Manpower and Workforce Changes," in Chapter 6, "Healthcare Reform," for further discussion.

[169] "Chart 3.14: Percentage Share of Inpatient vs. Outpatient Surgeries, 1990-2010," in *Trendwatch Chartbook 2012: Supplemental Data Tables, Utilization, and Volume*, American Hospital Association, 2012, http://www.aha.org/research/reports/tw/chartbook/2012/chart3-14.pdf (accessed May 14, 2012).

services in an *outpatient setting* and have in turn allowed *nonphysician ancillary service providers* the opportunity to expand their *scope of services* as they *support, supplement, and parallel* those outpatient services provided by physicians. For example, the use of *remote patient monitoring*, *telemedicine*, and *mobile health* provide additional service offerings that may be provided by *nonphysician providers*.[170] The higher costs associated with *inpatient care* and the overall increase in healthcare demand have contributed to increased *outpatient service utilization*, a growth pattern that will likely continue in response to persistent *cost containment pressures*, and the technologies that have permitted the shift from inpatient to outpatient.[171]

12.2.3.2 Value Drivers: Nonphysician Provider Practices Those *risk adjustments* and potential *value drivers* that may be attributed to *nonphysician provider practices* are often similar to those that may be attributed to *physician professional practices*, that is, (1) *Scope of Services*, (2) *Capacity* for future growth, (3) nature and stability of the *Revenue Stream*, (4) *Payor Mix*, (5) efficiency of *Operating Expenses*, (6) adequacy of the *Capital Structure*, (7) stability of the *Supply Chain*, (8) *Market Rivalries and Competitors*, and (9) *Subject Entity Specific/Nonsystematic Risk*.

This similarity is due to the fact that many of the services provided by NPPs are performed under the "*supervision*" of a physician, rather than "*in lieu*" of a physician, as previously discussed. However, there are several key differences that the valuation analyst should be mindful of when appraising a midlevel provider practice. For example, the *scope of services* provided by a midlevel provider practice, which necessarily affects the level of *revenue* (and subsequent *net economic benefit*) that may be generated by the practice enterprise is *restricted* by the *level of autonomy* afforded to the particular type of *midlevel provider,* which may vary based on the particular state in which the NPP is licensed to provide services.[172]

---

[170] See Section 5.2.4, "Telemedicine and Telehealth," in Chapter 5, "Technology," for further discussion of these technologies.

[171] American Hospital Association, *Trendwatch Chartbook 2012: Supplemental Data Tables, Utilization, and Volume*, 2012, http://www.aha.org/research/reports/tw/chartbook/2012/table3-4.pdf (accessed May 15, 2012) p. A-25; "Payments to Hospitals for Inpatient Hospital Services," 42 U.S.C. § 1395(ww)(b)(2).

[172] See Section 3.8.2.2.2, "Nonphysician Scope of Practice," in Chapter 3, "Regulatory Environment," for further discussion.

In the same manner, the *capacity* for future growth, as well as the *nature* and *sustainability* of the NPP's *revenue stream*, is inherently tied to the regulatory restrictions placed on the *scope of services* the NPPs may perform *in lieu* of a physician, for example, an NPP may be unable to "*grow*" his or her practice, despite an increase in patient demand for services, if there is a shortage of *physicians* in the market service area in which the NPP primarily draws his or her patients, since most states require that a physician *supervise* certain services performed by NPPs. Similarly, the future sustainability of the NPP's *revenue stream* will be dependent on whether NPPs are given the authority to provide a greater number of healthcare services *in lieu* of a physician, thereby allowing them to *independently bill* (and receive reimbursement for) their services. As NPPs are granted increasing autonomy, and the number of services they are able to perform *in lieu* of a physician expands, the NPP's payor mix will likely become increasingly important as the NPP's payor mix may be different for those services that are performed *in lieu* of a physician and billed directly, as compared to those services that are performed under a *supervising physician* that the *physician* bills as *incident to services*.

As the *scope of services* that NPPs are permitted to perform expands, there will likely be an increased competitive environment not only among NPPs and *physicians*, but also within the NPP workforce itself.[173] Due to the looming uncertainties related to the *scope of practice* trends anticipated to be experienced by NPPs and the resulting instability related to the competitive marketplace in which NPPs and physicians operate, NPP practices have the potential to experience a significant level of *nonsystematic risk*.

12.2.3.3 Other Pertinent Valuation Considerations: Nonphysician Provider Practices

Despite potentially significant differences in *scale* (which will reduce the likelihood of any possible *economies of scale*), the *valuation* of a *midlevel provider practice* is likely to be similar to those performed for a *physician practice* or an *allied health practice*, once the specific considerations of the practice being valued are incorporated into the valuation analysis. However, as illustrated in Tables 12.40 and 12.41, there are other pertinent considerations that should be considered when appraising a *nonphysician provider enterprise*.

[173] See Section 4.3.4, "The Physician-Workforce Shortage: Demand Outpaces Supply," in Chapter 4, "Competition," for further discussion.

TABLE 12.40 Other Pertinent Valuation Considerations for Appraising Nonphysician Provider Practices: Demand Factors

Demand Factors	Impact on Value of NPP Practice	Source
Enactment of the ACA, which increases the numbers of the insured patient population.	Potential for increase in *utilization demand/market share* for NPP services, which may yield a higher level of net economic benefit, ceteris parabus, thereby producing an increase in value to the enterprise.	"Fast-Growing Physician Assistant Workforce Ready to Meet Healthcare Demand," Alexandria, VA, American Academy of Physician Assistants, October 5, 2012.
Changing patient population demographics, specifically the aging of the baby boomer generation and their increased utilization of healthcare services.	Potential for increase in *utilization demand/market share* for NPP services, which may yield a higher level of net economic benefit, ceteris parabus, thereby producing an increase in value to the enterprise.	"Testimony of the Nursing Community Regarding Fiscal Year 2013 Appropriations for the Title VIII Nursing Workforce Development Programs, the National Institute of Nursing Research, and Nurse-Managed Health Clinics," U.S. Senate Appropriations Subcommittee on Labor, Health and Human Services, Education, and Related Agencies, Department of Health and Human Services, April 27, 2012.
Primary care physician shortage is thought to be increasing the demand for: (a) *complimentary services* to help free up physicians to perform tasks outside of the scope of practice for NPPs, as well as, (b) *substitute services* for those tasks that can be performed independently by NPPs, e.g., seeing established patients for outpatient visits, both of which have the potential to increase the demand for NPP services.	Potential for increase in *utilization demand/market share* for NPP services, which may yield a higher level of net economic benefit, ceteris parabus, thereby producing an increase in value to the enterprise.	"Fast-Growing Physician Assistant Workforce Ready to Meet Healthcare Demand," Alexandria, VA, American Academy of Physician Assistants, October 5, 2012.

TABLE 12.41 Other Pertinent Valuation Considerations for Appraising Nonphysician Provider Practices: Supply Factors

Supply Factors	Impact on Value of NPP Practice	Source
Recent efforts by the American Academy of Physician Assistants to create a uniform application for PA licensure will streamline the process to become a PA and allow for more individuals to enter the PA profession.	Increased *competition* may increase the idiosyncratic risk of NPP practices, yielding lower valuations.	"Emphasizing Need for a Modern, Uniform Licensure Process," Alexandria, VA, American Academy of Physician Assistants, October 25, 2012.
Backlash to the expanding scope of services and autonomy of NPPs by competitor organizations, e.g., the American Academy of Family Physicians, may create regulatory hurdles to these trends,	Increased uncertainty regarding the ability of NPP enterprises to increase utilization demand/market share increases the idiosyncratic risk of NPP practices, yielding lower valuations,	"Primary Care for the 21st Century: Ensuring a Quality, Physician-Led Team for Every Patient," American Academy of Family Physicians, September 18, 2012,
Recent legislative efforts to expand the scope of practice for some NPPs may provide more revenue stream opportunities for NPP enterprises and increase the level of supply of NPP services.	Potential for increase in *utilization demand/market share* for NPP services, which may yield a higher level of net economic benefit, ceteris parabus, thereby producing an increase in value to the enterprise.	"Nurse Practitioners Hemmed in by Scope of Practice Laws and Payment Policies," by Tammy Worth, *Healthcare Finance News*, March 21, 2013, http://www.healthcarefinancenews.com/news/nurse-practitioners-hemmed-scope-practice-laws-and-payment-policies (accessed March 29, 2013).
Recent legislative efforts to close the gap between physicians and NPPs may provide higher profit potential and therefore compensation increases that make the NPP profession a more viable option in contrast to other professions.	In the enterprise setting, the higher levels of reimbursement have the potential to increase the net economic benefit of the organization. However, should increased reimbursement and increased demand for NPP services cause NPP compensation levels to increase, the compensation burden may offset any enhancement in reimbursement causing an unpredictable change in the level of net economic benefit, and the related value of the enterprise.	"Nurse Practitioner Pay Equity Easily Passes House," by Christopher David Gray, *The Lund Report*, March 20, 2013, http://www.thelundreport.org/resource/nurse_practitioner_pay_equity_easily_passes_house (accessed March 29, 2013).

(*continued*)

TABLE 12.41 Other Pertinent Valuation Considerations for Appraising Nonphysician Provider Practices: Supply Factors (*continued*)

Supply Factors	Impact on Value of NPP Practice	Source
Lower certification requirements relative to physician certification and licensure requirements. For example, typically no residency for PA or NP positions, coupled with other supply factors, e.g., increasing autonomy and equality of pay, have the potential to make the NPP profession more attractive when compared to primary care physician positions; note that there is a gradual shift toward residency requirements for some NPPs, including provisions in the ACA that mandate funding for family nurse practitioner residency training programs.	Increased *competition* may increase the idiosyncratic risk of NPP practices, yielding lower valuations; also, as residency requirements increase, NPPs may demand higher compensation levels to offset the opportunity cost of residency, which has the potential to decrease the level of net economic benefit to the NPP enterprise.	"Residency Programs for Primary Care Nurse Practitioners in Federally Qualified Health Centers: A Service Perspective," by Margaret Flinter, APRN, MSN, OJIN, *Online Journal of Issues in Nursing* 10, no. 3, manuscript 5 (September 30, 2005).
Supervisory requirements may lead to loss of elements of control in independent NPP practices where the NPP is the owner but relies on the supervision of a physician in order to bill payors for services rendered; this may cause a decrease in the willingness of many NPPs to operate independent practices.	Decrease in span of control may yield additional uncertainty, increasing the *risk-adjusted required rate of return* that an investor in the enterprise would demand.	"AMA Scope of Practice Data Series: Nurse Practitioners," American Medical Association, 2009.

12.3 FREESTANDING OUTPATIENT AMBULATORY ENTERPRISES

In addition to outpatient services provided in an office-based setting, outpatient services may also be provided at such enterprises as:

1. *Ambulatory Surgery Centers (ASCs)*;
2. *Diagnostic Imaging Centers*;
3. *Dialysis Centers*;
4. *Cancer Treatment Centers*;
5. *Rehabilitation Therapy Centers*;
6. *Cosmetic and Aesthetic Medicine Centers*;
7. *Walk-in Clinics,* for example, Urgent Care Centers and Retail Clinics;
8. *Wound Treatment Centers*;
9. *Pain Management Centers*; and
10. *Laboratories*.

12.3.1 Types of Freestanding Outpatient Ambulatory Enterprises

12.3.1.1 Ambulatory Surgery Centers (ASCs) *Ambulatory Surgery Centers* (ASCs) are outpatient facilities where surgeries that do not require inpatient hospital admission or a length of stay lasting more than 24 hours may be performed.[174] ASCs may be classified as *single specialty*, or *multi specialty* and may be owned by *hospitals*, *physicians*, or other *healthcare corporations*. Note that according to recent studies, physicians maintain *some* amount of ownership in approximately 90 percent of ASCs.[175] The distribution of ASC ownership, as published by the *Ambulatory Surgery Center Association* (ASCA), is set forth in Exhibit 12.3.

Since their inception more than 20 years ago, the number of ASC facilities, as well as the number of procedures performed in ASCs, has expanded significantly, due, in large part, to the advancement of *minimally invasive surgical techniques* and the shift of the provision of services from the *inpatient* to the *outpatient* setting. In 2011, there were approximately 5,300 *Medicare licensed ASCs* that performed more than *23 million surgeries*.[176]

---

[174] *Intellimarker: Ambulatory Surgical Centers Financial and Operational Benchmarking Study*, 6th ed. (Dallas: VMG Health, November 2011), p. 7.

[175] Ambulatory Surgery Center Association, "Ambulatory Surgery Centers: A Positive Trend in Healthcare," October 2011, p. 1.

[176] Ambulatory Surgery Center Association, "History," 2012, http://www.ascassociation.org/AboutUs/WhatisanASC/History (accessed December 4, 2012).

Ambulatory Surgery Centers

Single specialty or multispecialty facilities where physicians perform a variety of planned surgeries for patients who do not require inpatient hospital admission or a length of stay lasting more than 24 hours.

Intellimarker: Ambulatory Surgical Centers Financial and Operational Benchmarking Study, *6th ed. (Dallas: VMG Health, November 2011), p. 7.*

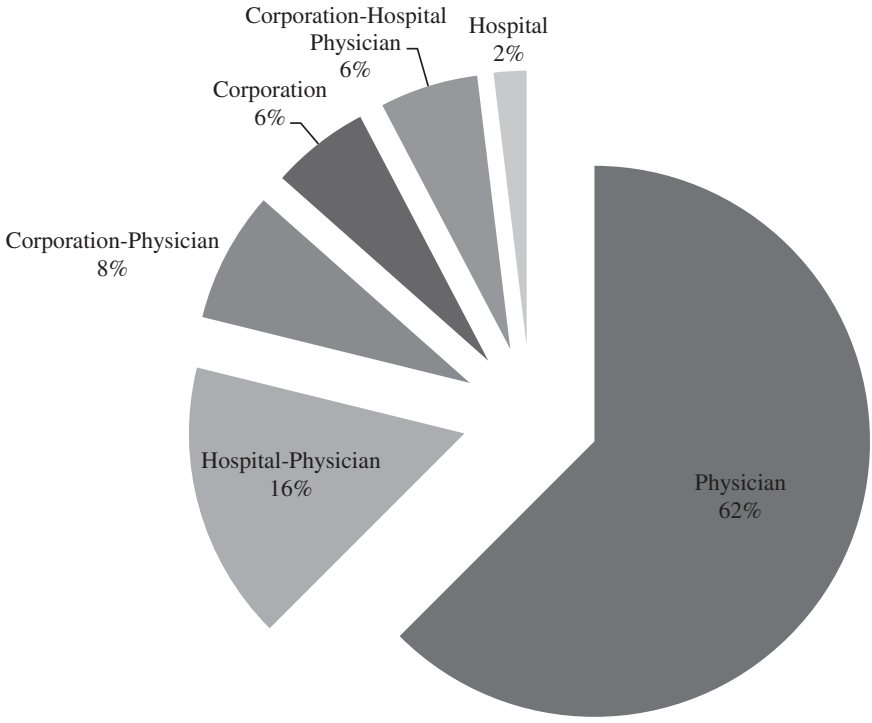


EXHIBIT 12.3 ASC Ownership

"Ambulatory Surgery Centers: A Positive Trend in Healthcare," Ambulatory Surgery Center Association, October 2011, p. 3.

Factoid

In 2011, there were approximately 5,300 Medicare-licensed ASCs that performed more than 23 million surgeries.

"History," Ambulatory Surgery Center Association, 2012, http://www.ascassociation.org/AboutUs/WhatisanASC/History (accessed December 4, 2012).

Despite their initial growth, the rate at which new ASCs have been developed has decreased since 2005.[177] The change in the number of Medicare-certified ASCs, as well as the change in Medicare payments to ASCs from 2006 to 2010, is set forth in Table 12.42, and Exhibit 12.4.

Many *patients* have reported a favorable opinion of ASCs, due to:

1. *Less paperwork* to complete;
2. *Decreased waiting time*;
3. *Convenient locations*;
4. *Easier scheduling*; and
5. *Lower costs* and *copayments* relative to surgery services provided at an *inpatient hospital outpatient setting*.[178]

TABLE 12.42 Change in Number of Medicare-Certified ASCs and Medicare Payments to ASCs, 2006–2010

	2006	2007	2008	2009	2010
Medicare ASC payments (in billions)	$2.80	$2.90	$3.10	$3.20	$3.40
Compound Annual Growth Rate	*3.70%*	*3.57%*	*6.90%*	*3.23%*	*6.25%*
Number of Medicare-Certified ASCs	4,608	4,879	5,095	5,217	5,316
Compound Annual Growth Rate	5.64%	5.88%	4.43%	2.39%	1.90%
Medicare Payments per Facility (in thousands)	$608	$594	$608	$613	$640
Compound Annual Growth Rate	–1.83%	–2.18%	2.36%	0.81%	4.27%

Report to the Congress: Medicare Payment Policy, Medicare Payment Advisory Commission, March 2012, p. 123, 128.

[177] Ambulatory Surgery Center Association, "Ambulatory Surgery Centers: A Positive Trend in Healthcare," October 2011, p. 3.

[178] "Chapter 5: Ambulatory Surgical Centers," in *Medicare Payment Policy: Report to Congress*, Medicare Payment Advisory Commission, March 2011, p. 104, http://www.medpac.gov/documents/Mar11_EntireReport.pdf (accessed June 30, 2011).

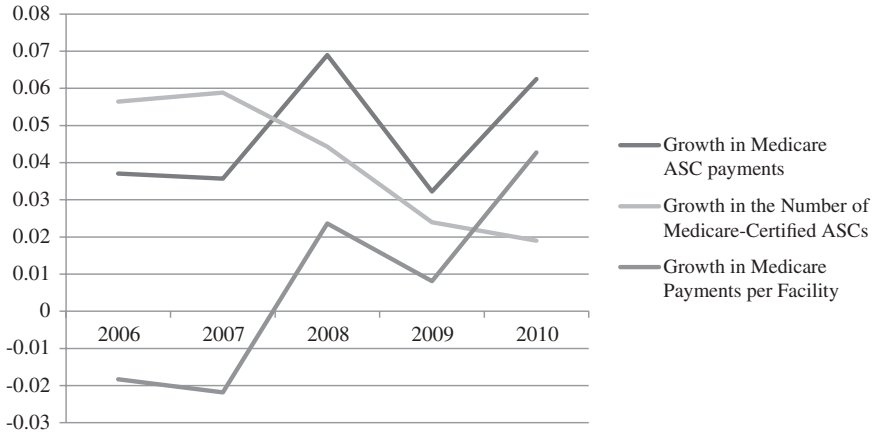


EXHIBIT 12.4 Trends in the Number of Medicare-Certified ASCs and Medicare Payments to ASCs, 2006–2010

Report to the Congress: Medicare Payment Policy, Medicare Payment Advisory Commission, March 2012, pp. 123, 128.

Likewise, many *physicians* have a favorable opinion of ASCs, due to:

1. The ability to *set* and *maintain their own schedule*;
2. The ability to *customize their surgical environment*; and
3. The *use of specialized staff*, which often *minimizes* turnaround time and *maximizes* the number of procedures that can be performed.[179]

12.3.1.2 Hospital Outpatient Departments *Hospital outpatient departments* (HOPDs), while typically not "*freestanding*," offer many of the same services provided by ASCs and other types of freestanding outpatient enterprises. Significantly, in contrast to ASCs and other freestanding outpatient enterprises, HOPDs typically have access to the market leverage maintained by the *parent hospital organization* and are reimbursed under the OPPS, which allows them to receive a "*heightened reimbursement differential*" for the same services or procedures provided in an *independent freestanding facility.*[180] While inpatient admissions have *declined* 1 percent per year from

[179] "2C Ambulatory Surgical Centers," in *Medicare Payment Policy: Report to Congress*, Medicare Payment Advisory Commission, March 2010, http://www.medpac.gov/documents/mar10_entirereport.pdf (accessed August 24, 2011).

[180] See Section 2.4.1.3.1.2, "Hospital Outpatient Reimbursement," in Chapter 2, "Reimbursement Environment," and Section 11.1.6.2, "Reimbursement," in Chapter 11, "Inpatient Enterprises," for further discussion of this topic.

Hospital Outpatient Department

Typically offer many of the same services provided by freestanding outpatient enterprises; have access to the market leverage maintained by the parent hospital organization and are reimbursed under the OPPS.

"*Hospital Inpatient and Outpatient Services,*" *in* Report to the Congress: Medicare Payment Policy, *Medicare Payment Advisory Commission, March 2012, pp. 46–47, 51.*

Factoid

While inpatient admissions have declined 1 percent per year from 2004 to 2010, hospital outpatient services grew 4.2 percent per year from 2004 to 2010.

"Hospital Inpatient and Outpatient Services," in Report to the Congress: Medicare Payment Policy, *Medicare Payment Advisory Commission, March 2012, pp. 46–47.*

2004 to 2010, hospital outpatient services grew 4.2 percent per year from 2004 to 2010.[181] Further, in 2010, the volume of patient visits to HOPDs grew by 6.7 percent, while visits to freestanding outpatient enterprises grew by less than 1 percent.[182] It should be noted that many HOPDs are "virtual" outpatient providers, in that they use the same physical plant, for example, certain operating rooms, preoperative and postoperative, for patients on both an inpatient and an outpatient basis.

12.3.1.3 Diagnostic Imaging Centers The utilization of *outpatient diagnostic imaging services* has grown at a rate much greater than other physician services, likely due to technological advances that allow for more *efficient*, *effective*, and *safe* procedures. For example, *computed tomography* (CT) technology has transformed both *diagnostic* and *interventional* medicine, as the quality of CT images surpasses the *anatomical detail* of *competing imaging technologies*, such as X-ray, due to the *cross-sectional scanning*

[181] "Hospital Inpatient and Outpatient Services," in *Report to the Congress: Medicare Payment Policy*, Medicare Payment Advisory Commission, March 2012, pp. 46–47.
[182] Ibid., p. 51.

Factoid

The number of CT and MRI scans per 1,000 *Medicare Part B FFS beneficiaries* grew significantly between 2000 to 2009, with only a slight decrease from 2009 to 2010.

A Data Book: Health Care Spending and the Medicare Program, *MedPAC (June 2012), p. 112.*

capabilities they afford.[183] In addition, *functional MRI* (fMRI), a combined *positron emission tomography* (PET) and *magnetic resonance imaging* (MRI) *system*, enables physicians to *observe brain function* while patients perform *physical* and *mental tasks* and is one of the most *popular methods of brain imaging* used in the current healthcare market.[184]

The June 2012 MedPAC publication *A Data Book: Health Care Spending and the Medicare Program* reported that the number of CT and MRI scans per 1,000 *Medicare Part B FFS beneficiaries* grew significantly between 2000 to 2009, with only a slight decrease from 2009 to 2010.[185] The number of CT scans performed on parts of the body other than the head more than doubled between 2000 and 2010, from 258 scans per 1,000 Medicare Part B beneficiaries in 2000 to 548 scans per 1,000 Medicare Part B beneficiaries in 2010. Similarly, the number of MRI scans performed for Medicare Part B beneficiaries, on parts of the body other than the brain, more than *doubled* during the same time period.[186]

Despite slowed growth from 2005 to 2011, likely due to decreasing reimbursement trends as a result of the *Deficit Reduction Act of 2005*, the number of *freestanding diagnostic imaging centers* doubled from 3,068 in 2000 to 6,431 in 2008.[187] While there was a brief period of *stagnation*

[183] David J. Brenner and Eric J. Hall, "Computed Tomography—An Increasing Source of Radiation Exposure," *New England Journal of Medicine* 357, no. 22 (November 29, 2007): 2277.

[184] Frost and Sullivan, "MRI Systems Market: Clinical Application Trends," October 10, 2007, http://www.frost.com/prod/servlet/market-insight-top.pag?docid=108958393 (accessed June 29, 2009).

[185] "A Data Book: Health Care Spending and the Medicare Program," MedPAC (June 2012), p. 112. Also, see Section 5.3.3.1, "Imaging Technology," in Chapter 5, "Technology," for further discussion.

[186] "A Data Book: Health Care Spending and the Medicare Program," MedPAC (June 2012), p. 112.

[187] Cheryl Proval, "2012's Top 20 Imaging-Center Chains," *Radiology Business Journal* (August/September 2012): 34. Also, see Section 2.4.1.3.1.6, "Independent Diagnostic Testing Facilities," in Chapter 2, "Reimbursement Environment," for further discussion.

Factoid

Despite slowed growth from 2005 to 2011, the number of freestanding diagnostic imaging centers doubled from 3,068 in 2000 to 6,431 in 2008.

"2012's Top 20 Imaging-Center Chains," by Cheryl Proval, Radiology Business Journal *(August/September 2012): 34.*

Diagnostic Imaging Centers

An outpatient service center that provides CTs, PETs, MRIs, X-rays, and other imaging procedures.

in 2010, approximately 130 new freestanding sites opened during the first quarter of 2012.[188] In addition to an *overall growth* in the number of *diagnostic imaging centers*, the number of these centers associated with *corporate chains* also increased during the last decade, *increasing* from 48 percent in 2003 to 66 percent in 2012. Note that while the *percentage* of diagnostic imaging centers affiliated with a *corporate chain* has grown, the number of *corporate chains* has decreased since 2008, appearing to indicate a trend toward *market consolidation*, as illustrated in Exhibit 12.5.[189]

12.3.1.4 Cancer Treatment Centers Cancer is the second leading cause of death in the United States and is estimated to have caused approximately 577,000 deaths in 2012, which equates to 1 in 4 deaths being attributable to cancer during 2012.[190] The *American Cancer Society* estimates that in 2012,

Factoid

Cancer is the second leading cause of death in the United States and caused an estimated 562,340, or 1 in 4, deaths in 2010.

"Cancer Facts & Figures 2010," American Cancer Society, 2010, http://www.cancer.org/acs/groups/content/@nho/documents/document/acspc-024113.pdf (accessed July 2, 2010), p. 2.

[188] Kris Kyes, "The Top 20 Imaging-Center Chains," *Radiology Business Journal* (September 3, 2010), http://www.imagingbiz.com/articles/view/the-top-20-imaging-center-chains (accessed October 26, 2012), p. 34.

[189] Ibid., p. 35.

[190] "Cancer Facts and Figures 2012," American Cancer Society, 2012, p. 3.

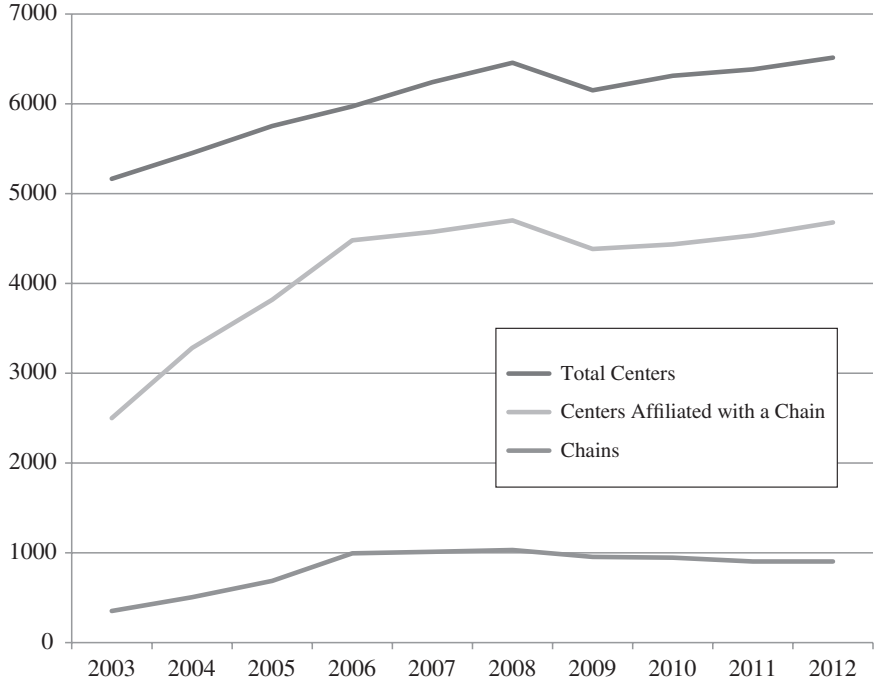


EXHIBIT 12.5 Number of Diagnostic Imaging Centers and Chains, 2003–2012

"2012's Top 20 Imaging-Center Chains," by Cheryl Proval, *Radiology Business Journal* (August/September 2012): 35.

approximately 1,638,910 new cancer cases were diagnosed.[191] Modern cancer treatment recognizes that cancer has, in many cases, become a *chronic condition* (rather than a terminal illness) and focuses on a *disease management* approach to treatment.[192] In addition, during the last decade *changes in reimbursement* and *advances in treatment* have caused a shift in the provision of cancer care from an *inpatient* to an *outpatient setting*. Typically, cancer care is provided at an *integrated cancer center*, which may provide two nonsurgical cancer treatment modalities, *chemotherapy* and *radiation therapy*, as well as ancillary *diagnostic imaging technologies*, under a single governance structure that facilitates the *regular* and *immediate* interaction between *medical oncologists* and *radiation oncologists*. In contrast to *traditional "silo"* models, an *integrated outpatient cancer facility* involves a

[191] Ibid., p. 1.

[192] Regina Herzlinger, "Cancer Care in America," Boston Healthcare Associates, March 2002, p. 5.

Integrated Outpatient Facility

A center that involves a multidisciplinary program whereby a team of medical specialists provides services to patients at the same location, allowing for a true multidisciplinary assessment of the patient's condition and the development of a cohesive and integrated plan of care.

"Free-Standing Cancer Centers: Rationale for Improving Cancer Care Delivery," American Journal of Clinical Oncology *12, no. 5 (October 1989): 405.*

multidisciplinary program whereby a *team* of medical specialists provides services to patients at the same location, allowing for a true *multidisciplinary* assessment of the patient's condition and the development of a *cohesive* and *integrated plan of care.*[193] This *multidisciplinary* approach includes an extensive review of *pathological*, *radiological*, and *clinical* findings and provides for *individualized recommendations* for each patient, based on the multidisciplinary team's *consensus* for the *best treatment plan.*[194]

12.3.1.5 Dialysis Centers *Dialysis centers* provide *in-center* outpatient *hemodialysis*, *hemofiltration*, *peritoneal dialysis, pharmacy*, and *lab services*, as well as *home hemodialysis* and *home peritoneal dialysis* training and services, to patients with *End Stage Renal Disease* (ESRD).[195] ESRD is the *final stage* of *kidney failure*, marked by the *complete* or *nearly complete* irreversible *loss of renal function*, which results in the body *retaining fluid* and *harmful waste build up.*[196] The *prevalence* of ESRD patients totaled 593,086, an increase of approximately 4 percent from 2009, a trend that is likely to continue due to the increased prevalence of diabetes, particularly among the aging baby boomer population.[197]

[193] "Free-Standing Cancer Centers: Rationale for Improving Cancer Care Delivery," *American Journal of Clinical Oncology* 12, no. 5 (October 1989): 405.

[194] Sarah Wilson and Barbara LiPira, "Multidisciplinary Oncology Clinics at Presbyterian Cancer Center," *Oncology Issues* (July/August 2004): 28.

[195] Medicare Payment Advisory Commission, "Chapter 6: Outpatient Dialysis Centers," in *Report to the Congress: Medicare Payment Policy*, March 2012, pp. 151–152.

[196] National Kidney and Urological Diseases Information Clearinghouse, *The Kidney Diseases Dictionary*, U.S. Department of Health and Human Services, NIH Publication No. 03-4359, 2003, p. 6.

[197] "Incidence, Prevalence, Patient Characteristics, and Modality," in *USRDS 2012 Annual Data Report: Atlas of End-Stage Renal Disease in the United States*, National Institutes of Health, National Institutes of Diabetes and Digestive and Kidney Diseases, 2012, p. 216.

Dialysis Centers

Centers that provide in-center hemodialysis, hemofiltration, peritoneal dialysis, pharmacy, and lab services, as well as home hemodialysis and home peritoneal dialysis training and services.

Report to the Congress: Medicare Payment Policy, *"Chapter 6: Outpatient Dialysis Centers," Medicare Payment Advisory Commission, March 2012, pp. 151–152.*

End Stage Renal Disease

The final stage of kidney failure, marked by the complete or nearly complete irreversible loss of renal function, where the body retains fluid and harmful waste buildup.

The Kidney Diseases Dictionary, *by The National Kidney and Urological Diseases Information Clearinghouse, U.S. Department of Health and Human Services, NIH Publication No. 03–4359, 2003, p. 6.*

Hemofiltration

A technique for the treatment of ESRD patients that removes fluid, electrolytes, and other toxic substances from the blood by filtration.

"End Stage Renal Disease (ESRD)," in Medicare Benefit Policy Manual, *Centers for Medicare and Medicaid Services, 2011, http://www.cms.gov/Regulations-and-Guidance/Guidance/Manuals/downloads/bp102c11.pdf (accessed April 1, 2013), p. 5.*

Hemodialysis

The process of filtering blood through an artificial membrane, known as a dialyzer, to remove wastes and excess fluids, and is most often provided in a dialysis facility three times a week for three to four hours per treatment.

The Kidney Diseases Dictionary, *by The National Kidney and Urological Diseases Information Clearinghouse, U.S. Department of Health and Human Services, NIH Publication No. 03–4359, 2003, p. 5; "Chapter 6: Outpatient Dialysis Services," in* Report to the Congress: Medicare Payment Policy, *Medicare Payment Advisory Board, March 2012, p. 143.*

Hemodialysis is the process of *filtering blood* through an *artificial membrane*, known as a *dialyzer*, to remove *wastes* and *excess fluids* and is most often provided in a *dialysis facility* three times a week for three to four hours per treatment.[198] To perform hemodialysis, a physician creates a vascular access pathway using an *arteriovenous* (AV) *fistula*, *AV graft*, or *central venous catheter*, to transport blood from the body to the *dialyzer* and back to the body.[199]

Peritoneal dialysis uses the lining of the patient's abdomen as a filter to clear wastes and extra fluids.[200] Through a surgically implanted catheter, a cleaning solution, called the *dialysis solution*, is gravity-drained from a bag into the patient's abdomen.[201] Fluids and wastes flow through the lining of the abdominal cavity and remain trapped, purifying the dialysis solution and the patient's blood.[202] There are two types of peritoneal dialysis: *continuous ambulatory peritoneal dialysis*, which can be done at home or at work, and *continuous cycler assisted peritoneal dialysis*, which uses a machine called a cycler to empty and fill the abdomen three to five times at a dialysis center while the patient sleeps.[203]

CMS requires dialysis centers to be certified by Medicare in order to received Medicare reimbursement for dialysis services, a critical requirement as Medicare covers approximately 90 percent of all ESRD beneficiaries in the United States.[204] As of 2011, approximately 96 percent of outpatient dialysis facilities were Medicare certified to offer *in-center hemodialysis*, and 46 percent were certified to offer *peritoneal dialysis*.[205] Certification for

---

[198] National Kidney and Urological Diseases Information Clearinghouse, *The Kidney Diseases Dictionary*, U.S. Department of Health and Human Services, NIH Publication No. 03-4359, 2003, p. 5; Medicare Payment Advisory Board, "Chapter 6: Outpatient Dialysis Services," in *Report to the Congress: Medicare Payment Policy*, March 2012, p. 143.

[199] Medicare Payment Advisory Board, "Chapter 6: Outpatient Dialysis Services," in *Report to the Congress: Medicare Payment Policy*, March 2012, p. 155.

[200] National Kidney and Urological Diseases Information Clearinghouse, *The Kidney Diseases Dictionary*, U.S. Department of Health and Human Services, NIH Publication No. 03-4359, 2003, p. 5.

[201] Medicare Payment Advisory Commission, "Section 2C: Outpatient Dialysis Services," in *Report to the Congress: Medicare Payment Policy*, March 2009, p. 134.

[202] Ibid.

[203] Ibid.

[204] MedPAC, "Outpatient Dialysis Services Payment System, *Payment Basics*, (September 2012), p. 1.

[205] "Outpatient Dialysis Centers" in *Report to the Congress: Medicare Payment Policy*, Medicare Payment Advisory Commission, March 2012, pp. 151–152.

DIALYSIS CENTERS OLIGOPOLY

A small number of firms in the United States provide a vast majority of dialysis services. Together, the two largest dialysis chains, Fresnius and DaVita, account for about 60 percent of all dialysis facilities and about 70 percent of all freestanding dialysis facilities.

Report to the Congress: Medicare Payment Policy, Outpatient Dialysis Services: Assessing Payment Adequacy and Updating Payments, *MedPAC, March 2009, p. 137.*

in-home hemodialysis training is also required, which service has increased in popularity from 13 percent in 2006, to 23 percent in 2011.[206]

An increasing proportion of the *outpatient dialysis centers* are *freestanding facilities*, owned by *publicly traded companies* and/or are operated by *a for-profit chain*, that is, approximately 81 percent of dialysis facilities were affiliated with a chain organization as of 2011.[207] In 2005 and 2006, the *four largest dialysis center chains* merged into *two chains*, with DaVita acquiring Gambro in 2005, and Fresenius Medical Care merging with Renal Care Group in 2006. Together, Fresenius and DaVita accounted for approximately 60 percent of *all* dialysis facilities and approximately 70 percent of all *freestanding* dialysis facilities as of 2011.[208]

According to a 2007 article in the *Journal of the American Society of Nephrology*, industry consolidation among dialysis centers may have potential advantages, for example, certain *economies of scale*, *technical efficiencies*, *improved information and tracking systems*, *access to capital*, and *vertical integration opportunities*.[209] Industry consolidation also has the potential to offer certain clinical advantages, including the potential for *improved compliance with process and protocols*, *accountability*, *standardization of care* across a large system, and *integrated information* and *reporting systems*.[210]

12.3.1.6 Rehabilitation Therapy Centers *Freestanding rehabilitation therapy centers* often focus on an *interdisciplinary approach* to treatment, due to

[206] Ibid.

[207] Ibid., p. 149.

[208] Ibid.

[209] Jonathan Himmelfarb, Arnold Berns, Lynda Szczech, and Donald Wesson, "Cost, Quality, and Value: The Changing Political Economy of Dialysis Care," *Journal of the American Society of Nephrology* 18, no. 7 (2007): 2023.

[210] Ibid., p. 2024.

Rehabilitation Therapy Centers

Focus on an interdisciplinary approach to treatment, due to the scope of conditions treated and the wide range of providers who typically work together in developing and executing a patient's treatment plan.

"Increasing Physical Function through Psychiatric Intervention for Children with Pediatric Neurotransmitter Disorders," by S. Evans, K. Forester, J. M. Pettiford, and O. Morozova, Journal of Inherited Metabolic Diseases *32 (2009): 382.*

the scope of conditions treated, as well as the wide range of providers who typically work together in developing and executing a patient's treatment plan. Specific providers commonly employed in freestanding rehabilitation therapy centers include *physiatrists, surgeons, physical therapists, occupational therapists, rehabilitation nurses, speech-language pathologists, respiratory therapists, recreation therapists, social workers, psychologists, and rehabilitation counselors.*[211] The majority of patients receiving rehabilitation therapy suffer from the one or more of the four categories of conditions, as set forth in Table 12.43.

The market for rehabilitation therapy is highly fragmented and primarily consists of small independent providers. Even larger rehabilitation providers did not independently control more than 5 percent of the market as of 2012, for example, *Kindred Healthcare* had an estimated market share of 3.1 percent, *Selected Medical Holding Corporation* had an estimated market share of 2.6 percent, *Physiotherapy Associates* had an estimated market share of 1.8 percent, *Concentra, Inc.* had an estimated market share of 1.6 percent, and *U.S. Physical Therapy Inc.* had an estimated market share of 0.8 percent.[212]

12.3.1.7 Cosmetic and Aesthetic Medicine Centers *Cosmetic and aesthetic medicine centers* provide outpatient surgical services related to the *elective enhancement* of an individual's appearance.[213] In 2011, approximately 60 percent of *cosmetic and aesthetic* procedures were performed in an *office-based setting*, with 22 percent performed in a *freestanding surgical center*,

[211] S. Evans, K. Forester, J. M. Pettiford, and O. Morozova, "Increasing Physical Function through Physiatric Intervention for Children with Pediatric Neurotransmitter Disorders," *Journal of Inherited Metabolic Diseases* 32 (2009): 382.

[212] Anna Son, *Physical Therapists in the US*, IBIS World, 2012, pp. 28–29.

[213] American Society of Plastic Surgeons, "The History of Plastic Surgery, ASPS and PSEF," http://www.plasticsurgery.org/About_ASPS/History_of_Plastic_Surgery.html (accessed November 22, 2009).

TABLE 12.43 Categories of Rehabilitative Conditions

Condition	Percentage of Patients Exhibiting Condition
Musculoskeletal	63.40%
Neurological	25.90%
Cardiopulmonary	7.40%
Integumentary	3.30%

Physical Therapists in the US, by Anna Son, IBIS World, 2012, p. 20.

and the remaining 18 percent performed in a HOPD.[214] These services are often performed by surgeons and specialists trained in *dermatology*, *facial plastic*, *general surgery*, *plastic surgery*, *otolaryngology*, *oculoplastic surgery*, *gynecological surgery*, and *orthomaxillofacial surgery.*[215] *Cosmetic and aesthetic medicine centers* may also offer *reconstructive surgery* services, which have the dual purpose of *restoring function* and *aesthetic appearance* to damaged or deformed structures of the body.[216] Table 12.44 illustrates the top surgical procedures performed in *cosmetic and aesthetic medicine centers* in 2011.

In addition to *surgical* cosmetic procedures performed by physicians, there are many *nonsurgical* cosmetic and aesthetic procedures that may be performed by certain *nonphysician providers,* for example, those nonsurgical procedures described in Table 12.45.

Cosmetic and Aesthetic Medicine Centers

Provide outpatient surgical services related to the elective enhancement of an individual's appearance.

"The History of Plastic Surgery, ASPS and PSEF," American Society of Plastic Surgeons, http://www.plasticsurgery.org/About_ASPS/History_of_Plastic_Surgery.html (accessed November 22, 2009).

[214] American Society for Aesthetic Plastic Surgery, "15th Annual Cosmetic Surgery National Data Bank Statistics," 2012, p. 5.

[215] Council of Medical Specialty Societies, "Choosing a Medical Specialty: Plastic Surgery," 1990, p. 73.

[216] American Society of Plastic Surgeons, "The History of Plastic Surgery, ASPS and PSEF," http://www.plasticsurgery.org/About_ASPS/History_of_Plastic_Surgery.html (accessed November 22, 2009).

TABLE 12.44 Top Five Surgical Cosmetic Procedures Performed in 2011

Procedure	Number Performed
Liposuction	325,332
Breast augmentation	316,848
Abdominoplasty	149,410
Blepharoplasty	147,540
Breast lift	127,054

"15th Annual Cosmetic Surgery National Data Bank Statistics," American Society for Aesthetic Plastic Surgery, 2012, p. 5.

TABLE 12.45 Top Five Nonsurgical Cosmetic Procedures Performed in 2011

Procedure	Number Performed
Botulinum Toxin Type A	2,619,739
Hyaluronic acid	1,206,186
Laser hair removal	919,802
Microdermabrasion	499,427
IPL laser treatment	439,161

"15th Annual Cosmetic Surgery National Data Bank Statistics," American Society for Aesthetic Plastic Surgery, 2012, p. 5.

In 2011, $10 billion was spent on cosmetic procedures in the United States, the distribution of which is set forth in Table 12.46.

The number of surgical cosmetic procedures performed in the United States increased 174 percent from 1997 to 2011 and 109 percent between 2010 and 2011.[217] In 2011, 9 million cosmetic procedures were performed,

Cosmetic Surgery

The elective enhancement of an individual's appearance and self-esteem through fundamental medical and surgical knowledge and expertise.

"Plastic Surgery Encompasses Both Cosmetic and Reconstructive Surgery," by the American Board of Plastic Surgery, 2009, http://www.plasticsurgery.org/Patients_and_Consumers/Procedures.html (accessed October 6, 2009).

[217] American Society for Aesthetic Plastic Surgery, "15th Annual Cosmetic Surgery National Data Bank Statistics," 2012, p. 5.

TABLE 12.46 Distribution of Spending on Cosmetic Procedures in 2011

	Amount Spent (in billions)	Percent of Total Spending
Surgical Procedures	$6.20	62%
Injectable Procedures	$1.70	17%
Skin Rejuvenation Procedures	$1.60	16%
Nonsurgical Procedures	$0.36	4%

"15th Annual Cosmetic Surgery National Data Bank Statistics," American Society for Aesthetic Plastic Surgery, 2012, p. 5.

Factoid

The number of surgical cosmetic procedures performed in the United States increased 174 percent from 1997 to 2011 and 109 percent between 2010 and 2011.

"15th Annual Cosmetic Surgery National Data Bank Statistics," American Society for Aesthetic Plastic Surgery, 2012, p. 2.

with *surgical* procedures accounting for 18 percent of the procedures performed and 63 percent of total expenditures.[218]

12.3.1.8 Walk-in Clinics: Urgent Care Centers and Retail Clinics *Walk-in clinics* are typically characterized by their hours of operation, generally providing care *after hours* and *on weekends*. While the services offered by *retail clinics* and *urgent care facilities* may overlap, the two facilities are typically differentiated by the *level* and *scope of care* provided, as well as their *location* and *ownership structure*.[219] *Urgent care* may be characterized as healthcare that is delivered to treat an *acute* illness on a *walk-in basis*, while *retail clinics*, which also offer *walk-in services*, may be characterized as providing healthcare services for the treatment of *non-acute* illnesses and conditions.

Retail Clinics are often owned by, and operated within, retail grocery stores or department stores.[220] In contrast, *urgent care centers* are typically

[218] Ibid.

[219] The Alliance, "ER, Urgent Care, or Retail Clinics: What's the Difference?" http://www.alliancehealthcoop.com/ERC/pdfs/ERUrgent_TA53-1004.pdf (accessed October 19, 2012).

[220] Ibid.

Walk-In Clinics

Centers that provide treatment of nonacute illnesses and conditions after hours and on weekends.

"ER, Urgent Care, or Retail Clinics: What's the Difference?" The Alliance, http://www.alliancehealthcoop.com/ERC/pdfs/ERUrgent_TA53–1004.pdf (accessed October 19, 2012).

Urgent Care

Healthcare that is delivered on a walk-in basis with no appointment for acute illness.

freestanding facilities that may be owned and operated by a group of physicians and may be eligible for one of two *certifications* offered by the *Urgent Care Association of America* (UCAOA): (1) *Category 1* certifies that *licensed physicians* are on site during the clinics hours of operation, and (2) *Category 2* certifies that *licensed providers*, that is, physicians and midlevel providers (NPs and PAs), are on site during the clinics hours of operation. To qualify as either a *Category 1* or a *Category 2* certified urgent care center, facilities must meet the following minimum criteria:

1. Accept and advertise that "*walk-ins*" of all ages are welcome;
2. Provide *X-ray* and *phlebotomy* services;
3. Maintain on-site, licensed providers who can (a) obtain and read an electrocardiogram (EKG) and an X-ray; (b) administer per os (orally), intramuscular (IM), and intravenous (IV) medication/fluids; and (c) perform minor procedures;
4. Maintain on site the following equipment: (a) automated external defibrillator (AED), (b) oxygen, (c) drug cart, and (d) a working phone;
5. Contain two or more examine rooms;
6. Maintain a separate waiting area and patient-specific restrooms;
7. Be open seven days a week, for more than four hours a day, for a total of 3,000 hours per year;

Retail Clinics

Those facilities owned by, and operated within, retail grocery stores or department stores offering walk-in services for basic treatment and care.

8. Maintain a medical director who is a licensed physician; and
9. Perform both administrative and medical activities in an ethical manner.[221]

In addition to *certification*, *urgent care centers* may also seek facility *accreditation* through the *Urgent Care Center Accreditation* (UCCA) *Program* operated through the *American Academy of Urgent Care Medicine* (AAUCM).[222] Accreditation is awarded to those facilities that are found to be in compliance with AAUCM standards, including, but not limited to:

1. Having been in operation for at least six months;
2. Having a supervisory physician who is responsible for the care provided at the practice;
3. Compliance with all federal, state, and local regulations; and
4. Submitting an accreditation survey every three years that is completed through *documentation*, *on-site observations*, and/or *interviews*.[223]

URGENT CARE ASSOCIATION OF AMERICA (UCAOA) CERTIFICATIONS

Category 1 includes licensed physicians who are on site during the clinic's hours of operation. Category 2 includes licensed providers, that is, physicians and midlevel providers (NPs and Pas) who are on site during the clinic's hours of operation.

"Certified Urgent Care Criteria," Urgent Care Association of America" http://www.ucaoa.org/recognition_certification_criteria.php#eligibility (accessed October 19, 2012).

[221] Urgent Care Association of America, "Certified Urgent Care Criteria," http://www.ucaoa.org/recognition_certification_criteria.php#eligibility (accessed October 19, 2012).

[222] American Academy of Urgent Care Medicine, "Center Accreditation," 2012, http://aaucm.org/Professionals/Accreditation/default.aspx (accessed October 19, 2012).

[223] American Academy of Urgent Care Medicine, "Accreditation Handbook of Urgent Care Centers," http://aaucm.org/Resources/370/FileRepository/Accreditation%20Handbook%20of%20Urgent%20Care%20Centers.pdf (accessed October 19, 2012).

Note that while many *retail clinics* are unlikely to meet the necessary criteria to become a *certified urgent care center*, most states require retail clinics to become *licensed* with the state in order to operate.[224]

Urgent care centers have been part of the U.S. healthcare delivery system for more than 30 years, with their recent growth occurring during the 1990s.[225] As of 2011, there were over 8,700 urgent care clinics in the United States.[226] The first *retail clinic* opened in 2001. Since that time, the rate at which additional retail clinics are established has been inconsistent. For example, only 29 additional retail clinics were opened between 2001 and 2005; however, between 2006 and 2008 the industry experienced a rapid "*10-fold*" increase. This rapid increase was reversed in 2009 with the closing of approximately 5 percent of *retail clinics*.[227] As of 2011, reports indicate that approximately 1,227 retail clinics were in operation, a slight increase from the 1,197 reported as of February 2010.[228] Approximately 100 separate operators managed the 1,227 clinics in operation across 42 states.[229] Significantly, while only 11 percent of retail clinics were operated by health care organizations in 2008, this percentage increased to 60 percent (approximately 120 clinics) by 2009. However, despite this initial entrance of hospital- and physician-operated clinics, the overwhelming majority of

Factoid

Urgent care clinics grew significantly during the 1990s, and as of 2011, there were more than 8,700 urgent care clinics in the United States.

"The Case for Urgent Care," Urgent Care Association of America, September 1, 2011, http://www.ucaoa.org/docs/WhitePaperTheCaseforUrgentCare.pdf; "About Urgent Care," Urgent Care Association of America, September 15, 2011, http://www.ucaoa.org/home_abouturgentcare.php (accessed October 18, 2012).

[224]Urgent Care Association of America, "Certified Urgent Care Criteria," http://www.ucaoa.org/recognition_certification_criteria.php#eligibility (accessed October 19, 2012).

[225]Urgent Care Association of America, "The Case for Urgent Care," September 1, 2011, http://www.ucaoa.org/docs/WhitePaperTheCaseforUrgentCare.pdf.

[226]Urgent Care Association of America, "About Urgent Care," September 15, 2011, http://www.ucaoa.org/home_abouturgentcare.php (accessed October 18, 2012).

[227]Christopher M. Burkle, "The Advance of the Retail Clinic Market: The Liability Risk Physicians May Potentially Face When Supervising or Collaborating with Other Professionals," *Mayo Clinic Proceedings* 86, no.11 (November 2011): 1086.

[228]Ibid.

[229]Ibid.

retail clinics in operation as of 2011 were run by retailers who owned the building in which the clinic was located.[230]

It should be noted that not only have the number of retail clinics in operation increased significantly during the last decade, so, too, have the number of *patient visits* to retail clinics. As reported in an August 2012 *Health Affairs* article, there were approximately 1.48, 3.52, and 5.97 million *patient visits* to retail clinic visits in 2007, 2008, and 2009, respectively, representing an average annual increase of 102 percent.[231] The future viability of the retail clinic market going forward will likely result from the degree of autonomy afforded to nonphysician (midlevel) providers vis-à-vis their scope of practice in treating patients *in lieu of physicians*, as many "*profitable*" retail clinics are dependent on these lower-cost providers for the delivery of care.[232] In addition, continued growth in the retail clinic marketplace will likely depend on (1) whether retail clinics can continue to "dispel" concerns over the quality of care delivered at these facilities, and (2) whether retail clinics are able to continue to provide patients with convenient and cost-effective access to healthcare services, particularly among *newly insured* individuals who may seek to obtain primary care services in a "*traditional*" office-based setting once they are no longer paying for primary care services *out of pocket*.[233]

12.3.1.9 Wound Treatment Centers The prevalence of *chronic wounds* in the United States is estimated to afflict approximately 2 percent of the U.S. population.[234] Chronic wounds are defined as those that are "resistant to therapy, provide an additional risk of mortality and morbidity to the patient, as well as diminish the patient's quality of life."[235] These wounds encompass

[230] Ibid., p. 1087.

[231] Attev Mehotra and Judith R. Lave, "Visit to Retail Clinics Grew Fourfold from 2007 to 2009, Although Their Share of Overall Outpatient Visits Remains Low," *Health Affairs* 31, no. 9 (2012): 2124, http://content.healthaffairs.org/content/early/2012/08/14/hlthaff.2011.1128.full.html (accessed March 20, 2013).

[232] Christopher M. Burkle, "The Advance of the Retail Clinic Market: The Liability Risk Physicians May Potentially Face When Supervising or Collaborating with Other Professionals," *Mayo Clinic Proceedings* 86, no.11 (November 2011): 1086–1087.

[233] Attev Mehotra and Judith R. Lave, "Visit to Retail Clinics Grew Fourfold from 2007 to 2009, Although Their Share of Overall Outpatient Visits Remains Low," *Health Affairs* 31, no. 9 (2012): 2127, http://content.healthaffairs.org/content/early/2012/08/14/hlthaff.2011.1128.full.html (accessed March 20, 2013).

[234] Sen K. Chandan, et al., "Human Skin Wounds: A Major and Snowballing Threat to Public Health and the Economy," *PMC* 16, no. 6 (November 2009): 673.

[235] Holstein P. Gottrup, et al., "A New Concept of a Multidisciplinary Wound Healing Center and a National Expert of Wound Healing," *Arch. Surgery* 136 (2001): 765.

Factoid

The prevalence of chronic wounds in the United States is estimated to afflict approximately 2 percent of the U.S. population.

"Human Skin Wounds: A Major and Snowballing Threat to Public Health and the Economy," by Sen K. Chandan, et al., PMC *16, no. 6 (November 2009): 673.*

a wide range of etiologies, from diabetes to trauma and, as such, require a different set of skills or expertise than caring for other types of injuries or ailments.[236] Because a *chronic wound* is generally a visible exhibition of an *underlying condition*, *chronic wounds* may be classified by their unique characteristics or *source of* origin, which include (1) *pressure*, (2) *venous*, (3) *arterial*, (4) *diabetic*, (5) *nonhealing surgical*, (6) *cancer-related*, (7) *inflammatory*, and, (8) *mixed etiologies*.[237] Patients who are most likely to need wound care treatment are those with diabetes (reported to affect 8.3 percent of the U.S. population as of 2011), who are 15 to 25 percent more likely to develop foot ulcers initially and whose wounds have a 50 percent chance of reoccurrence within five years.[238]

Wound Treatment Centers

Facilities that treat chronic wounds; may be freestanding or affiliated with a hospital or a health system.

"Wound Healing Center Receives Top Accreditation Rating," MetroHealth, *July, 25, 2008, http://metrohealth.net/blog/2008/07/25/wound-healing-center-receives-top-accreditation-rating/ (accessed November 26, 2012).*

---

[236] Alina D. Sholar, et al., "The Specialized Wound Care Center: A 7-Year Experience at a Terriary Care Hospital," in *Annals of Plastic Surgery* 58, no. 3 (March 2007): 279; Christopher E. Attinger, et al., "How to Make a Hospital-Based Wound Center Financially Viable: The Georgetown University Hospital Model," *Journal of Gynecologic Oncology* 111 (2008): 92.

[237] "The Case for Specialized Wound Care," Diversified Clinical Services, Inc., 2011, http://www.diversifiedcs.com/clinician/whitepapers.html (accessed November 27, 2012).

[238] "National Diabetes Statistics, 2011," Centers for Disease Control and Prevention, National Institute of Diabetes and Digestive and Kidney Diseases, February 2011, http://diabetes.niddk.nih.gov/dm/pubs/statistics/#fast (accessed December 5, 2012); "The Case for Specialized Wound Care," Diversified Clinical Services, Inc., 2011, http://www.diversifiedcs.com/clinician/whitepapers.html (accessed November 27, 2012).

Factoid

There are approximately 900 wound and hyperbaric centers in the United States, including both hospital-based and freestanding centers.

"Wound Healing Center Receives Top Accreditation Rating," MetroHealth, *July, 25, 2008, http://metrohealth.net/blog/2008/07/25/wound-healing-center-receives-top-accreditation-rating/ (accessed November 26, 2012).*

While many *wound treatment centers* are affiliated with a hospital or a health system, some also operate as freestanding facilities. As of 2008, there were approximately 900 *wound* and *hyperbaric* centers in the United States, including both hospital-based and freestanding facilities.[239] Recently, there has been an increasing trend toward the development of a multidisciplinary approach to wound care treatment, which allows each provider to contribute his or her individual expertise to the development of a comprehensive treatment plan.[240] Table 12.47 illustrates the scope of services that may be provided at wound care centers.

Typically, wound care services are performed by physicians who are board certified and have received specialized education and training in wound management, as well as podiatrists, nurses, and other nonphysician providers and staff.[241] In addition to provider certification, wound treatment centers may seek accreditation through the *Joint Commissions Disease Specific Care Certification Program*, and centers offering more advanced wound treatment, for example, *hyperbolic oxygen therapy*, may also pursue voluntary accreditation from the *Undersea and Hyperbaric Medical Society.*[242] While the outpatient setting at which most wound treatment centers operate

[239] "Wound Healing Center Receives Top Accreditation Rating," *MetroHealth*, July 25, 2008, http://metrohealth.net/blog/2008/07/25/wound-healing-center-receives-top-accreditation-rating/ (accessed November 26, 2012).

[240] Paul J. Kim, et al., "Critical Elements to Building an Effective Wound Care Center," *Journal of Vascular Surgery* (Spring 2013): 1, 3.

[241] Michael E. Fusaro, "Principles to Initiate and Maintain a Successful Wound Care Center," American Professional Wound Care Association, June 28, 2008, p. 7.

[242] The Joint Commission, "Facts about Disease-Specific Care Certification," July 2012, http://www.jointcommission.org/assets/1/18/Facts_about_Disease_Specific_Care_Certification.pdf (accessed November 27, 2012); "Wound Healing Center Receives Top Accreditation Rating," *MetroHealth*, July, 25, 2008, http://metrohealth.net/blog/2008/07/25/wound-healing-center-receives-top-accreditation-rating/ (accessed November 26, 2012).

TABLE 12.47 Scope of Typical Services Provided at Wound Care Centers

Typical Services	Ancillary Services
Diagnostic Imaging	Diagnostic procedures
Microbiology	Debridement
Pathology	Cleansing
Vascular lab	Dressing changes
Hematology/chemistry laboratory	Hyperbaric oxygen therapy
Surgical suites	Compression therapy
Physical therapy	Orthotics
Emergency service	Nutritional counseling
Diabetes management	Infection control
Nutrition counseling	Coordination of transportation
Orthotics/prosthetics and pedorthics	Coordination of home health
Home health	Coordination of extended care services
Social services	
Mental health counseling	

"Principles to Initiate and Maintain a Successful Wound Care Center," by Michael E. Fusaro, American Professional Wound Care Association, June 28, 2008, pp. 3–4.

is typically associated with a *lesser risk* of *healthcare-acquired infections*, all wound care centers are required to have in place *infection prevention and control programs*.

12.3.1.10 Pain Management Centers Approximately 100 million individuals in the United States were afflicted by *chronic pain* in 2011.[243] Just as pain may be classified by type, that is, *acute* or *chronic*, so may the types of pain treatments: (1) *surgical/anesthesiological*, (2) *pharmacological*, (3) *physical rehabilitative*, (4) *psychological*, and (5) *alternative/complementary.*[244] *Pain management centers* may typically be classified as either (1) *multidisciplinary oriented* or (2) *modality oriented*. *Multidisciplinary*

[243] Board on Health Sciences Policy, "Relieving Pain in America: A Blueprint for Transforming Prevention, Care, Education, and Research," 2011, p. 1.

[244] International Association for the Study of Pain, "Physical Rehabilitation in Managing Pain" *Pain* V, no. 3 (November 1997).

Factoid

Approximately 100 million individuals in the United States suffered from chronic pain in 2011.

"Relieving Pain in America: A Blueprint for Transforming Prevention, Care, Education, and Research," Board on Health Sciences Policy, 2011, p. 1.

pain centers focus on the *diagnosis* and *management* of *chronic pain,* often through the use of a *team* of physicians, psychologists, nurses, and physical and occupational therapists, while *modality-oriented pain centers* offer only specific treatment options, for example, *nerve block clinics*, *transcutaneous nerve stimulation clinics*, *acupuncture clinics*, and *biofeedback clinics*.[245] Both types of pain centers typically focus on developing a treatment plan that is aimed at *controlling* the pain in a manner that allows patients to resume their typical schedule, for example, *returning to work, resuming home responsibilities, participating in recreational activities*.[246] However, certain studies have indicated that *multidisciplinary pain management centers* may be associated with better outcomes for patients suffering from chronic pain.[247]

Pain Management Center

A center offering services that focus on the diagnosis and management of chronic pain generally through the use of a multidisciplinary approach. Multidisciplinary pain centers typically include physicians, psychologists, nurses, and physical and occupational therapists.

"Finding the Right Care for Chronic Pain; The Team Approach to Pain Management Enables Chronic Pain Sufferers to Resume Work and Reduces Their Use of Health Care Services," Business & Health *14, no. 11A (Fall 1996).*

[245] John D. Loeser, et al., "Desirable Characteristics for Pain Treatment Facilities," International Association for the Study of Pain, Task Force, http://www.iasp-pain.org/AM/Template.cfm?Section=Home&Template=/CM/HTMLDisplay.cfm&ContentID=3011 (accessed December 12, 2012).

[246] Institute for Clinical Systems Improvement, "*Health Care Guideline: Assessment and Management of Chronic Pain*," 5th ed. (November 2011), https://www.icsi.org/_asset/bw798b/ChronicPain.pdf (Accessed September 25, 2013), pp. 22, 25, 26.

[247] Timothy S. Clark, "Interdisciplinary Treatment for Chronic Pain: Is It Worth the Money?" *Baylor University Medical Center Proceedings* 13, no. 34 (July 2000): 243.

12.3.1.11 Laboratories Medical laboratories are facilities that provide an *isolated setting* in which samples of tissues, fluids, and other bodily substances can be tested and/or stored. Medical laboratories may be located within an inpatient or outpatient facility or may operate as a freestanding facility.[248] See Table 12.48 for a distribution of the 232,996 medical laboratories (approximate) registered with CMS through the *Division of Laboratory Services* as of 2012.[249]

Medical laboratories may generally be classified as (1) *clinical laboratories* and (2) *reference laboratories*, independent of the laboratory's location. *Clinical laboratory services* involve the *collection* and *examination* of bodily materials for the purpose of *diagnosing, preventing, treating, or assessing* an illness or a condition.[250] In contrast, *reference laboratories* may be categorized as either (1) a *biobank* or *biorepository* or (2) an *independent laboratory.* A *biobank* or *biorepository* serves as a "*warehouse*" that *collects*, *catalogs*, and *stores* samples of bodily substances and reference materials, which may then be used to identify unknown samples in furtherance of scientific research and development.[251] As of 2012, there were more than 300 million specimens stored in *biobanks* or *biorepositories* throughout the United States.[252] In contrast to a *biobank* or *biorepository*, an *independent laboratory* typically receives samples from a hospital or a physician practice for *diagnostic* or *pathologic* testing.[253] The distinction between *clinical laboratories* and *independent laboratories* is that *independent laboratories* do *not* collect specimens from patients directly but rather, receive specimens from other labs or healthcare providers.[254]

---

[248] Centers for Medicare and Medicaid Services, "Chapter 16: "Laboratory Services," in *Medicare Claims Processing Manual*, June 8, 2012.

[249] Centers for Medicare and Medicaid Services, "CLIA Update—July 2012," July 2012, http://www.cms.gov/Regulations-and-Guidance/Legislation/CLIA/Downloads/statupda.pdf (accessed November 16, 2012).

[250] Centers for Medicare and Medicaid Services, "Chapter 15: Covered Medical and Other Health Services," in *Medicare Claims Processing Manual,* June 8, 2012.

[251] National Cancer Institute, "Biorepository," in *Dictionary of Cancer Terms*, National Institutes of Health, http://www.cancer.gov/dictionary?cdrid=561323 (accessed December 7, 2012).

[252] Karen J. Maschke, "Biobanks: DNA and Research," in *From Birth to Death and Bench to Clinic: The Hastings Center Bioethics Briefing Book for Journalists, Policymakers, and Campaigns*, ed. Mary Crowley (Garrison, NY: The Hastings Center, 2008), pp. 11–14.

[253] American Association for Clinical Chemistry, "Where Lab Tests are Performed," October 1, 2012, http://labtestsonline.org/lab/labtypes/ (accessed December 7, 2012).

[254] Centers for Medicare and Medicaid Services, "Chapter 16: "Laboratory Services," in *Medicare Claims Processing Manual*, June, 8, 2012, p. 6.

TABLE 12.48 Distribution of CMS-Registered Medical Laboratories by Facility Location

Type of Laboratory	Number	Percentage
Physician Office	116,634	50.06%
Other	20,300	8.71%
Skilled Nursing/Nursing Facility	14,885	6.39%
Home Health Agency	14,280	6.13%
Hospital	8,807	3.78%
Pharmacy	7,673	3.29%
Community Clinic	6,384	2.74%
Independent	5,604	2.40%
Ambulatory Surgery Center	5,306	2.28%
End Stage Renal Disease Dialysis	5,305	2.28%
Ambulance	3,793	1.63%
Other Practitioner	3,478	1.49%
Ancillary Test Site	3,001	1.29%
Hospice	2,721	1.17%
School/Student Health Service	2,058	0.88%
Assisted Living Facility	1,910	0.82%
Industrial	1,777	0.76%
Rural Health Clinic	1,656	0.71%
Mobile Laboratory	1,506	0.65%
Federally Qualified Health Center	1,391	0.60%
Intermediate Care Facility for Mentally Retarded	1,269	0.54%
Health Maintenance Organization	661	0.28%
Health Fair	660	0.28%
Public Health Laboratory	651	0.28%
Blood Banks	463	0.20%
Comprehensive Outpatient Rehab	376	0.16%
Prison	331	0.14%
Tissue Bank/Repositories	60	0.03%
Insurance	56	0.02%

"Laboratories by Type of Facility," Centers for Medicare and Medicaid Services, July 2012, http://www.cms.gov/Regulations-and-Guidance/Legislation/CLIA/Downloads/factype.pdf (accessed November 16, 2012).

Laboratories

Facilities that provide an isolated setting in which samples of tissues, fluids, and other bodily substances can be tested and/or stored; may be located within an inpatient or outpatient facility or may operate as a freestanding facility.

"Chapter 16: Laboratory Services," in Medicare Claims Processing Manual, *Centers for Medicare and Medicaid Services, June 8, 2012.*

Medical Laboratory

A facility that offers isolated conditions for which samples of tissues, fluids, and other bodily substances can be tested or housed.

"Chapter 16: Laboratory Services," in Medicare Claims Processing Manual, *Centers for Medicare and Medicaid Services, June 8, 2012.*

All laboratories that handle human specimens for purposes of *assessment*, *diagnosis*, *prevention*, or *treatment* must operate in accordance with *Clinical Laboratory Improvement Amendments* (CLIA) standards and are monitored by CMS and applicable state agencies.[255] In addition, certified laboratories that meet the requisite standards may receive accreditation. The distribution of *accredited* medical laboratories in the United States as of July 2012, by accrediting organization, is set forth in Table 12.49.

Biobank/Biorepository

A "warehouse" that collects, catalogs, and stores samples of bodily substances and reference materials, which may then be used to identify unknown samples in furtherance of scientific research and development.

"Biorepository," in Dictionary of Cancer Terms, *National Cancer Institute, National Institutes of Health, http://www.cancer.gov/dictionary?cdrid=561323 (accessed December 7, 2012).*

[255] "Laboratory Requirements," 42 CFR Part 493 (October 1, 2011a). See Section 3.6.1, "Clinical Laboratory Improvement Amendments," in Chapter 3, "Regulatory Environment," for further discussion.

TABLE 12.49 Distribution of Accredited Medical Laboratories by Accrediting Organization, as of 2012

Accrediting Organizations	Number	Percentage*
COLA**	6,463	41.28%
College of American Pathologists	5,728	36.58%
The Joint Commission	2,380	15.20%
American Osteopathic Association	128	0.82%
American Association of Blood Banks	218	1.39%
American Society for Histocompatibility and Immunogenetics	122	0.78%

Note that the data in this table represents labs whose membership with the accreditation organization has been confirmed and that some labs are accredited by more than one organization. http://www.cms.gov/Regulations-and-Guidance/Legislation/CLIA/Downloads/factype.pdf (accessed November 16, 2012).
*Facilities may be accredited by more than one organization.
**Commission on Office Laboratory Accreditation (COLA) is an independent nonprofit accreditor.

Clinical Laboratory

Services provided at these sites involve the collection and examination of bodily materials for the purposes of diagnosing, preventing, treating, and assessing an illness or a condition.

"Chapter 15: Covered Medical and Other Health Services," in Medicare Claims Processing Manual, *Centers for Medicare and Medicaid Services, June 8, 2012.*

Independent Laboratory

Receives samples from a hospital or a physician practice for diagnostic or pathologic testing; does not collect specimens from patients directly.

"Where Lab Tests Are Performed," American Association for Clinical Chemistry, October 1, 2012, http://labtestsonline.org/lab/labtypes/ (accessed December 7, 2012); "Chapter 16: "Laboratory Services," in Medicare Claims Processing Manual, *Centers for Medicare and Medicaid Services, June 8, 2012, p. 6.*

12.3.2 Current and Future Trends: Regulatory, Reimbursement, Competition, Technology

12.3.2.1 Regulatory Freestanding outpatient enterprises must meet the applicable federal and state *licensing, certifications, and accreditation requirements* prior to providing services at a facility, which is similar to that of inpatient enterprises. In addition, those outpatient enterprises that receive

federal funding from Medicare or Medicaid must also adhere to the federal and state fraud and abuse laws, such as *Anti-Kickback Statutes*, the *Stark Law*, and the *False Claims Act*.[256]

Recent regulatory reforms under the ACA, which may significantly affect freestanding outpatient enterprises, include the requirement that providers making self-referrals for imaging services disclose their ownership interest in any *imaging equipment* to patients and inform them of alternate providers for such services.[257]

12.3.2.2 Reimbursement Reimbursement to *outpatient enterprises* is generally made under either the Medicare Physician Fee Schedule (MPFS) or the Hospital Outpatient Prospective Payment System (OPPS). In addition, certain outpatient facilities, such as clinical laboratories, may also use a *facility-specific* Prospective Payment System (PPS), which sets payment at the lesser of (1) *the amount billed*, (2) the *local OPPS fee for a geographic area*, or (3) the *CMS established national limit*, that is, a percentage of the median of all local fee schedule amounts for each laboratory test code.[258]

As with *physician professional practices*, *freestanding outpatient enterprises*, for example, *ASCs, freestanding diagnostic imaging centers, and dialysis facilities*, have continued to face cuts to reimbursement during the last several years. For example, the *Deficit Reduction Act*, signed into law on February 8, 2006, capped the *technical component* (including the *technical component* of the *global fee*) for certain *imaging services* provided in *physician offices* and *freestanding diagnostic facilities* at the same amount as the *outpatient department fee* paid to a hospital for the same service.[259] The ACA continued these reimbursement cuts for imaging services, reducing payments by 50 percent for the *technical component* of *subsequent imaging services* performed on

---

[256] See Chapter 3, "Regulatory Environment," for further discussion of the rules and regulations that impact the healthcare industry.

[257] "The Impact of healthcare Reform on ASCs," SurgiStrategies, http://www.surgistrategies.com/news/2012/06/the-impact-of-healthcare-reform-on-ascs.aspx (accessed December 9, 2012).

[258] Centers for Medicare and Medicaid Services, "Chapter 16: "Laboratory Services," in *Medicare Claims Processing Manual*, June 8, 2012. For an in-depth discussion of the specific reimbursement methodologies related to the MPFS and OPPS, see Section 2.4.1.3.1.2, "Hospital Outpatient Reimbursement," in Chapter 2, "Reimbursement Environment."

[259] Prior to the DRA, the MPFS reimbursed for certain imaging services provided in an outpatient setting at a higher rate than those same imaging services provided in a hospital setting. Lesley A. Herrmann, et al., "Medicare Provisions in the Deficit Reduction Act of 2005," *Health Law Bulletin* (February 2006); Sharron Swann, "New Payment Limits for Medicare Part B Providers for Imaging, ASC, and Therapy Services Under the Deficit Reduction Act of 2005," Brown McCarroll, LLP, February 21, 2006.

consecutive body parts.[260] The ACA implemented a phased-in revision of the 50 percent *utilization assumption rate* for services using *advanced diagnostic imaging equipment*, that is, 65 percent for services furnished after January 1, 2010, 70 percent for services furnished after January 1, 2013, and 75 percent for services furnished after January 1, 2014.[261]

At the same time, many *freestanding outpatient enterprises* that are participating, or plan to participate, in pilot projects or demonstration programs related to *value based purchasing* (VBP) and *bundled payments* based on a single *episode of care* are facing decreasing reimbursement rates.[262] Many of these programs were initiated by the ACA in an effort to control the increasing percentage of U.S. GDP attributed to healthcare expenditures, which is anticipated to reach 24 percent by 2037.[263]

Note that the ACA requires a *VBP program* be implemented for ASCs by January 2011 in an effort to emphasize *quality performance* in ASCs through *financial incentives* for *achieving certain quality metrics*. While CMS missed this initial deadline, a limited implementation plan report was submitted to Congress in April 2011. However, to date, HHS lacks the statutory authority to establish the program. In the March 2012 *Report to Congress*, MedPAC suggested that Congress direct HHS to implement a *VBP program* no later than 2016 that would provide financial incentives to high-performing ASCs and penalize low-performing ASCs, using the recently established *Quality Reporting Program for ASCs*, which has required ASCs to submit quality data to CMS since 2012.[264]

Factoid

The percentage of the U.S. GDP attributed to healthcare expenditures is anticipated to reach 24 percent by 2037.

"The 2012 Long-Term Budget Outlook," Congressional Budget Office, Pub. No. 4507, June 2012, p. 3.

[260] "Patient Protection and Affordable Care Act," *Pub. L.* 111-148, 124 Stat 437 (March 23, 2010).

[261] Ibid.

[262] See Section 2.7.1, "Shift from Fee-for-Service," in Chapter 2, "Reimbursement Environment," for further discussion.

[263] Congressional Budget Office, "The 2012 Long-Term Budget Outlook," Pub. No. 4507, June 2012, p. 3.

[264] Medicare Payment Advisory Commission, "Ambulatory Surgical Centers Services," in *Report to Congress: Medicare Payment Policy*, March 2012, p. 129.

Similarly, the *Medicare Improvements for Patients and Providers Act of 2008* (MIPPA) outlined the requirements for the four-year phased-in implementation of a *bundled Prospective Payment Syste*m (PPS) for ESRD outpatient maintenance dialysis services provided on or after January 1, 2011.[265] The ESRD PPS uses "a single payment to ESRD facilities, i.e., hospital-based providers of services and renal dialysis facilities, that will cover all the resources used in providing an outpatient dialysis treatment, including supplies and equipment used to administer dialysis in the ESRD facility or at a patient's home, drugs, biologicals, laboratory tests, training, and support services."[266] Under the phase-in schedule set forth in the ESRD PPS *Final Rule*, published August 12, 2010, providers will receive a 100 percent bundled payment beginning in 2014.[267] The ACA also implements a *quality incentive payment program* for dialysis facilities. Measures of quality include *anemia management*, *dialysis adequacy*, *patient satisfaction*, *bone mineral metabolism*, and *vascular access*. Implemented in 2012, facilities that do not achieve or make progress toward these and other specified quality measures receive a 2 percent *reduction* in their *bundled payment rate*.[268]

12.3.2.3 Competition *Freestanding outpatient enterprises,* for example, *outpatient cancer treatment centers, diagnostic imaging centers, ASCs and dialysis centers*, typically compete with *hospital outpatient departments* over the *technical component revenues* from procedures and diagnostic testing provided in these facilities. In addition, ASCs and diagnostic imaging centers may also face competition from *physician practices* that perform *office-based surgeries* and other *technical component revenue-producing services*, such as *medical imaging* and *cardiac catheterization services*, on site at the practice. Competition among these providers is likely to further grow as

---

[265] "Medicare Improvements for Patients and Providers Act of 2008," *Pub. L.* 110–275 (July 15, 2008), 122 Stat. 2553; Centers for Medicare and Medicaid Services, "End-Stage Renal Disease Prospective Payment System," January 2012.

[266] "End Stage Renal Disease (ESRD) Prospective Payment System (PPS) and Consolidated Billing for Limited Part B Services," *CMS Manual System*, *Pub. L.* 100-04 Medicare Claims Processing, January 14, 2011, http://www.cms.gov/Regulations-and-Guidance/Guidance/Transmittals/downloads/R2134CP.pdf (accessed September 25, 2012), p. 1.

[267] Centers for Medicare and Medicaid Services, "Medicare Program; End-Stage Renal Disease Prospective Payment System; Final Rule and Proposed Rule," *Federal Register* 75, no. 155 (August 12, 2010): 49201.

[268] Medicare Payment Advisory Commission, "Outpatient Dialysis Services Payment System," September 2012, http://www.medpac.gov/documents/MedPAC_Payment_Basics_12_dialysis.pdf, p. 3.

Cancer Treatment Centers

A facility that provides treatment for the chronic condition and focuses on disease management; often provides chemotherapy and radiation therapy.

"Cancer Care in America," by Regina Herzlinger, Boston Healthcare Associates, March 2002, p. 5.

(1) reimbursement for these services becomes increasingly based on *quality* versus *quantity*, and (2) the market for these providers evolves, due to increased *integration* and *affiliation* among hospitals, physician practices, and other outpatient providers who become affiliated with an ACO.[269]

Some general, short-term, acute care hospitals may have competitive advantages over ASCs, including their *established managed care contracts*, *community position*, *physician loyalty*, and *geographical convenience* for physician inpatient and outpatient practices. However, ASCs compete favorably with general, short-term, acute care hospitals on the basis of *cost*, *quality*, *efficiency*, and *responsiveness* to physician needs in a more comfortable environment for the patient.

ASCs have been able to compete better than community hospitals for more profitable patients by (1) concentrating only on *specific diagnosis-related groups* (DRG); (2) *treating far fewer Medicaid patients*, who may cost more to treat and generate significantly lower reimbursement yield; and (3) *opting out of emergency room departments* and services.[270]

12.3.2.4 Technology Continuous advancements in technology, particularly those related to *minimally invasive surgery* and *diagnostic imaging*, have allowed procedures that have been traditionally performed in an *inpatient setting* to be performed in an *outpatient* setting, such as ASCs.[271] *Minimally invasive surgery procedures* typically decrease the risks traditionally associated with surgery through the use of several small incisions to guide fiberoptic cameras to the area(s) of interest.[272] In addition, developments in

[269] See Chapter 4, "Competition," for further discussion of this topic.

[270] Stuart H. Altman, David Shactman, and Efrat Eilat, "Could U.S. Hospitals Go the Way of U.S. Airlines?" *Health Affairs* 25, no. 1 (January/February 2006): 19.

[271] National Center for Health Statistics, "Health, United States, 2006," U.S. Department of Health and Human Services, Hyattsville (2006), p. 4.

[272] Mayo Clinic, "Minimally Invasive Surgery," 2009, http://www.mayoclinic.org/minimally-invasive-surgery/ (accessed April 6, 2009).

the various imaging modalities have allowed for testing to provide certain advantages for a given patient condition or specialty that the other procedures lack. For example, in cardiology, *single-photon emission computed tomography* (SPECT) is the most *widely available procedure* and is the most *extensively validated*, while *PET* is associated with the highest levels of *diagnostic performance*, and MRI offers a nonradiation alternative that maintains similar *levels of accuracy.*[273] CT appears to *expedite* and *improve* initial triage of patients on an *outpatient basis*, allowing patients to either return home or be admitted to an inpatient facility for evaluation.[274]

Much like *diagnostic imaging* technology, *radiation therapies* have been developed, adapted, and improved during the last several decades.[275] In addition to executing treatment plans developed based on *diagnostic imaging* scans, *image guided radiotherapy* (IGRT) is implemented by one-third of all radiation oncology sites, with ultrasound, X-ray, and CT imaging technologies being used most frequently.[276] One type of *intensity-modulated radiation therapy* (IMRT) treatment used custom-tailored 3D CT images alongside computer generated dose calculations and is thought by many to most effectively treat the unique three-dimensional shape of a tumor, thereby allowing for increased precision in the administration of high-dose radiation, while preserving the surrounding tissue.[277]

12.3.3 Value Drivers: Freestanding Outpatient Enterprises

While the *value drivers* identified for healthcare freestanding outpatient enterprises are similar to those of other healthcare outpatient enterprises,

---

[273] Caroline Jaarsma, et al., "Diagnostic Performance of Noninvasive Myocardial Perfusion Imaging Using Single-Photon Emission Computed Tomography, Cardiac Magnetic Resonance, and Positron Emission Tomography Imaging for the Detection of Obstructive Coronary Artery Disease: A Meta-Analysis," *Journal of the American College of Cardiology* 59, no. 19 (May 8, 2012): 1727.

[274] James Brice, "CT Shines as Cardiac Triage Tool in the ER," Diagnosticimaging.com, November 2005, http://www.diagnosticimaging.com/showArticle.jhtml?articleID=174402997 (accessed July 14, 2006).

[275] Radiological Society of North America, "Introduction to Cancer Therapy (Radiation Oncology)," RadiologyInfo, June 10, 2009, http://www.radiologyinfo.org/en/info.cfm?pg=intro_onco (accessed June 26, 2009).

[276] Daniel R. Simpson, et al., "A Survey of Image-Guided Radiation Therapy Use in the United States," *Cancer* 116, no. 16 (August 15, 2010): 1.

[277] Radiological Society of North America, "Intensity-Modulated Radiation Therapy (IMRT)," RadiologyInfo, June 10, 2009, http://www.radiologyinfo.org/en/info.cfm?PG=imrt (accessed June 26, 2009).

for example, *scope of services, capacity, and revenue stream*, there are several specific dynamics related to these freestanding outpatient enterprises that should be taken into consideration during the appraisal process.

12.3.3.1 Scope of Services The *scope of services* provided by a particular freestanding outpatient enterprise is a key element affecting the overall indication of *value* attributed to that enterprise. For example, multi specialty ASCs that have a *higher percentage of orthopedic cases*, which are reimbursed at *more lucrative rates* than gastroenterology cases, will generate *larger amounts* of *revenue per case*, typically leading to *higher net economic benefit* and an increased *value* of the subject enterprise. In addition, the *diversification of services offered* may lower the *actual* and/or *perceived* risk of investment in a particular freestanding outpatient enterprise, in contrast to the industry of freestanding outpatient enterprises.

Advancements and *trends in technology* also affect the *scope of services* offered at certain freestanding outpatient enterprises. For example, diagnostic imaging enterprises have expanded the scope of services offered through (1) mobile health services, (2) the use of *picture archiving and communication system* (PACS), and (3) advancements in noninvasive imaging techniques. As advancements in technology allow for *better* and *earlier detection* of various diseases, the *scope of services*, in regard to *prevention* and *screening*, may provide higher quality and more efficient means of delivery for other types of healthcare provider entities that may outsource certain procedures to freestanding outpatient enterprises, for example, a *cardiology practice* that contracts with a freestanding outpatient diagnostic imaging facility to provide technical component testing services in the form of nuclear imaging studies may be able to provide higher quality services to its patients in contrast to cardiology practices that do not provide nuclear imaging studies.[278] See Table 12.50 for a description of typical services provided at various freestanding outpatient enterprises.

In addition to the *added revenue opportunities* created by *expanding the scope of services*, a freestanding outpatient enterprise may be able to create value through *economies of scale*. As more revenue is produced by the additional services rendered, only the variable portion of each expense would increase, while the fixed portion remains constant, thereby increasing the incremental benefit generated by each additional service. Note that this incremental benefit would only increase up to the point of *capacity*, where additional capital costs would reduce the benefit generated by the additional services.

[278] James S. Ware, et al., "Next Generation Sequencing for Clinical Diagnostics and Personalized Medicine: Implications for the Next Generation Cardiologist," *Heart* 98, no. 4 (2012): 276.

TABLE 12.50 Freestanding Outpatient Enterprises: Common Services Offered

Freestanding Outpatient Center	Potential Services
Ambulatory Surgery Centers (ASCs)	Orthopedics (including Spine)
Pain Management	
Gastroenterology/Endoscopy	
Ophthalmology	
ENT	
Neurosurgery	
General Surgery (including Bariatrics)	
Urology	
Gynecology	
Podiatry	
Plastic Surgery	
Diagnostic Imaging Centers	Radiography (X-Ray)
Magnetic Resonance Imaging (MRI)	
Computed Tomography (CT)	
Ultrasound	
Nuclear Medicine	
Fluoroscopy	
Dual-Emission X-ray Adsorptiometry (DXA)	
Positron Emission Tomography (PET)	
Cancer Treatment Centers	3D Conformal Therapy
Intensity Modulated Radiation Therapy (IMRT)	
Image Guided Radiation Therapy (IGRT)	
Stereotactic Radiosurgery	
Electron Beam Therapy	
Brachytherapy	
Medical Oncology and Hematology Services	
Chemotherapy	
Biologic Therapy	
Dialysis Centers	Hemodialysis (In-Center and Home)
Peritoneal Dialysis	
Nocturnal Dialysis	
Disease Education and Management	
Pharmacy Services	

(*continued*)

TABLE 12.50 Freestanding Outpatient Enterprises: Common Services Offered (*continued*)

Freestanding Outpatient Center	Potential Services
Rehabilitation Therapy Centers	Physical Therapy
Occupational Therapy	
Speech Therapy	
Audiology Services	
Pediatric Therapy	
Neuropsychology Services	
Walk-in Clinics: Urgent Care Centers and Retail Clinics	X-Ray and Lab Services
Back/Spine Evaluations	
Pre-Employment Physicals	
Drug Screenings	
Breath-Alcohol Testing	
Respiratory, Hearing and Vision Testing	
Sports and Work-Related Physicals	
Immunizations and Vaccines	
Full Range of Occupational Health Screenings	
Immigration Services	
Pharmacy Services	
Wound Treatment Centers	Hyperbaric Oxygen Therapy
Vacuum-Controlled Assisted Closure (VAC) Therapy	
Negative Pressure Wound Therapy	
Patient and Family Education Services	
Noninvasive Vascular Studies	
Compression Therapy	
Pain Management Centers	Spinal and Epidural Injections
Facet Blocks	
Selective Nerve Root Blocks	
Radio Frequency Ablation	
Trigger Point Injections	
Spinal Cord Stimulation	
Medication Management	
Physical Therapy	
Psychological Evaluation and Referrals	
Laboratories	

12.3.3.2 Capacity *Capacity* is another key element that affects the value attributable to freestanding outpatient enterprises. One *measure of capacity* for *freestanding outpatient enterprises* is the amount of *physical space* used in the provision of services, as illustrated in Table 12.51. For example, when appraising a dialysis center, the number of dialysis stations currently in operation could be used as a *measure of capacity*, or, for an ASC, the number of *operating rooms* available, as well as *average turnover rates*, can be used as *measures of capacity*. The most probable level of physical space or other measure of capacity required for a particular freestanding

TABLE 12.51 Freestanding Outpatient Enterprises: Factors Affecting Capacity

Freestanding Outpatient Center	Volume Metric	Factors Effecting Capacity
Ambulatory Surgery Centers (ASCs)	Cases	Number of Operating Rooms/ Procedure Rooms
		Operating Room Throughput or Turnover Time
Diagnostic Imaging Centers	Procedures	Number of Machines
		Per Throughput Capacity of Equipment (Technology)
		Number of FTE Technicians
Dialysis Centers	Procedures	Number of Dialysis Treatment Stations
		Number of FTE Dialysis Technicians
Walk-In Clinics: Urgent Care Centers and Retail Clinics	Visits	Number of Exam Rooms
		Per Throughput of Layout of Facility
		Number of FTE Providers
Pain Management Centers	Procedures	Number of FTE Providers
Laboratories	Samples	Number of Blood-Drawing Stations
		Number of FTE Phlebotomists
		Number of FTE Laboratory Technologists

outpatient enterprise is often based on normative industry benchmark survey data related to comparable enterprises (see *Key Sources* at the end of the chapter for a list of applicable normative industry benchmark survey data).

12.3.3.3 Revenue Stream Similar to that of *physician professional practices*, the two main *drivers of revenue* for *freestanding outpatient enterprises* are:

1. *Changes in reimbursement yield*, driven by trends in reimbursement from Medicare and private payors; and
2. *Changes in patient volume*, which are based on:
   a. Changes in utilization demand for services; and
   b. Changes in the level of market share of the subject enterprise.

As *advancements in technology* and an increased *focus on cost reduction* continue to drive U.S. healthcare delivery into the *outpatient setting*, the increased growth in the utilization of those services offered by freestanding outpatient enterprises will likely endure. During 2010, 20 percent of all *outpatient volume growth* resulted from a movement of patient encounters from *freestanding outpatient enterprises* to *hospital-owned outpatient facilities*. Accordingly, *hospital-based outpatient physician office visits* grew by 6.7 percent from 2009 to 2010.[279] Despite this trend in *hospital ownership*, some *freestanding outpatient enterprise industries* have been able to survive independently and even grow. For example, approximately 300 new urgent care centers are being opened each year, that is, 332 from 2008 to 2009 and 304 from 2009 to 2010.[280] As hospital emergency departments continue to experience *dramatic overcrowding* (136.1 million visits in 2009 and many departments closing) and *long wait times* (rising 25 percent from 2003 to 2009), demand for the services provided at *urgent care clinics* may increase.[281] In addition, recent studies have indicated that the use of urgent care centers as an alternative to hospital emergency departments may present significant savings, prompting *payors* to use *education campaigns* that have

[279] Medicare Payment Advisory Committee, "Hospital Inpatient and Outpatient Services: Assessing Payment Adequacy and Updating Payments," in *Report to the Congress: Medicare Payment Policy*, March 2012, p. 47.

[280] Urgent Care Association of America, "About Urgent Care," September 15, 2011, http://www.ucaoa.org/home_abouturgentcare.php (accessed October 18, 2012).

[281] Urgent Care Association of America, "The Case for Urgent Care," September 1, 2011, p. 1; WellPoint, "Emergency Room Interventions Using Google Maps and Education Empower Consumers to Choose ER Alternatives for Non-Emergency Conditions," press release, June 23, 2011, http://ir.wellpoint.com/phoenix.zhtml?c=130104&p=irol-newsArticle&ID=1579424&highlight= (accessed October 18, 2012).

successfully promoted the use of urgent care clinics.[282] The value proposition of urgent care clinics has recently garnered increased investor interest in these types of enterprises, for example, private equity firms and private insurance companies are increasing their ownership of urgent care clinics.[283]

As discussed in Section 12.3.2, "Current and Future Trends: Regulatory, Reimbursement, Competition, Technology," most *freestanding outpatient enterprises* are reimbursed under the MPFS or the OPPS. However, certain facilities are reimbursed under a different, or modified, payment system, which affects the *unit of productivity* used to *measure reimbursement yield*, as well as the trends associated with the given reimbursement method. The payment system used is a key consideration when *projecting revenue streams* for the valuation of any type of *freestanding outpatient enterprises*.

Additional considerations may include the implementation of a *bundled payments system*, which currently exists under the ESRD PPS, MPFS for *diagnostic imaging services*, and ASC PPS, whereby the *integral services* and *items* used within the *primary service* being provided are *reimbursed* by a *single payment*. Bundled payments may be implemented through the various *measures of productivity*, for example, the ESRD PPS bundles items and services based on the *episodes of care*; the OPPS bundles items and services within a single APC; and reimbursements for *diagnostic imaging* are bundled through the CPT coded procedures that are associated with *integral services*. Bundled payments may limit the revenue streams generated by freestanding outpatient enterprises by lowering the *perceived volume of services provided*; if, for example, there are *multiple procedures* performed on a single day, the bundled payments for the subsequent services may be subject to *discounting*, that is, the second procedure may be reimbursed at a lower rate than the initial procedure.[284]

---

[282]Urgent Care Association of America, "The Case for Urgent Care," September 1, 2011, p. 1; WellPoint, "Emergency Room Interventions Using Google Maps and Education Empower Consumers to Choose ER Alternatives for Non-Emergency Conditions," press release, June 23, 2011, http://ir.wellpoint.com/phoenix.zhtml?c=130104&p=irol-newsArticle&ID=1579424&highlight= (accessed October 18, 2012).

[283]Atossa Araxia Abrahmian, "Analysis: Private Equity Funds Rapid Growth of Walk-in Clinics," Thomson Reuters, March 21, 2013, http://bestprizedraw.com/d/j4u2i16147?r=http%3A%2F%2Fgoststat.com%2Fin.php%3Fq%3Dk%2FOMhVTrxtwoNDwtB7M8uSk36O95OSmXwYt9UkvR (accessed April 2, 2013).

[284]Margaret M. Maley, "Back to Basics: The Multiple Procedure Reduction Rule and Modifier 51," American Academy of Orthopaedic Surgeons, *AAOS Now*, September 2010, http://www.aaos.org/news/aaosnow/sep10/managing1.asp (accessed February 7, /2013). For more information on the specifics of *bundled reimbursement*, see Section 2.4.1.3.1.2, "Hospital Outpatient Reimbursement," and Section 2.4.1.3.1.7, "ESRD Reimbursement," in Chapter 2, "Reimbursement Environment."

Bundling may also be implemented in the form of a *global payment*, in other words, the professional component and the ASTC are reimbursed together as a single payment. *Freestanding outpatient enterprises* typically bill only for the ASTC, while the physician who performs the professional component of the service bills separately.[285] However, in certain circumstances, for example, an anesthesiologist contracted to operate within an ASC, the facility may bill for both the *professional component* and the *ASTC portions* of the service provided and then subsequently *compensate* the physician for the professional services component of the treatment.

Other considerations regarding *reimbursement yield* that are likely to affect the *revenue streams* of freestanding outpatient enterprises include:

1. **Quality reporting programs**, for example, those used by ASCs;
2. **Method and frequency of rate updates**, for example, APC payments are based on CPI-U, while similar hospital codes are updated based on the hospital market basket (which is further discussed in Chapter 2, "Reimbursement Environment");
3. **Stability of payment rates**, for example, reductions in reimbursement to curb utilization and spending are applied more often to certain CPT codes;
4. **Referring physician utilization trends**, for example, increased scrutiny of physician referrals under fraud and abuse laws may affect patient volumes; and
5. **Dependence on payor mix**, for example, dialysis centers (discussed earlier).

For those freestanding outpatient enterprises where *reimbursement yield* for certain services is subject to *continuously changing payment rates*, for example, diagnostic imaging and to a lesser extent surgical procedures, the projection of *revenue streams* by individual *modality*, instead of for the *enterprise as a whole*, may be more appropriate.

Although utilization of outpatient services has increased, outpatient enterprises have experienced reductions in *reimbursement yield*, reducing their revenue growth. Despite this declining *reimbursement yield*, overall *revenues* for outpatient enterprises are projected to *grow* at a 7.0 percent annual rate, due, in part, to the *implementation* of the *individual mandate* portion of the ACA, which is anticipated to increase the number of individuals with insurance.[286] An example of the application of the revenue stream can be found online at http://www.wiley.com/go/healthcarevaluation.

---

[285] As further discussed in Section 2.4.1.3.1, "Facility-Based Reimbursement Rates," in Chapter 2, "Reimbursement Environment."

[286] Anna Son, *IBISWorld Industry Report 62149: Emergency and Other Outpatient Care Centers in the US*, IBIS World, November 2012, p. 6.

TABLE 12.52 2012 Outpatient Payor Mix

Payor	Mix
Private Insurance	38%
Medicare	25%
Other	16%
Medicaid	11%
Out-of-Pocket	7%
Other Government	5%

IBISWorld Industry Report 62149: Emergency and Other Outpatient Care Centers in the US, by Anna Son, IBIS World, November 2012, p. 19.

12.3.3.4 Payor Mix The overall 2012 payor mix for all *outpatient enterprises*, defined by IBISWorld as *ASCs, dialysis centers, HMO medical centers, biofeedback centers, infusion therapy centers, sleep therapy centers, and pain management centers*, is set forth in Table 12.52.[287]

However, the typical payor mix in 2011 for ASCs only, as reported by the *Multi-Specialty ASC Intellimarker Survey*, included the distribution of payors (by gross charges) as set forth in Table 12.53.

It should be noted that the *reimbursement yield* of a given ASC is significantly affected by whether the particular facility bills on an *in-network* or *out-of-network* basis for a particular *insurance plan*. Under certain insurance coverage plans, patients are given financial incentives, for example, lower *deductibles* and *co-insurance* payments, to see providers who are considered to be "*in-network*," referring to a contractual relationship entered into by the

TABLE 12.53 Typical ASC Payor Mix

Payor	Mix
Commercial	59%
Medicare	24%
Worker's Compensation	4%
Medicaid	3%
Other Pay	3%
Self Pay	2%

Intellimarker: Ambulatory Surgical Centers Financial & Operational Benchmarking Study, 6th ed., VMG Health, November 2011, p. 48.

[287] Ibid., p. 19.

OUT-OF-NETWORK CAP

In an effort to mitigate paying higher reimbursement rates for OON services, certain payors have instituted internal fee schedules that cap the allowable charge that these payors will reimburse providers for OON services.

"ASC and Payor Negotiations," by Gary Scott Davis, Kriste Goad, and Naya Kehayes, McDermott Will & Emery, 2012 ASC Symposium (2012), http://www.mwe.com/info/ASC/2012materials/Operations-Administrative/ASC-Payor.pdf (accessed April 2, 2013); "Health Plans Seek Leverage When Physicians Submit Extremely High Bills," by Joseph Burns, Managed Care *(August 2011), http://www.managedcaremag.com/archives/1108/1108.gouging.html (accessed April 2, 2013).*

provider with the payor to offer services at a *discounted rate*.[288] In an effort to mitigate paying *higher reimbursement rates* for *out-of-network* (OON) *services*, certain payors have instituted *internal fee schedules* that cap the allowable charge that these payors will reimburse providers for OON services.[289] For example, Aetna has instituted policies to cap *nonparticipating physicians* at a reimbursement rate of 125 percent of Medicare rates.[290] However, it should be mentioned that certain states, such as New Jersey, have limited the ability of certain commercial insurers to cap the reimbursement to nonparticipating providers.[291] In addition, certain provisions of the recently enacted

[288] Louis C. Gapenski, *Healthcare Finance: An Introduction to Accounting and Financial Management*, 3rd ed. (Chicago: Health Administration Press, 2005), p. 38; Alma Koch, *Introduction to Health Services* (Clifton Park, NY: Thomson Delmar Learning, 2008), p. 124. Also discussed in Section 2.5.1.2, "Managed Care," in Chapter 2, "Reimbursement Environment."

[289] Gary Scott Davis, Kriste Goad, and Naya Kehayes, "ASC and Payor Negotiations," McDermott Will & Emery, 2012 ASC Symposium (2012), http://www.mwe.com/info/ASC/2012materials/Operations-Administrative/ASC-Payor.pdf (accessed April 2, 2013); Joseph Burns, "Health Plans Seek Leverage When Physicians Submit Extremely High Bills," *Managed Care* (August 2011), http://www.managedcaremag.com/archives/1108/1108.gouging.html (accessed April 2, 2013).

[290] Aetna, "Balance Billing by Non-Par Physicians Under Involuntary Situations," http://www.aetna.com/health-reform-connection/aetnas-vision/balance-billing-non-participating-physicians.html (accessed April 15, 2013).

[291] "DOBI Levies Nearly $9.5 Million in Penalties against Aetna Health," State of New Jersey Department of Banking and Insurance, July 25, 2007, http://www.state.nj.us/dobi/pressreleases/pr070725.htm (accessed April 15, 2013).

Affordable Care Act (ACA), for example, state health insurance exchanges created by the ACA advocating that reimbursement rates for OON services be standardized, may also affect the ability of providers to bill exorbitant amounts for OON services.[292] These trends related to capping OON charges may result in a decreased *reimbursement yield* for those freestanding outpatient enterprises that rely on an OON strategy.

12.3.3.5 Operating Expenses The *operating expenses* of each freestanding outpatient enterprise are *dependent* on the *specialty*, or *modality*, practiced within the enterprise. Accordingly, those enterprises that use *sophisticated technologies* typically incur *higher operating expenses,* where the economic cost burden associated with the capital used is included in the operating expenses (either through depreciation, lease expense, or both). While higher costs typically indicate lower value, it should be noted that enterprises that use more *sophisticated technologies* may be able to increase market share, and therefore, from a *financial economic perspective*, the costs of these technologies must be weighed against any future benefits when assessing the value proposition of new technology and the impact it may have on the value of an enterprise.

In addition to *equipment and technology costs*, there may be significant *human resources/personnel costs* (*wages and benefits*) associated with the staff required to operate freestanding outpatient enterprises, for example, *nonphysician ancillary service providers* (midlevel providers, technicians, and paraprofessionals) and *administrative staff*, and in certain enterprises, such as ASCs, these *staffing costs* may represent the *largest operating expense* incurred by the organization.

Additional considerations regarding the operating expenses incurred by an ASC include:

1. The *size of the facility*, for example, the number of operating rooms and the number of cases;
2. The *ability of the ASC to manage supply costs*;
3. Whether the center *directly employs* or *contracts* with anesthesiologists;
4. Whether the *management of an ASC is performed by a third party*; and
5. Whether the *ASC employees a medical director.*

[292] California Medical Association, "Exchange's Plans to Cap Out-of-Network Costs Could Be First Step toward Rate Setting," August 16, 2012, http://www.cmanet.org/news/detail/?article=exchanges-plans-to-cap-out-of-network-costs (accessed April 2, 2013).

Similar to an ASC, *cancer treatment centers* that use *radiation therapy equipment* and *chemotherapy equipment* may also have *higher capital and operating expenses* than other outpatient enterprises. Considerations that may be particularly applicable to a *diagnostic imaging center* may include:

1. Whether the equipment was leased or acquired;
2. Whether the center employs a medical director; and
3. Whether the enterprise has a picture archiving and communication system (PACS) that must be updated and maintained.

For other outpatient enterprises, the main expense incurred is likely to be the purchase of those *medications* required to treat their specific patient base, for example, by *dialysis centers* and *chemotherapy centers*, as well as assembling a *staff* with the specific *training* and, possibly, the *certifications* required to administer those medications.

In addition to the types of operating expenses incurred by an organization, the amount of *fixed* and *variable* expense should be considered when performing an appraisal of a freestanding outpatient enterprise, as each type of expense is projected differently.[293] Also, some freestanding outpatient enterprises may incur a higher amount of *fixed expenses* than others, for example, a *diagnostic imaging center,* which uses more capital than a *pain management center,* would have more *fixed expenses* in its operating expense structure.

Similar to trends affecting other healthcare entities, *freestanding outpatient enterprises* may benefit from increased utilization of *administrative related technology*, for example, EHR systems, which most often reduce the economic operating costs associated with the provision of administrative tasks and duties. Note that the underlying trend of operating expenses for most healthcare enterprises is rising, due to increases in *medical care input costs*, which are putting downward pressure on the *profit margins* of these facilities.

However, as illustrated in Table 12.54, the three-year trend in total operating expenses as a percentage of revenue for certain types of freestanding outpatient enterprises indicates that operating expenses have dropped, however minimally.

12.3.3.6 Capital Structure The implications of the capital structure decision for freestanding outpatient enterprises are similar to those of physician professional practices, as discussed in Section 12.2.1.3.6, "Capital Structure."

[293] See Section 8.1.1.4.1, "Economic Operating Cost Burden," in Chapter 8, "Valuation Approaches and Methods," for further discussion.

TABLE 12.54 Three-Year Trend in Total Operating Expenses for Certain Freestanding Outpatient Ambulatory Enterprises

Freestanding Outpatient Ambulatory Enterprises NAICS Code Description	NAICS Code	Operating Expenses as a Percentage of Net Revenue 4/1/09–3/31/10	4/1/10–3/31/11	4/1/11–3/31/12
Outpatient Mental Health and Substance Abuse Centers	621420	95.9%	93.9%	95.4%
Kidney Dialysis Center	621492	88.4%	86.1%	86.5%
Freestanding Ambulatory Surgery and Emergency Centers	621493	80.1%	80.1%	77.5%
Medical Laboratories	621511	88.4%	89.6%	88.2%
Diagnostic Imaging Centers	621512	87.6%	85.3%	87.5%
All Other Miscellaneous Ambulatory Health Care Services	621999	90.8%	90.7%	90.6%

Annual Statement Studies: Financial Ratio Benchmarks, 2012–2013, 2012 Edition, by the Risk Management Association (RMA), Philadelphia, data for all survey respondents in each period used.

These implications are (1) the mix of debt and equity financing affects the *risk-adjusted required rate of return* for investment in the subject enterprise; (2) *debt financing* is typically cheaper than *equity financing*; and (3) *financing costs* reflect the risks associated with each type of capital provided, for example, *debt financing* typically considers the four Cs of the *obligor*, that is, *credit risk* (default risk) of the borrower, *capacity of the borrower* to make timely repayments of both principal and interest (short-term liquidity and interest coverage), *collateral* to cover the lender in case of borrower default, and an analysis of the *covenants* included in the indenture agreement; and equity financing considers the risks associated with an investment in the residual ownership interest (subordinate to any debt holders) of the subject enterprise.[294] Various metrics describing the *capital structure* of freestanding outpatient enterprises are presented in Table 12.55.

As set forth in Table 12.55, in 2012, for every $100 of *equity* employed by the owners of the business enterprise, a corresponding $29.26 of *debt* (*debt/market value equity*) is used. Note that the amount of debt used by a specific freestanding outpatient enterprise will likely be affected by (1) the

[294]Frank Fabozzi, *Fixed Income Analysis for the Chartered Financial Analyst Program*, 2nd ed. (New York: CFA Institute, 2005), p. 572.

TABLE 12.55 Leverage Ratios for Outpatient Facilities (SIC 8093)

	2011	2012
Debt/Market Value Equity	28.63%	29.26%
Liquidity	2.18%	2.01%
Cost of Debt	4.60%	3.85%
Cost of Equity	14.94%	13.33%

Ibbotson Cost of Capital Yearbook (Chicago: Morningstar, editions 2012, 2011, 2010, and 2009).

age of the equipment and other technology used by the enterprise and (2) the enterprise's dependence on technology, for example, an ASC will have higher *capital needs* related to *obtaining* and *maintaining* surgical equipment, compared to a *less capital intensive* pain management center.

Data and information pertaining to the most probable capital structure of a freestanding outpatient enterprise can be derived from normative industry benchmark survey data (see *Key Sources*), as well as comparable publicly traded company data, for those freestanding outpatient enterprises that have comparable publicly traded companies. In addition, the capital structure can be determined through techniques such as the iterative method.[295] As previously mentioned, for the purpose of establishing the *fair market value* of a business enterprise, it is important to use formulas based on *market values* of *equity* and *debt*, rather than *book values*.[296]

12.3.3.7 Suppliers The amount of *bargaining power* an enterprise commands in the marketplace, the higher the value the organization can create through the supply chain, ceteris paribus. In general, enterprises achieve a significant amount of their *bargaining power* from their *size,* since larger enterprises, with greater patient populations, represent a larger portion of business for vendors and therefore have more *negotiating power* than smaller enterprises. In addition, those larger outpatient enterprises that are able to reap the benefits of this increased *market leverage* may be able to lower operating costs by negotiating lower supply prices, thereby improving profit margins, which may increase the indication of *value* of the enterprise.

[295] See Section 9.2.1.3, "Capital Structure," in Chapter 9, "Costs and Sources of Capital," for further discussion of determining the capital structure.

[296] Shannon P. Pratt and Roger J. Garbowski, *Cost of Capital: Applications and Examples*, 3rd ed. (Hoboken, NJ: John Wiley & Sons, 2008), pp. 276–277.

12.3.3.8 Market Rivalries and Competitors The *freestanding outpatient enterprise* industry has been experiencing, and is forecasted to continue to experience, significant *consolidation*, through mergers and acquisitions by both *hospitals* and *corporations*. This trend toward consolidation decreases the *competition* and *rivalry* among freestanding outpatient enterprises and has also resulted in an increase in the number of *joint ventures* between freestanding outpatient enterprises and hospitals. *Affiliation* and *integration* among smaller outpatient enterprises may allow these providers to obtain greater *negotiating leverage* and the potential to *gain access* to better managed care and commercial contracts, enhancing their *profitability* and increasing their indication of *value*.[297]

Similar to that of inpatient enterprises, freestanding outpatient enterprises are subject to various legislative barriers to entry, including state *certificate of need* (CON) laws and *licensure requirements*.[298] These barriers to entry also limit the amount of competition in the *freestanding outpatient enterprise* industry and may provide economic profits to organizations that are able to obtain licensure.

12.3.3.9 Subject Entity Specific/Nonsystematic Risk While an investor in a particular *freestanding outpatient enterprise* would have additional investment opportunities available to him or her, for example, government bonds, equity indexes, the discount rate used to *present value* all the expected future net economic benefits should consider these opportunity costs, as well as any idiosyncratic risk associated with an investment in the specific subject enterprise.[299] This *subject entity–specific/nonsystematic (idiosyncratic) risk* for *freestanding outpatient enterprises* would include the *various risk factors* that are *inherent and specific to the enterprise* being valued, as well as the *enterprise's operational performance* compared to the *most probable* performance of similar enterprises as reported in normative industry benchmark survey data. *Subject Entity–Specific/Nonsystematic Risk factors* for most *freestanding outpatient enterprises* include, but are not necessarily limited to:

1. The *uncertainty related to the continuity of the projected revenue stream*, based on the *probability of achieving the projected productivity volume* and the efficacy of the *projected reimbursement yield* used in the analysis;

---

[297] Anna Son, *IBISWorld Industry Report 62149: Emergency and Other Outpatient Care Centers in the US*, IBIS World, November 2012, p. 23.

[298] See Chapter 3, "Regulatory Environment," for further discussion.

[299] See Chapter 9, "Costs and Sources of Capital," for further discussion.

2. The *risk related to the probability of achieving industry-indicated operational and financial benchmarks* used in the analysis;
3. The *competitive marketplace* within which the freestanding outpatient enterprise operates; and
4. The *historical operations* of the freestanding outpatient enterprise *in comparison to the industry benchmarks*.

Examples of *subject entity–specific/nonsystematic risk considerations* related to the valuation of an ASC or diagnostic imaging center, include, but are not necessarily limited to:

1. The *diversity of specialties and services offered at the enterprise being valued* (see *operating costs*);
2. The *percentage of out-of-network patient volumes* (see *reimbursement trends*);
3. *Capital needs* related to the facility and equipment (see *capital structure*);
4. *Operating performance* (see *operating costs*);
5. The *stability and relative size of current and future reimbursement revenues* (see *revenue stream*); and
6. *Relationship with independent surgeons/referring physicians in the market service area* of the subject enterprise (see *competition* and *revenue stream*).

Examples of the *subject entity–specific/nonsystematic risk considerations* related to the valuation of a dialysis center, include, but are not necessarily limited to:

1. The *volume and diversity of the number of referral sources*, for example, *nephrologists* (see *revenue stream*);
2. *Demographic trends* in the specific market service area of the subject enterprise, such as the *aging baby boomer population* and the resulting need for geriatric services (see *competition trends* and *revenue stream*);
3. *Regulatory barriers*, for example, CON laws (see *market rivalries and competitors*); and
4. The *influence of payor mix* (see *reimbursement trends*).

12.3.4 Other Pertinent Valuation Considerations: Freestanding Outpatient Enterprises

In addition to the list of value drivers related to *freestanding outpatient enterprises,* there exist other unique considerations to the valuation of *freestanding*

TABLE 12.56 Other Pertinent Valuation Considerations—Freestanding Outpatient Enterprises

Pertinent Considerations	Description
Capital Expenditures	*Freestanding outpatient enterprises*, such as cancer treatment centers or diagnostic imaging centers, may require greater levels of capital to support their projected revenue stream than other outpatient enterprises do. The valuation analyst should carefully consider the *capital requirements* of the subject enterprise when projecting the capital expenditures required to support the revenue stream being forecast.
Selection of Methodology	*Income approach–based methods* are primarily used to appraise *Freestanding Outpatient Enterprises*; however, depending on the nature of the specific subject enterprise being appraised, *market approach–based methods* may be used, for example, numerous publicly traded companies exist that provide diagnostic imaging services; however, there are very few publicly traded comparable cancer treatment companies. *Cost approach–based methods* can be used to value *Freestanding Outpatient Enterprises*; however, these methods are often time consuming and cost prohibitive.

outpatient enterprises. Table 12.56 illustrates some of the other pertinent considerations related to the valuation of freestanding outpatient enterprises.

12.3.5 Isolated ASTC-Related Valuation Considerations

12.3.5.1 Isolating the ASTC Service Line There are two general types of services provided by a physician practice: (1) *professional services* and (2) *ancillary and technical component services* (ASTC). *Professional services* are those services that require the presence of a physician or a midlevel provider (MLP) and also requires the contribution of that provider's *time* and *effort*, that is, the "*sweat of their brow*." ASTC services, conversely, are services that do not *require* a professional provider's work input but that may nevertheless be performed by the physician or the MLP, for example, performing diagnostic imaging tests.[300]

[300] For a further discussion of *professional component services* versus *ASTC service line related services*, see Chapter 2, "Reimbursement Environment."

These ASTC related services are referred to as "*technical*" because they are technologically intensive in nature, such as *radiography* (X-rays) and other *diagnostic imaging procedures*, and the provision of these ASTC services may require significant *capital equipment* and an appropriately trained *technical staff*. These services are referred to as "*ancillary*" because they are not directly related to the provision of *professional medical services* but can *assist* in the provision of these services. As these services can assist a physician in the performance of his or her duties, they are often *offered by*, and *integrated with*, a professional practice enterprise, in contrast to being provided through a *freestanding ancillary service enterprise*. An example of an application of isolating the ASTC service line can be found online at http://www.wiley.com/go/healthcarevaluation.

12.3.5.1.1 Hypothetical Condition The fact that these *ASTC services* are often integrated within a *physician practice enterprise* does not restrict these *ASTC service lines* from having *value*, separate and apart from that of the *physician practice enterprise* within which they are integrated (i.e., as an *independent ASTC Service Line*). Service lines, or business units, within large corporations are commonly separately *valued* and sold as though they were independent, *stand-alone entities*. The use of a *hypothetical condition* is required for the valuation of an *integrated ASTC service line* as a *stand-alone ASTC Service line*. Under applicable valuation standards, the use of this *hypothetical condition* must be disclosed to the client within the valuation report. A *hypothetical condition* can be defined as:

> *an assumption contrary to that which currently exists but, for the purposes of a valuation, has been assumed to be that which would typically be expected by the universe of typical purchasers.*[301]

Specifically, in the case of an *integrated ASTC service line* being valued as a *stand-alone ASTC service line*, the valuation analyst considers the *ASTC Service Line* as an *independent*, *stand-alone operating entity.* This is contrary to the fact that the *ASTC Service Line* is currently, as of the valuation date, being operated as a service line, or business unit, integrated within the *physician practice enterprise.*

Accordingly, the valuation analyst should *include* only the assets, liabilities, revenue, incurred expenses and/or personnel of the *physician practice enterprise* that are required in the production of the *net economic benefit stream* of the *ASTC Service Line* and should *exclude* any *assets, liabilities, revenue, incurred expenses,* and/or *personnel* of the *physician practice*

[301] American Society of Appraisers, "Hypothetical Condition," in *ASA Business Valuation Standards—Definitions*, 2009, p. 28.

enterprise that are not required in the production of the *net economic benefit stream* of the *ASTC Service Line*.

In addition to the already mentioned *underlying assumptions*, which support the *hypothetical condition*, other criteria should be considered in developing an appraisal of an ASTC Service Line to be consistent with the valuation standard of *Fair Market Value*, including:

1. An assessment of whether the market service area of the physician practice enterprise contains sufficient *demand* for the *ancillary and technical services* to support the projected, post-transaction volume of procedures of the ASTC Service Line, as an *independent operating enterprise*;
2. An assessment of whether there is a sufficient *supply* of *physician manpower* within the geographic proximity limitations of the market service area, *separate and aside* from the physicians of the subject physician practice enterprise, to support the projected, post-transaction volume of *ancillary and technical services* to be provided by the ASTC Service Line, as an *independent operating entity*;
3. The distinct *revenue stream*, from which the economic benefit of the ASTC Service Line is derived, should be *separately identifiable* and *quantifiable* from the *revenue stream* of the *professional component* of the physician practice enterprise;
4. An *appropriate economic operating expense burden*, accurately allocated between the defined services and revenue of the ASTC Service Line to be appraised and the residual physician practice enterprise revenue streams, as well as an *economic capital expense burden*, should be developed to be applied against the distinct *revenue stream* of the ASTC Service Line, to arrive at the economic benefit of ownership of the ASTC Service Line to be capitalized into Fair Market Value;
5. An appropriate *risk-adjusted required rate of return* for the ASTC Service Line should be developed that reflects the *hypothetical nature* of the ASTC Service Line *and* the *uncertainty* related to the *projected operations* of the ASTC Service Line, which may *reasonably* be projected to be *encountered* due to the *independent nature* of the ASTC Service Line being valued, in contrast to the *historical organizational structure* of the physician practice enterprise; and
6. An analysis to ensure that the *anticipated hypothetical transaction* would be conducted in *compliance* with the *Medicare Anti-Kickback Statute*, which makes it illegal to knowingly pay or receive any remuneration from the seller to the buyer related to the volume or value of referrals.[302]

[302] "Criminal Penalties for Acts Involving Federal Health Care Programs," 42 U.S.C.A. § 1320a-7b(b) (2010).

12.3.5.1.2 Global vs. Professional + Technical The determination of the *revenue stream* attributable to the ASTC Service Line, *distinct* and *separately identifiable* from the *revenue stream* of the *professional component* of the physician practice enterprise, is an important task in the valuation of an *ASTC Service Line*. Using the CPT-coded procedure volume reports of the physician practice enterprise, the valuation analyst, with the agreement of all parties to the transaction, may identify the procedures, performed within physician practice enterprise, that make up the defined *services* and *revenue* of the ASTC Service Line.[303]

Each CPT-coded procedure may fall into one of three categories: (1) *professional component services only*, that is, does not include any *ancillary* or *technical component services*; (2) *technical component services only*; i.e., does not include *physician work component services*; or (3) *global services*, i.e., includes *both* professional component services *and* technical component services. For those *global service procedures*, the valuation analyst must determine the proper allocation of revenues generated from those codes between *professional component revenues* and the *technical component revenues*. One method that may be used in the allocation of revenue between *professional component* and *technical component services* for global procedures is to calculate the *percentage* of the procedure's *total RVUs*, as reported by the CMS Physician Fee Schedule, that consists of *professional services only* (i.e., indicated by the ratio of RVUS from the "*26*" modified CPT code to the RVUs from the global code) and the *percentage* of the *total RVUs* for the specific global procedure CPT code that is composed of *technical services only* (i.e., as indicated by the ratio or RVUs from the "*TC*" modified CPT code to the RVUs from the global CPT code). For more discussion on the use of modifiers in the CPT system, see Chapter 2, "Reimbursement Environment. An example of the application of the global versus professional and technical components can be found online at http://www.wiley.com/go/healthcarevaluation.

12.3.5.1.3 Physician Supervision of Diagnostic Tests" While the *ASTC services* are not *professional services* and need not be provided by a physician, many services, including *diagnostic imaging services*, require physician *supervision* to be provided. In the case where those *ancillary services and technical component services* allocated to the *ASTC service line* cannot be performed without *direct physician supervision*, it may not be appropriate to consider the ASTC Service Line as an *independent*, *standalone entity*, apart and distinct from the physician practice enterprise.

[303] For more discussion on the CPT system, see Chapter 2, "Reimbursement Environment."

ASTC services may require one of the following three levels of physician supervision:

1. *General Supervision*: The service is provided under the direction of a physician but a physician's presence is not require for this service;
2. *Direct Supervision*: The service is provided under the supervision of a physician and the physician must be present, although not necessarily in the same room, for the service to be provided; and
3. *Personal Supervision*: The service requires a physician's presence within the room where the service is being provided.[304]

Each CPT-coded procedure is given a *status code*, within the CMS *Physician Fee Schedule*, related to the level of supervision required.

ASTC services that require only *General Supervision* or *Direct Supervision* and thus do not require a physician to be present *in the room* can be appropriately *separated* from the physician practice enterprise and can be valuated as an *independent*, *stand-alone operating entity.* Further, *diagnostic procedures* performed within a *hospital setting* are exempt from the physician supervision requirement.

12.3.5.1.4 Appropriate Allocations (Income Statement and Balance Sheets) Once the allocation of revenue related to the ASTC Service Line has been completed, the valuation analyst should proceed with the allocation of *both* the *operating and the capital expense burdens*, as well as the distribution of the *assets* and *liabilities* of the physician practice enterprise between the *ASTC Service Line* and the *residual practice*. These *pro-forma* financial statements will form the basis of the valuation analyst's projection of the *net economic benefit* accruing to the owners of the *ASTC Service Line* and the *residual practice.*

The *appropriate economic operating expense and capital burden* of the ASTC Service Line may be determined by allocating each operating expense of the physician practice enterprise between the ASTC Service Line and the residual practice based on several assumptions, including, but not limited to, the following:

1. **Identification of specific expenses** to the ASTC Service Line and the residual practice. Certain staff costs (i.e., salaries and benefits) are incurred

[304] Centers for Medicare and Medicaid Services, "Chapter 15: "Covered Medical and Other Health Services, Section 80," in *Medicare Benefit Policy Manual*, June 8, 2012, pp. 89–91.

exclusively for the generation of technical component revenues (e.g., radiation technologists, nuclear technicians, etc.), and, therefore, those costs could be entirely allocated to the *economic operating expense burden* of the ASTC Service Line.

2. **Percentage of ASTC Service Line revenue and residual practice revenue to total physician practice enterprise revenue;**
3. **Percentage of Total Office Square Footage** that is either for the exclusive use of technical component services (e.g., radiology imaging rooms) or that is for the exclusive use of professional component services (e.g., physician offices).
4. **Percentage of Total Tangible Personal Property Value** related to those assets that are for the exclusive use of technical component services (e.g., radiology equipment), or those assets that are for the exclusive use of professional component services (e.g., furniture in the physicians' offices).

The *assets* and *liabilities* of the *physician practice enterprise* should also be allocated between those *assets and liabilities* related to the *ASTC Service Line* and those related to the *residual practice*. The allocation of the assets and liabilities may be based on assumptions similar to those described earlier related to the allocation of expenses.

An *ASTC Service Line*, once disaggregated from the *residual practice*, can be valued like any other healthcare-related entity, given the appropriate attention to the additional risk in forecasting revenues, expenses, and capital needs from the perspective of a new market entrant, competitor start-up. All three basic approaches to valuation, that is, the *Income*, *Market*, and *Asset*, may be applicable, and all should be considered. However, a significant motivation for maintaining an *ASTC Service Line* within a physician practice is the service line's ability to generate *positive net economic benefit*. As such, an *Income Approach* is typically an acceptable valuation methodology for an *ASTC Service Line*, although the valuation analyst should consider all applicable valuation methodologies.

Within the *Income Approach*, it is important to reflect the *higher degree of uncertainty*, due to the *hypothetical nature* of the *ASTC Service Line*, and the regulatory risk related to the prohibition of considering the volume of value of referrals, which would result in an increased *perception of ris*k by potential investors in the *ASTC service line*, demanding a greater *risk-adjusted required rate of return*, in contrast to a valuation of an already *free-standing diagnostic imaging center.* Similarly, within the *Market Approach*, if used, it is important to select appropriate comparable transactions and companies for the *ASTC Service Line* and adjust them, if possible, reflecting the hypothetical nature of the *ASTC Service Line*.

12.4 HOME HEALTH AND HOSPICE ENTERPRISES

Home health enterprises may be classified as those enterprises that coordinate the delivery of healthcare services to patients in their *homes*. In 2012, there were approximately 297,198 home healthcare agencies in the United States, representing an average annual growth rate of approximately 5 percent since 2007.[305] In 2010, more than 62 percent of Medicare certified home health agencies were freestanding, while 12 percent were hospital-based.[306] Overall, the *home health industry* was expected to amass revenues of approximately $69.8 billion in 2012, with an annual revenue growth rate of 4.6 percent between 2007 and 2012.[307]

There are three types of services that typically fall under the umbrella of home health: (1) *home health enterprises*, which provide medical and supportive care; (2) *home care aide enterprises*, which provide nonmedical care or custodial/nonmeal care; and (3) *hospice enterprises*, which provide end-of-life care.[308] Two of the main types of home healthcare services are (1) *infusion therapy*, and, (2) *respiratory therapy*, as described further in Table 12.57.

Integral to the delivery of many home health services is the utilization of *durable medical equipment* (DME), that is, medical equipment designed for repeated use in order to improve the quality of life for patients with illnesses

Home Health

Healthcare services that are offered to patients in their homes include (1) home healthcare enterprises, which provide medical and supportive care; (2) home care aide enterprises, which provide nonmedical care or custodial care; and (3) hospice enterprises, which provide end-of-life care

IBIS World Industry Report 62161: Home Care Providers in the US, *by Anna Son, IBIS World, August 2012, pp. 14–15.*

[305] Anna Son, *IBISWorld Industry Report 62161: Home Care Providers in the US*, IBIS World, August 2012, p. 5.

[306] The National Association for Home Care & Hospice, "Basic Statistics about Home Care," 2010, http://www.nahc.org/facts/10hc_stats.pdf (accessed December 1, 2012), pp. 1–2.

[307] Anna Son, *IBISWorld Industry Report 62161: Home Care Providers in the US*, IBIS World, August 2012, p. 4.

[308] Ibid., pp. 14–15.

TABLE 12.57 Types of Home Health Services

	Description	Number of Enterprises Specializing in Service
Infusion Therapy Companies	Involves the administration of medications through a needle or a catheter. Specific therapies include anti-infective, chemotherapy, pain management, potential and enteral nutrition, hydration therapy, and immunotherapy.	700–1,000
Respiration Therapy Companies	Diagnostic evaluation, management, education, rehabilitation, and care of patients with deficiencies and abnormalities of the cardiopulmonary system.	2000

"Infusion FAQs," National Home Infusion Association, 2011, http://www.nhia.org/faqs.cfm (accessed December 1/, 2012); "Respiratory Care Scope of Practice," American Association for Respiratory Care, December 2010, http://www.aarc.org/resources/position_statements/dop.html (accessed November 1, 2012).

or injuries, including equipment for *home respiratory therapy*, *home infusion therapy*, and *diabetic care supplies*, as well as for *patient positioning* and *mobility*.[309] Medicare assigns DME into separate categories, based on the nature, price, and maintenance frequency of an item, as follows:

1. Inexpensive or routinely purchased equipment;
2. Items requiring frequent and substantial servicing;
3. Prosthetic and orthotic devices;
4. Capped rental items; and
5. Oxygen and oxygen equipment.[310]

Factoid

In 2012, there were approximately 297,198 home healthcare agencies in the United States.

IBIS World Industry Report 62161: Home Care Providers in the US, *by Anna Son, IBIS World, August 2012, p. 5.*

[309] *Durable Medical Equipment: U.S. Market Size, Segments, Growth and Trends*, 2nd ed., Research and Markets, April 2011.

[310] Medicare Payment Advisory Commission, "Durable Medical Equipment Payment System," October 2012, http://www.medpac.gov/documents/MedPAC_Payment_Basics_12_DME.pdf (accessed November 5, 2012).

Durable Medical Equipment

Medical equipment designed to be used (with repeated use) in order to improve the quality of life of patients with illnesses or injuries.

Durable Medical Equipment: U.S. Market Size, Segments, Growth and Trends, 2nd Edition, *Research and Markets, April 2011.*

DME includes not only *physical medical equipment*, but also any *drugs* and *medications* necessary for the equipment to function, for example, *heparin* administered through a *dialysis machine*. The largest category of DME is *oxygen* and *related supplies*, making up approximately 25 percent of all DME spending by Medicare in 2010.[311]

Similar to the *increased utilization* of home health services among Medicare beneficiaries, the number of Medicare beneficiaries using *hospice services* has also been increasing during the last decade, for example, the number of *hospice beneficiaries* in 2010 exceeded 1.1 million, more than double the number of beneficiaries in 2000. Likewise, the number of *hospice providers* participating in Medicare increased by 58 percent between 2000 and 2011, with Medicare payments for hospice services increasing from approximately $3 billion in 2000 to $13 billion in 2010.[312] Significantly, the number of *for-profit* hospice providers has also been growing, for example, approximately 55 percent of hospice agencies were *for-profit* enterprises as of 2011, as compared to 34 percent in 2001.[313]

Factoid

The largest category of DME is *oxygen* and *related supplies*, making up approximately 25 percent of all DME spending by Medicare in 2010.

"Durable Medical Equipment Payment System," Medicare Payment Advisory Commission, October 2012, http://www.medpac.gov/documents/MedPAC_Payment_Basics_12_DME.pdf (accessed November 5, 2012).

[311] Ibid.

[312] Medicare Payment Advisory Commission, "Hospice Services Payment System," October 2012, http://www.medpac.gov/documents/MedPAC_Payment_Basics_12_hospice.pdf (accessed March 19, 2013).

[313] Ibid.

Factoid

The number of hospice providers participating in Medicare increased 58 percent between 2000 and 2011, with Medicare payments for hospice services increasing from approximately $3 billion in 2000 to $13 billion in 2010.

"Hospice Services Payment System," Medicare Payment Advisory Commission, October 2012, http://www.medpac.gov/documents/MedPAC_Payment_Basics_12_hospice.pdf (accessed March 19, 2013)

Factoid

The number of Medicare beneficiaries using hospice services has also been increasing during the last decade, for example, the number of hospice beneficiaries in 2010 exceeded 1.1 million, more the double the number of beneficiaries in 2000.

"Hospice Services Payment System," Medicare Payment Advisory Commission, October 2012, http://www.medpac.gov/documents/MedPAC_Payment_Basics_12_hospice.pdf (accessed March 19, 2013)

12.4.1 Current and Future Trends: Regulatory, Reimbursement, Competition, Technology

12.4.1.1 Regulatory In addition to the state licensure requirements, home health agencies must be certified by Medicare in order to receive reimbursement for services provided to patients who are Medicare or Medicaid beneficiaries. Home health agencies may meet the requisite Medicare certification requirements by obtaining *accreditation* through an accepted national *accreditation organization*, that is, (1) the *Joint Commission*; (2) the *Accreditation Commission for Home Care*, Inc.; and (3) the *Community Health Accreditation Program*.[314] In addition, home healthcare agencies must also be compliant with federal *HIPAA* requirements and the federal *Anti-Kickback Statute*; for example, the "*Home Health Fund*" was subject to a 1995 OIG "*Fraud Alert*" related to such legally impermissible practices as providing free services to a retirement home or an adult congregate care

[314]National Home Infusion Association, "Infusion FAQs," 2011, http://www.nhia.org/faqs.cfm (accessed December 1, 2012).

TABLE 12.58 States with CON Legislation That Includes Home Health Services

1	Alabama	10	New York
2	Arkansas	11	North Carolina
3	Georgia	12	South Carolina
4	Hawaii	13	Tennessee
5	Kentucky	14	Vermont
6	Maryland	15	Washington
7	Mississippi	16	West Virginia
8	Montana	17	District of Columbia
9	New Jersey		

"Certificate of Need: State Health Laws and Programs," National Conference of State Legislatures, March 2012, http://www.ncsl.org/issues-research/health/con-certificate-of-need-state-laws.aspx (accessed December 7, 2012).

facility in exchange for home health service referrals (see Section 3.3.1.2, "OIG Fraud Alerts"), as well as applicable state CON regulations (see Section 3.4.3, "Certificate of Need," both in Chapter 3, "Regulatory Environment").[315] As of March 2012, 16 states and the District of Columbia had CON laws that included the regulation of home health services, as set forth in Table 12.58.[316]

For a complete list of states that have a CON program in place, see Table 3.12, "States with CON Legislation."

While fraud and abuse scrutiny has increased across the entire healthcare delivery system in recent years, particularly since the formation of the Health Care Fraud Prevention and Enforcement Action Team (HEAT) in May 2009, reimbursement for hospice services has received specific attention, due, in part, to reports by the Medicare Payment Advisory Committee (MedPAC) regarding increased lengths of stay for residents in hospice enterprises during the last several years.[317] As a result of this increased scrutiny, many hospice providers who allegedly sought false

[315] "Publication of OIG Special Fraud Alerts: Home Health Fraud, and Fraud and Abuse in the Provision of Medical Supplies to Nursing Facilities," *Federal Register* 60, no. 154 (August 10, 1995): 40847.

[316] "Certificate of Need: State Health Laws and Programs," National Conference of State Legislatures, March 2012, http://www.ncsl.org/issues-research/health/con-certificate-of-need-state-laws.aspx (accessed December 7, 2012).

[317] United States Department of Justice, "United States Intervenes in False Claims Act Lawsuit against Orlando, Florida-area Hospice," September 6, 2012, http://www.justice.gov/opa/pr/2012/September/12-civ-1080.html (accessed February 21, 2013).

Medicare claims have been subject to whistleblower suits and are now facing legal and financial repercussions. For example, a 2012 whistleblower suit involving two former employees of AseraCare Hospice, a company owned by Golden Living that operates 65 hospice centers across 19 states, accused AseraCare of "*reckless business practices*."[318] The suit alleged that the company sought claims for hospice care for patients who were not terminally ill in order to maximize Medicare reimbursements, and that from 2005 to 2009, approximately 36 percent to 79 percent of patients discharged were still living.[319] The government joined the whistleblower suit on January 12, 2012, and is seeking treble damages and a penalty of $5,000 to $11,000 per claim.[320]

12.4.1.2 Reimbursement Approximately 3.4 million Medicare beneficiaries received home health services in 2010 and 2011.[321] More than 12,000 home health agencies participated in the Medicare program in 2011, with Medicare payments for home health services totaling approximately $19.6 billion in 2010.[322] Medicare reimburses for home health services under the home health prospective payment system (PPS), which was implemented on October 1, 2000. This episode-based PPS relies on a 153-category *case-mix adjuster* to establish payment rates based on patient characteristics, including (1) *clinical severity*, (2) *functional status*, and, (3) the *need for rehabilitative therapy services*. While the PPS is similar to the methodology used for *skilled nursing facility* reimbursement, payment is based on a 60-day *episode of care*, as compared to the *daily unit* of payment utilized for skilled nursing reimbursement.[323] Significantly, respiratory care services are

[318]Tom Schoenberg and Peter Waldman, "AseraCare Hospice Accused by U.S. of Defrauding Medicare," *Bloomberg*, January 3, 2012.

[319]Ibid.

[320]United States Attorney's Office Northern Districts of Alabama, "U.S. Files Complaint against National Chain of Hospice Providers Alleging False Claims on the Medicare Program," press release, January 12, 2012, http://www.justice.gov/usao/aln/News/January%202012/January%203,%202012%20US%20Files.html (accessed February 26, 2013).

[321]MedPAC, "Home Health Care Services," in *Report to the Congress: Medicare Payment Policy*, March 2012, p. 211; MedPAC, "Home Health Care Services Payment System," October 2012, p. 1.

[322]Ibid.

[323]Medicare Payment Advisory Commission, "Home Health Care Services Payment System," *Payment Basics*, October 2012, p. 1; Medicare Payment Advisory Commission, "Skilled Nursing Facility Services Payment System," Payment Basics, October 2012, p. 1.

specifically *excluded* from Medicare's home health PPS.[324] However, respiratory care services may be covered under Medicare if they are furnished as part of a "*plan of care*" by a nurse or a physical therapist as a "*skilled care*" visit, rather than as a "*home health episode*."[325]

The ACA included several reimbursement initiatives aimed at bringing payments for the *home health services* more "*in line*" with the costs of providing those services, that is, in:

1. 2011: The standard 60-day episode rate was reduced by 1 percent;
2. 2012 and 2013: The market basket update was reduced by 1 percent;
3. 2014–2016: A phased rebasing was implemented to lower payments to a level to reflect changes in average visits per episode and other factors that may have changed since the rate was originally set. The secretary of Health and Human Services may lower payments by no more than 3.5 percent a year, for a cumulative reduction to payments of 14 percent by 2016. These reductions will be offset by the payment update for each year.
4. 2015 and beyond: The market basket was reduced by multifactor productivity for each year.

Medicare reimbursement for DME is provided under a fee schedule developed from suppliers' previous Medicare charge history. Actual reimbursement payments are typically 80 percent of the lesser of either: (1) the supplier's actual charge; or (2) the Medicare fee schedule for an item or a service. In addition, under the *Medicare Prescription Drug, Improvement, and Modernization Act of 2003* (MMA), the *secretary of HHS* established a program under which DME suppliers must participate in the *competitive bidding program* in order to obtain Medicare contracts.[326]

Medicare reimbursement for *home infusion therapy services*, which differs from reimbursement for other services provided by *home health agencies*, is set forth in Table 12.59.

In contrast to reimbursement for home health services, Medicare reimbursement for hospice services is based on an *adjusted per diem rate* for each

---

[324] See Section 2.4.1.3.1.4, "Skilled Nursing Facility Reimbursement," and Section 2.4.1.3.1.5, "Home Health Reimbursement," in Chapter 2, "Reimbursement Environment," for further discussion.

[325] Centers for Medicare and Medicaid Services, *Medicare Benefit Policy Manual*, Chapter 7, Section 80.8, May 6, 2011, available at http://www.cms.gov/Regulations-and-Guidance/Guidance/Manuals/downloads/bp102c07.pdf (accessed December 7, 2012).

[326] See Section 2.4.1.3.1.8, "Durable Medical Equipment Reimbursement," in Chapter 2, "Reimbursement Environment, for further discussion.

TABLE 12.59 Reimbursement for Home Infusion Therapy Services

	Part A Home Health	Part B DME Benefit	Part C Medicare Advantage (MA)	Part D Prescription Drug Plan	State Medicaid Program	Other Payer Coverage
Requirement	Homebound and in need of part-time or intermittent skilled nursing or therapy services, if such services are reasonable and necessary to the treatment of the illness or injury.	If medically necessary for the drug to be administered through an infusion pump (except for IVIG).	Coverage of at least Part A/B services. Coordinated care plans may include additional coverage and mechanisms to control utilization.	Drugs that are not currently covered under Parts A and B of Medicare, or otherwise excluded under Part D.	If coverage is not available through Parts A, B, C, or D of Medicare, the Medicaid home health benefit may cover services, equipment, and supplies necessary to administer home infusion drugs.	Varies, but generally like Part C.
Professional Fees	Yes—If homebound or if drug is covered under Part B (except for IVIG, where all components are billed under Part B).	No—Except for cases of IVIG.	Yes	No—But Plan must require the contracted pharmacies to provide necessary DME, supplies, and services to dispense a drug billed to Part D Plan.	Yes—May be billed separately or as part of bundled rate.	Varies, but generally like Part C.

Equipment and Supplies	Yes—In certain circumstances under the DME, prosthetic, or home health benefit,	Yes—Supplies are billed separately by the vendor under either the DME, prosthetic, or home health benefit.	Yes—Most often included in bundled payment.	No—Cost of supplies, equipment, and professional fees must be covered via Medicare Parts A or B, MA, Medicaid, other insurance, or out of pocket.	Yes—May be billed separately or as part of bundled rate.	Varies, but generally like Part C.
Drug Ingredient and Dispensing Fee	No—Drugs/ biologicals are specifically excluded from the Part A home health benefit.	Yes—Part B pays for about 30 drugs & TPN under DME benefit, but there is no separate dispensing fee paid.	If covered, under Part B, yes. If not covered under Part B, must be covered under Part D in a MA-PD plan.	Yes.	No—Unless drugs are included in bundled rate, which does not trigger Medicaid FFP exclusion.	Varies, but generally like Part C.

"Memorandum to All Part D Sponsors from Gary Bailey, Deputy Director, Center for Beneficiary Choices Regarding Home Infusion Therapy," Center for Beneficiary Choices, CMS, March 10, 2006, Attachment A, p. 3; *Report to the Congress: Medicare and the Health Care Delivery System*, Medicare Payment Advisory Commission, June 2012, Chapter 6, pp. 175–179.

day a beneficiary is enrolled in the *hospice benefit program*, regardless of the level of services received on that day.[327] In addition to the *per diem rate*, hospice facilities may bill Medicare separately for *prescription drugs* or *respite care*.[328] Significantly, Medicare *caps* payments to hospice facilities in two ways: (1) the *inpatient cap* limits the number of days of inpatient care that the hospice may provide, to no more than 20 percent of the total inpatient care days; and (2) the *aggregate cap* is an absolute dollar limit on the average annual payment per beneficiary that an agency can receive. The *aggregate cap* amount for the year ending October 31, 2012, was $25,377.01.[329]

Individuals covered under Medicare Part A can elect to receive hospice care if they:

1. Have a terminal illness with a prognosis of under six months, if the disease runs its normal course;
2. Receive treatment in a Medicare-approved hospice center; and
3. Sign a statement electing hospice care and waiving all other rights to Medicare payments associated with the terminal illness.[330]

During the first 90 days of hospice care, the beneficiary must receive a signed certification of a terminal illness from a physician describing the clinical findings that support a life expectancy of under 6 months.[331] After the initial 90-day period, a physician must recertify that the patient is still eligible for hospice care.[332]

Between 2005 and 2011, Medicare spending on hospice care for nursing home residents increased 70 percent. In light of this trend, the *U.S. Department of Health and Human Services* (HHS) and the *Office of Inspector General* (OIG) recommended in the *Health Care Fraud and Abuse Control Program Annual Report for Fiscal Year 2011*, that CMS begin to monitor payments to "hospices that depend heavily on nursing facility residents and modify the payment system for hospice care in nursing facilities," and

[327] Medicare Payment Advisory Commission, "Hospice Services Payment System," *Payment Basics*, October 2012, p. 1.

[328] Centers for Medicare and Medicaid Services, "Hospice Payment System: Payment System Fact Sheet Series," July 2012, p. 5.

[329] MedPAC, "Hospice Services Payment System," October 2012, p. 3; Department of Health and Human Services, "Hospice Payment System: Payment System Fact Sheet Series," July 2012, p. 5.

[330] Centers for Medicare and Medicaid Services, "Hospice Payment System: Payment System Fact Sheet Series," July 2012, p. 1.

[331] Ibid., p. 3.

[332] Ibid., pp. 3–4.

Factoid

Between 2005 and 2011, Medicare spending on hospice care for nursing home residents increased 70 percent.

The Department of Health and Human Services and the Department of Justice Health Care Fraud and Abuse Control Program Annual Report for Fiscal Year 2011, *United States Department of Health and Human Services, February 2012, p. 48.*

modify the current hospice reimbursement structure, which incentivizes hospices to target "*nursing facility beneficiaries who often receive longer but less complex care.*"[333] While, to date, no action has been taken to change reimbursement incentives for hospice services, fraud and abuse scrutiny of these facilities will likely continue to be present going forward as the U.S. healthcare delivery system evolves within the new era of reform.

12.4.1.3 Competition According to a *March 2012 MedPAC Report*, patient access to home health services appears to be adequate as the supply of providers continues to increase to the meet the growing demand, for example, 420 new home health agencies entered the market in 2011, totaling approximately 11,900 home health agencies in the United States.[334] Most of the growth in newly developed home health agencies has been in the *for-profit sector*, with the greatest amount of growth concentrated in Texas, California, Florida, and Illinois.[335] Competition among home healthcare providers is largely *variable*, due to the wide spectrum in the *scope of services* that may be provided by a given home health agency. For example, home health agencies may provide services that require a licensed provider, for example, home infusion therapy; respiratory care; physical, occupational, and speech therapy; and skilled nursing services, or may provide services that do not require a licensed provider, such as those provided by a home health aide.[336]

---

[333] *The Department of Health and Human Services and the Department of Justice Health Care Fraud and Abuse Control Program Annual Report for Fiscal Year 2011*, United States Department of Health and Human Services, February 2012, p. 48.

[334] MedPAC, "Home Health Care Services," in "*Report to the Congress: Medicare Payment Policy*," March 2012, p. 211.

[335] Ibid.

[336] Medicare Payment Advisory Commission, "Home Health Care Services Payment System," October 2012, http://www.medpac.gov/documents/MedPAC_Payment_Basics_12_HHA.pdf (accessed March 19, 2013).

Due to the wide range of services provided, the home health industry is highly fragmented, with no single provider accounting for more than 3.5 percent of industry revenue.[337]

Similar to *home health agencies*, *hospice services* vary in scope and provide *palliative services*, which focus on providing patients with relief from the symptoms, pain, and stress of a serious illness.[338] These services include (1) skilled nursing services; (2) drugs and biologicals for pain control and symptomatic management; (2) physical, occupational and speech therapy; (3) counseling services; (4) home health aide services (5) short-term inpatient care; (6) inpatient respite care; and (7) such other palliative services as may be required for the management of terminal illness.[339] Accordingly, hospice providers may compete with *short-term acute care hospitals*, *long-term acute care hospitals*, skilled nursing facilities, and home health agencies, all of which offer certain hospice care services under their continuum of care.[340]

12.4.1.4 Technology Technological advancements in DME and other *home health supplies*, such as those related to *infusion therapy,* have increasingly allowed patients to receive medical care in their homes, rather than at an inpatient or outpatient facility. For example, Medicare spending on *home infusion therapy* drugs, as well as the number of beneficiaries receiving these drugs, increased rapidly between 2006 and 2009, with the number of Part D enrollees receiving Part D–covered home infusion drugs increasing at a rate of 21 percent per year, as compared to a growth rate of 5 percent per year for the overall Part D population.[341] In addition, advancements in *telemedicine* have allowed for *remote patient monitoring* for such conditions as (1) *active heart monitoring*, (2) *blood pressure*, (3) *diabetes*, (4) *prescription compliance*, and (5) *sleep apnea*, which have permitted some patients to

[337] "Apria Healthcare Group, Inc.," Form 10-K for the Fiscal Year Ending December 31, 2012, Securities Exchange Commission, www.sec.gov, p. 5 (accessed March 19, 2013).

[338] Center to Advance Palliative Care, "What Is Palliative Care?" 2012, http://www.getpalliativecare.org/whatis/ (accessed April 15, 2013).

[339] Medicare Payment Advisory Commission, "Hospice Services Payment System," October 2012, http://www.medpac.gov/documents/MedPAC_Payment_Basics_12_hospice.pdf (accessed March 19, 2013).

[340] National Hospice and Palliative Care Organization, *NHPCO Fact and Figures: Hospice Care in America*, 2011 Edition (Alexandria, VA: NHPCO, January 2012), p. 8.

[341] *Report to the Congress: Medicare and the Health Care Delivery System*, Medicare Payment Advisory Commission, Washington, D.C., June 2012, pp. 177–178.

remain in their homes unless a need for acute healthcare services arises.[342] As *home care* services have come "*full circle*" as a prominent healthcare delivery system, and home health providers are increasingly being viewed as a critical link in the array of patient-centered healthcare services aimed to bring care back into the community, technology will likely play an increasingly prominent role in *managing patient populations* in need of home health services, particularly as hospitals incur penalties for patients who are readmitted within 30 days of discharge.[343]

12.4.2 Value Drivers: Home Health Enterprises

Similar to those of other outpatient enterprises, the *value drivers* identified for home health enterprises are: (1) *Capacity*, (2) *Revenue Stream*, (3) *Payor Mix*, (4) *Operating Expenses*, (5) *Capital Structure*, (6) *Suppliers*, (7) *Market Rivalries and Competitors*, and (5) *Subject Entity Specific/Nonsystematic Risk*.

12.4.2.1 Capacity The *capacity* of a home health enterprise differs from other types of outpatient enterprises previously discussed, in that home health services are not provided at a specific *facility*, but rather in a *patient's home*. Consequently, the requisite *due diligence* to ensure that the subject enterprise has *sufficient resources* to handle the projected *patient volumes* may require different considerations. Accordingly, capacity, as a *unit of measurement* for home health enterprises, is typically based on labor metrics, for example, the number of FTE provider manpower necessary to provide quality services efficiently and effectively to meet the available demand.

12.4.2.2 Revenue Stream Reimbursement for home health services is significantly limited by (1) the *type of condition being treated*, (2) the *type of service being performed* (see above), and (3) the source of payment. Accordingly, only certain *patient populations* are likely to generate a steady *revenue stream*, such as those patients who exhibit chronic health conditions. In addition, several services are reimbursed under *episode-based payments*, which use a different *unit of productivity*—that is, the *episodes of*

---

[342] Steff Descgebes, "Top 5 Conditions for Telemedicine Treatment," *Healthcare IT News*, July 27, 2012, http://www.healthcareitnews.com/news/top-5-health-conditions-telemedicine-treatment (accessed September 26, 2012); *Connected Care: Technology-enabled Care at Home* (Washington, DC: Deloitte Center for Health Solutions, 2008), pp. 3–7.

[343] See Section 2.4.1.3.4, "Quality Limitations on Medicare Reimbursement," in Chapter 2, "Reimbursement Environment," for further discussion.

care (measured in 60-day episodes for Medicare reimbursements)—than the metrics used for *other professional practices*, such as *wRVUs* or *procedure volumes*.[344]

Home health is one of the fastest growing healthcare industries, with home health agency industry revenue predicted to increase 5.1 percent annually, reaching $89.6 billion in 2017. Despite this anticipated growth in revenue, industry profit margins are expected to continue declining from 7.1 percent of revenue in 2007 to 6.9 percent of revenue in 2012, and 6.5 percent of revenue by 2017, likely resulting from reimbursement cuts and a shortage of skilled providers. The projected growth in the home health agency industry, along with the projected declining margins, is expected to fuel consolidation within the home health industry, including *home healthcare agencies*, *home care aide organizations*, and *hospices*.[345] It should be noted that for *hospice enterprises*, for-profit entities typically experience significantly higher profitability than their not-for-profit counterparts.[346]

In 2001, an equal number of referrals for home health services (approximately two million each) came from the community in which an enterprise is situated and the hospital and/or post-acute care setting in which the patient was originally treated. However, as the home health industry has grown, the source of patient volumes has changed. For example, between 2001 and 2008 the number of within-community referrals increased by 48 percent, while the number of referrals from a hospital and/or a post-acute care setting increased only 12 percent during the same period.[347] An example of the application of the revenue stream can be found online at http://www.wiley.com/go/healthcarevaluation.

12.4.2.3 Payor Mix Similar to that of most healthcare enterprises, the *payor mix* affects the *revenue* (and subsequent *net economic benefit*) generated by an enterprise and is often a significant factor driving the *value* of a specific home health enterprise.

---

[344] MedPAC, "Home Health Care Services Payment System," October 2011, *Payment Basics*, p. 1. A more detailed discussion of Medicare reimbursement for home health is set forth in Section 2.4.1.3.1.5, "Home Health Reimbursement," in Chapter 2, "Reimbursement Environment."

[345] Anna Son, *IBISWorld Industry Report 62161: Home Care Providers in the US*, IBIS World, August 2012, pp. 5, 15.

[346] Hospice Association of America, "Hospice Facts and Statistics," November 2010, p. 4; National Hospice and Palliative Care Organization, *NHPCO Fact and Figures: Hospice Care in America*, 2010 Edition, p. 8.

[347] Judy Goldberg Dey, et al., *Home Health Study Report*" to Centers for Medicare and Medicaid Services, Washington, DC: L&M Policy Research, January 11, 2011, p. 15.

TABLE 12.60 Home Health Payor Mix, 2012

Payor	Mix
Medicare	41%
Medicaid	24%
State and Local Governments	15%
Out-of-Pocket	10%
Private Insurance	8%
Other	2%

IBISWorld Industry Report 62161: Home Care Providers in the US, by Anna Son, IBIS World, August 2012, p. 18.

Medicare remained the largest single payer of home healthcare services, paying for 41 percent of all home health expenditures in 2012. The typical payor mix for a home health enterprise is set forth in Table 12.60.

Since *commercial payors* typically pay higher reimbursement rates than *public payors*, the ability of the subject enterprise to obtain reimbursement from these higher-paying sources may positively affect their revenue-generating capabilities. However, since the demand for home health services is typically driven by an older patient demographic, Medicare reimbursement will likely continue to be a major funding source for home health enterprises.

12.4.2.4 Operating Expenses Typically, the largest operating cost for home health enterprises is staff costs, which include both *skilled labor*, for example, physicians, nurses, social workers, chaplains, therapists, and counselors, and *unskilled labor*, such as nurses' aides, home care aides, food service workers, and janitors.[348] However, the skilled labor component, also referred to as the *provider compensation–related expense*, is usually the largest single expenditure. In 2012, the *provider compensation–related expense*s were anticipated to make up 51.5 percent of *home health revenues*, in contrast to provider compensation expense to revenue of 44.0 percent for the *entire healthcare industry.*[349]

[348] BizMiner, *Homes for the Elderly 5-Year Industry Financial Report*, August 2012, p. 2; Hospice Association of America, "Hospice Facts and Statistics," November 2010, p. 6.

[349] Anna Son, *IBISWorld Industry Report 62161: Home Care Providers in the US*, IBIS World, August 2012, pp. 15 and 25.

12.4.2.5 Capital Structure The implications of the capital structure decision for home health enterprises are similar to those of physician professional practices, as discussed in Section 12.2.1.3.6, "Capital Structure." These implications include (1) the mix of debt and equity financing affects the *risk-adjusted required rate of return* for investment in the subject enterprise; (2) *debt financing* is typically cheaper than *equity financing*; and (3) financing costs reflect the risks associated with each type of capital provided, for example, debt financing typically considers the risk of the four Cs: **c**redit risk (default risk) of the borrower, **c**apacity of the borrower to make timely repayments of both principal and interest (short-term liquidity and interest coverage), **c**ollateral to cover the lender in case of borrower default, and an analysis of the **c**ovenants included in the indenture agreement.

Due to the presence of publicly traded companies operating in the home healthcare industry, data and information pertaining to the most probable capital structure of a home health enterprise can be derived from normative industry benchmark survey data (see *Key Sources*), as well as comparable publicly traded company data. In addition, the capital structure can be determined through techniques such as the *iterative method*.[350] As previously mentioned, for the purpose of establishing the *fair market value* of a business enterprise, it is important to use formulas based on *market values* of *equity* and *debt*, rather than *book values*.[351]

12.4.2.6 Suppliers The *healthcare industry supply chain* may also have a significant impact on the economic operating cost burden incurred by a home health enterprise, due to the amount of drugs and supplies required by the organization to generate the services provided by the subject home health enterprise. Enterprises, in general, generate a significant amount of their *bargaining power* from their size, with larger enterprises being more likely to have greater *negotiating power* with vendors and suppliers, which may translate into *lower operating costs* and a greater *value* attributable to the enterprise.[352]

---

[350] See Section 9.2.1.3, "Capital Structure," in Chapter 9, "Costs and Sources of Capital," for further discussion of determining the capital structure.

[351] Shannon P. Pratt and Roger J. Garbowski, *Cost of Capital: Applications and Examples*, 3rd ed. (Hoboken, NJ: John Wiley & Sons, 2008), pp. 276–277.

[352] See Chapter 4, "Competition," and Chapter 11, "Inpatient Enterprises," for further discussion.

12.4.2.7 Market Rivalries and Competitors The *home health* market is *highly fragmented*, with the largest four companies accounting for only 10.2 percent of total industry revenue. While *concentration* in the industry is currently *low*, consolidation is projected to increase over the next decade, with 459 mergers and acquisitions of home health enterprises occurring between 1999 and 2009.[353] The most significant transaction to date was the acquisition of *Apria Healthcare Group* by *Blackstone Group*, a private equity and investment management firm, in 2008, which at $1.6 billion was nearly twice the size of the next largest transaction.[354]

In 2010, the *home infusion therapy* market consisted of approximately 700 to 1,000 national, regional, and local providers, which is a significant decline from 3,000 to 4,000 providers in the market in 2005.[355] This decline is mostly attributable to the high market transaction activity between 2002 and 2007, when many providers were acquired by larger companies.[356] However, the industry generated annual net revenues of $11 billion in 2010 and is projected to continue its revenue growth trend.[357] Similarly, the *respiratory therapy* market consisted of more than 2,000 regional and local providers as of 2012.[358]

The market for *home medical equipment* peaked in 2004 and 2005, with 99 transactions in each year; however, the number of transactions fell to below 40 in 2008, due to such reimbursement changes as the 36-month cap on oxygen reimbursement. While the home medical equipment market has not returned to the activity seen in 2004, the number of transactions has increased since 2009, reaching approximately 55 in 2011.[359]

---

[353]Anna Son, *IBISWorld Industry Report 62161: Home Care Providers in the US*, IBIS World, August 2012, p. 22.

[354]Ibid.

[355]U.S. Government Accountability Office, *Home Infusion Therapy: Differences between Medicare and Private Insurers' Coverage*, Report to Congress, Report No. GAO-10-436, June 2010, p. 1; Securities Exchange Commission, "Option Care, Inc. Form 10K for Fiscal Year Ending December 31, 2005," p. 7.

[356]The Braff Group, "Home Infusion Therapy," *Market Watch* 2011, p. 2.

[357]U.S. Government Accountability Office, *Home Infusion Therapy: Differences between Medicare and Private Insurers' Coverage*, Report to Congress, Report No. GAO-10-436, June 2010, p. 1.

[358]Anna Son, *IBISWorld Industry Report 62161: Home Care Providers in the US*, IBIS World, August 2012, p. 22.

[359]The Braff Group, "Home Medical Equipment," *Market Watch* 2012, p. 1.

There were approximately 7,789 providers of *hospice* and *palliative care* in the United States as of 2012.[360] In 2010, for-profit facilities represented 53.9 percent of all hospice facility owners, not-for-profit facilities represented 32.7 percent of *hospice facility owners*, and *governmental* and other owners account for the remaining 13.4 percent of hospice facility owners.[361] Also, as of 2010, 58 percent of hospice enterprises were *freestanding independent facilities*.[362] Since 2007, industry revenues have seen an average annual growth of 9.8 percent, with revenue projected to reach $20.6 billion by 2013.[363] From 2008 to 2011, the number of hospice *merger and acquisition transactions* grew significantly from under 20 in 2008 to more than 40 in 2011. Some industry experts predicted that the hospice merger and acquisition "*bubble*" is poised to burst in early 2013, noting market deflation among the largest providers and the possibility of future reimbursement cuts.[364]

12.4.2.8 Subject Entity Specific/Nonsystematic Risk In the determination of the adjustment for the *specific risk premium for the interest in a home health enterprise*, a valuation analyst may, somewhat subjectively, consider the various risk factors that are inherent and specific to the enterprise being valued, as well as the enterprises operational performance as compared to the industry benchmarks. Specific risk factors may include (1) *diversity of referral sources*; (2) *depth of management*; (3) *stability of business*; (4) *level of competition*; (5) *operational performance*; (6) *risk related to future changes in reimbursement*, due to the contracting ability of the subject enterprise; (7) *diversity of payor mix*; and (8) *variance* in availability of workforce in the market service area.

12.4.2.8.1 Other Pertinent Valuation Considerations: Home Health Enterprises Table 12.61 illustrates some of the other pertinent considerations related to the valuation of home health enterprises.

---

[360] Brian Bueno, *IBIS World Industry Report OD4952: Hospice & Palliative Care Centers in the US*, IBIS World, February 2012, p. 4.

[361] MedPAC, "Hospice Services," March 2012, p. 290.

[362] National Hospice and Palliative Care Organization, "NHPCO Fact and Figures: Hospice Care in America," 2011 Edition, p. 8.

[363] Brian Bueno, *IBIS World Industry Report OD4952: Hospice & Palliative Care Centers in the US*, IBIS World, February 2012, p. 4.

[364] The Braff Group, "Will 2012 Mark the End of Peak Pricing for Hospice Providers?" *Market Watch* 2012, pp. 1–2.

TABLE 12.61 Other Pertinent Valuation Considerations: Home Health Enterprises

Pertinent Considerations	Description
Operating Expense Structure	*Home health enterprises* do not require the development of facilities for the provision of medical services and therefore have significantly different expense structures from other outpatient enterprises.
	Human resource–related expenses represent the greatest portion of a *home health enterprise's* expenses, requiring greater scrutiny as to the *market value* of these services.
Capital Expenditures	*Home health enterprises* typically have lower capital requirements than other outpatient enterprises, due mainly to the lack of significant facilities or equipment related to *ancillary services and technical component service lines*.
	Home infusion and *respiratory therapy* may require *greater* capital expenditures than other home health enterprises, related to the equipment necessary for the provision of these services.

12.5 CONCLUSION

The value of outpatient enterprises is significantly tied to the rapidly evolving U.S. healthcare industry, eminent in the modern era of health reform.[365] The ability of outpatient enterprises to operate in a *continuum of care* in the new *value based purchasing paradigm* may determine their viability as an ongoing enterprise in the future. The analysis of an outpatient enterprise should start with the understanding that

> *Under the new value-based business model, providers will achieve success by offering services with the best possible quality, outcomes, and access for the lowest possible cost across the continuum of patient care needs and sties. The new value proposition will demand a totally different system of care. The physician-centric approach to episodic patient care, which comes with costs the American society can no longer afford, will require the close integration of hospitals, physicians, and other providers.*[366]

[365] See Chapter 6, "Healthcare Reform," for further discussion.

[366] Kenneth Kaufman and Mark E. Grube, "The Transformation of America's Hospitals: Economics Drives a New Business Model," *Futurescan 2012*, Society for Healthcare Strategy and Market Development of the American Hospital Association, 2012, pp. 6–7.

The number of healthcare services provided at outpatient enterprises continues to increase, due to rapidly evolving *technological advances* that allow many services and procedures to be performed in a *safe*, *high quality*, and often *less costly* environment than at many inpatient providers. At the same time, the *transactional environment* related to many of these outpatient enterprises, such as physician practices, is also increasing as these enterprises are being acquired by hospitals and health systems. Further, in addition to the increased hospital employment of physicians, the overall healthcare transactional market is likely to experience increased transactional activity as a result of the ACA and other healthcare reform initiatives, as physician practices and other outpatient enterprises, for example, ASCs, diagnostic imaging centers, and cancer treatment centers, participate in such integration activities as *accountable care organizations*, *medical homes*, and *comanagement* arrangements. These topics will be discussed further in Chapter 13, "The Valuation of Other Healthcare-Related Enterprises."

12.6 KEY SOURCES

Physician Characteristics and Distribution in the US

Published by the American Medical Association, this source provides statistics regarding physician demographics for various specialties.

Physician Characteristics and Distribution in the US, Chicago: American Medical Association (Published annually)

American Board of Medical Specialties (ABMS)

A not-for-profit organization, assisting the 24 approved medical specialty boards in the development and use of standards in the ongoing evaluation and certification of physicians.

"Who We Are & What We Do," American Board of Medical Specialties, 2012, http://www.abms.org/About_ABMS/who_we_are.aspx (accessed April 1, 2013)

http://www.abms.org/

American Medical Association (AMA)

An organization promoting the art and science of medicine and the betterment of public health through dedication to ensuring sustainable physician practices that result in better health outcomes for patients.

"About AMA," American Medical Association, 2013, http://www.ama-assn.org/ama/pub/about-ama/strategic-focus.page? (accessed April 1, 2013)

http://www.ama-assn.org

MGMA Physician Compensation and Production Survey

An annual report based on data from providers in groups, spotlighting critical relationships between compensation and productivity for physicians and non-physician providers.

MGMA Physician Compensation and Production Survey: 2012 Interactive Report Based on 2011 Data, Medical Group Management Association, 2012

http://www.mgma.com/

American Chiropractic Association

The American Chiropractic Association represents doctors of chiropractic and promotes the highest standards of ethics and patient care, contributing to the health and well-being of millions of chiropractic patients.

"About ACA," American Chiropractic Association, 2013, http://www.acatoday.org/level1_css.cfm?T1ID=10 (accessed April 1, 2013)

http://www.acatoday.org

Bureau of Labor Statistics

The Bureau of Labor Statistics is the principal Federal agency responsible for measuring labor market activity, working conditions, and price changes in the economy to support public and private decision-making.

"About BLS," Bureau of Labor Statistics, 2013, http://www.bls.gov/bls/infohome.htm (accessed April 1, 2013)

http://www.bls.gov

Occupational Outlook Handbook

An online resource providing information for hundreds of occupations, including BLS employment projections for the 2010–20 decade.

Occupational Outlook Handbook, 2012–13 Edition, United States Department of Labor, http://www.bls.gov/ooh/ (accessed December 3, 2012)

http://www.bls.gov/ooh

National Alliance on Mental Illness

The nation's largest grassroots mental health organization dedicated to building better lives for the millions of Americans affected by mental illness; advocating for access to services, treatment, support, and research.

"About NAMI," National Alliance on Mental Illness, 2013, http://www.nami.org/template.cfm?section=About_NAMI (accessed April 1, 2013)

http://www.nami.org

National Institutes of Health

The National Institutes of Health is the nation's medical research agency, making important discoveries that improve health and save lives as the largest source of funding for medical research in the world.

"About NIH," National Institutes of Health, 2013, http://nih.gov/about/ (accessed April 1, 2013)

http://www.nih.gov

The National Center for Complementary and Alternative Medicine

The National Center for Complementary and Alternative Medicine is a federal agency focusing on scientific research on the diverse medical and healthcare systems, practices, and products that fall outside the scope of conventional medicine.

"About NCCAM," National Center for Complementary and Alternative Medicine

http://nccam.nih.gov

American Association of Nurse Anesthetists

American Association of Nurse Anesthetists is the professional organization representing approximately 45,000 nurse anesthetists, practicing in every setting where anesthesia is available, and the primary providers of anesthesia care in rural America.

"About Us," American Association of Nurse Anesthetists, 2013, http://www.aana.com/aboutus/Pages/default.aspx (accessed April 1, 2013)

http://www.aana.com

American Physical Therapy Association

Representing more than 85,000 member physical therapists, physical therapist assistants, and students of physical therapy, the American Physical Therapy Association seeks to improve the health and quality of life of individuals in society by advancing physical therapist practice, education, and research.

"About Us," American Physical Therapy Association, 2013 http://www.apta.org/AboutUs/ (accessed April 1, 2013)

http://www.apta.org

American Academy of Physician Assistants

The American Academy of Physician Assistants is the national professional society for physician assistants, representing more than 86,500 certified PAs in all 50 states.

"About AAPA," American Academy of Physician Assistants, 2013, http://www.aapa.org/about_aapa.aspx (accessed April 1, 2013)

http://www.aapa.org

American Academy of Urgent Care Medicine

The American Academy of Urgent Care Medicine is a society that represents physicians, physician assistants, and nurse practitioners practicing urgent care medicine.

"About the AAUCM," American Academy of Urgent Care Medicine, 2013, http://aaucm.org/About/default.aspx (accessed April 1, 2013)

http://aaucm.org

Medicare Claims Processing Manual

An annual manual provided by CMS offering compliance guidance for providers to properly process Medicare claims for healthcare services.

Medicare Claims Processing Manual, Centers for Medicare and Medicaid Services, June 8, 2012

IBISWorld Industry Reports

IBISWorld's Industry Reports cover 700 different industries. Each industry report is presented in an objective, easy-to-understand format and is used for understanding market size, competitors, benchmarking, forecasting, business valuations, and litigation support

"IBISWorld Homepage," IBISWorld, 2013, http://www.ibisworld.com/ (accessed April 1, 2013)

http://www.ibisworld.com/

Health, United States

An annual survey and comprehensive report of patient health statistics and metrics including: morbidity, mortality, insurance, utilization, prevention, and expenditures

Health, United States, 2011: With a Special Feature on Socioeconomic Status and Health, National Center for Disease Statistics (Washington, DC, U.S. Government Printing Office, 2012)

http://www.cdc.gov/nchs/hus.htm

Report to the Congress: Medicare Payment Policy

An annual report of Medicare payments and policy recommendations.

Report to the Congress: Medicare Payment Policy, Medicare Payment Advisory Commission, Washington, DC, MedPAC, March 2012

http://medpac.gov/documents/Mar12_EntireReport.pdf

United States Department of Health and Human Services (HHS)

"The Department of Health and Human Services (HHS) is the United States government's principal agency for protecting the health of all Americans and providing essential human services." HHS has 11 agencies, among which are the Centers for Medicare and Medicaid Services

(CMS), Indian Health Services (IHS), the Office of the Inspector General (OIG), and the National Institutes of Health (NIH).

"About HHS," Department of Health and Human Services, http://www.hhs.gov/about/ (accessed October 6, 2009)

http://www.hhs.gov/

Centers for Medicare and Medicaid Services (CMS)

The Centers for Medicare and Medicaid Services administer the Medicare, Medicaid, and CHIP programs. CMS is responsible for setting reimbursement rates under Medicare and Medicaid. The CMS website contains important information for beneficiaries of these programs, as well as for guidelines for providers.

"Mission, Vision & Goals: Overview," Centers for Medicare and Medicaid Services, U.S. Department of Health and Human Services, http://www.cms.hhs.gov/MissionVisionGoals/ (accessed September 22, 2009)

http://www.cms.hhs.gov

United States Department of Health And Human Services (HHS) Office of Inspector General (OIG)

The Office of the Inspector General of the United States Department of Health and Human Services oversees all HHS programs in order to protect the integrity of the programs and the health and welfare of beneficiaries.

"Office of the Inspector General," U.S. Department of Health and Human Services, http://oig.hhs.gov/ (accessed September 22, 2009)

http://oig.hhs.gov/

BizMiner Industry Financial Profiles

Based on annual income tax returns, U.S. Census data, U.S. Bureau of Labor data, commercial real estate surveys, credit reporting agencies, and business directories.

BizMiner Data and Sources, The Brandow Company, 2012, http://www.bizminer.com/resources/technical/our-data.php (accessed December 17, 2012)

http://www.bizminer.com

Integra Industry Reports

Based on annual income tax returns, U.S. Department of Labor data, the National Company Database of Financial Product Usage and Demand, the Industry Geographic Analysis Database, U.S. Bureau of Labor Statistics, and the Purchase Opportunity Profiles Database.

MicroBilt's Integra Financial Benchmarking Data, by MicroBilt, 2012, http://www.microbilt.com/financial-benchmarking.aspx (accessed September 30, 2012)

http://www.microbilt.com

IRS Corporation Source Book of Statistics of Income

Published by the IRS, based on annual tax returns.

http://www.irs.gov/uac/SOI-Tax-Stats-Corporation-Source-Book:-U.S.-Total-and-Sectors-Listing (accessed December 17, 2012)

http://www.irs.gov/uac/SOI-Tax-Stats-Corporation-Source-Book:-U.S.-Total-and-Sectors-Listing

Risk Management Association (RMA) Annual Statement Studies

Based on financial statements submitted to financial institutions across the United States.

2011–2012 Annual Statement Studies, by Risk Management Association, 2012

Electronic Data Gathering, Analysis, and Retrieval system (EDGAR)

EDGAR performs automated collection, validation, indexing, acceptance, and forwarding of submissions by companies and others who are required by law to file forms with the U.S. Securities and Exchange Commission (SEC). Its primary purpose is to increase the efficiency and fairness of the securities market for the benefit of investors, corporations, and the economy by accelerating the receipt, acceptance, dissemination, and analysis of time-sensitive corporate information filed with the agency.

"Important Information about EDGAR," U.S. Securities and Exchange Commission, February 16, 2010, http://www.sec.gov/edgar/aboutedgar.htm (accessed April 3, 2013)

http://www.sec.gov/edgar.shtml

Intellimarker

Study based on analysis on licensed freestanding ASCs and cases; provides detailed financial benchmarking information and analysis on U.S. ASCs, including detailed revenue analyses.

Intellimarker: Ambulatory Surgical Center Financial and Operational Benchmarking Study, VMG Health

www.vmghealth.com

Association (ASCA)

Ambulatory Surgery Center ASCA is the national membership association that represents ASCs and provides advocacy and resources to assist ASCs in delivering high quality, cost-effective ambulatory surgery to all of the patients they serve.

"Mission," Ambulatory Surgery Center Association, 2013, http://www.ascassociation.org/AboutUs/Mission/ (accessed April 3, 2013)

http://www.ascassociation.org/Home/

12.7 ACRONYMS

Acronym	Full Title
AACP	American Academy of Chiropractic Physicians
AAMC	Association of American Medical Colleges
AAP	American Academy of Pediatrics
AAUCM	American Academy of Urgent Care Medicine
ABMS	American Board of Medical Specialties
ACA	Patient Protection and Affordable Care Act
ACBSP	The American Chiropractic Board of Sports Physicians
ACC	American College of Cardiology
ACGME	Accreditation Council for Graduate Medical Education
ACNM	American College of Nurse-Midwives
ACO	Accountable Care Organization
ACOG	American Congress of Obstetricians and Gynecologists
ADA	American Dental Association
AED	Automated External Defibrillator
AMA	Association of American Medical Colleges
AOA	American Osteopathic Association
ASC	Ambulatory Surgery Centers
ASCA	Ambulatory Surgery Center Association
ASTC	Ancillary Services and Technical Component
AV	Arteriovenous
CAM	Complementary and Alternative Medicine
CF	Conversion Factor
CFS	The College on Forensic Sciences
CLIA	Clinical Laboratory Improvement Amendments
CMS	Center for Medicare and Medicaid Services
CODA	Commission on Dental Accreditation
CON	Certificate of Need
CPOE	Computerized Physician Order Entry

CPT	Current Procedural Terminology
CRNA	Certified Registered Nurse Anesthetists
CRSPPP	Commission for the Recognition of Specialties and Proficiencies in Professional Psychology
CT	Computed Tomography
DDS	Doctorate of Dental Surgery
DMD	Doctorate of Dental Medicine
DME	Durable Medical Equipment
DMP	Doctor of Podiatric Medicine
DO	Doctor of Osteopathy
DRG	Diagnosis-Related Group
E/M	Evaluation and Management
EBITDA	Earnings Before Interest, Taxes, Depreciation, and Amortization
EBITDAR	Earnings Before Interest, Taxes, Depreciation, and Amortization, and Rent
EHR	Electronic Health Record
EKG	Electrocardiogram
EPSDT	Early Periodic Screening, Diagnosis, and Treatment Program
ESRD	End Stage Renal Disease
FFS	Fee-for-Service
fMRI	Functional Magnetic Resonance Imaging
FTE	Full Time Equivalent
GDP	Gross Domestic Product
GPO	Group Purchasing Organization
HEAT	Health Care Fraud Prevention and Enforcement Action Team
HIE	Health Insurance Exchanges
HIV	Human Immunodeficiency Virus
HMO	Health Maintenance Organization
HOPD	Hospital Outpatient Department
IACN	The International Academy of Chiropractic Neurology
IBD	Interest Bearing Debt
IDTF	Inpatient Diagnostic Testing Facility
IGRT	Image Guided Radiotherapy
IM	Intramuscular
IMRT	Intensity-Modulated Radiation Treatment
IPPS	Inpatient Prospective Payment System
IV	Intravenous
LCME	Liaison Committee on Medical Education
MCAT	Medical College Admission Test
MD	Doctor of Medicine
MedPAC	Medicare Payment Advisory Committee
MEI	Medicare Economic Index

MGMA	Medical Group Management Association
MIPPA	Medicare Improvements for Patients and Providers Act
MLP	Midlevel Provider
MPFS	Medicare Physician Fee Schedule
MRI	Magnetic Resonance Imaging
MS	Multiple Sclerosis
MSSP	Medicare Shared Savings Program
NAICS	North American Industry Classification System
NBEO	National Board of Examiners in Optometry
NPP	Nonphysician Provider
OD	Doctor of Optometry
OIG	Office of the Inspector General
OON	Out-of-Network
OPPS	Outpatient Prospective Payment System
P4	Preparing the Personal Physician Initiative
PA	Physician Assistants
PCIP	Medicare Primary Care Incentive Program
PCMH	Patient Centered Medical Home
PET	Positron Emission Tomography
PPS	Prospective Payment System
Psy. D	Doctor of Psychology
QHP	Comprehensive Qualified Health Plan
RBRVS	Resource Based Relative Value Scale
SGR	Sustainable Growth Rate
SIC	Standard Industrial Classification
SPECT	Single-Photon Emission Computed Tomography
TEN units	Transcutaneous Electrical Nerve Simulation Units
UCAOA	Urgent Care Association of America
UCCA	Urgent Care Center Accreditation
VBP	Value Based Purchasing
WACC	Weighted Average Cost of Capital
wRVU	Work Relative Value Unit

CHAPTER 13

The Valuation of Other Healthcare-Related Enterprises

In addition to those enterprises that provide *inpatient* and/or *outpatient* services, the U.S. healthcare delivery system consists of numerous types of healthcare enterprises other than inpatient enterprises (see Chapter 11, "Inpatient Enterprises") and outpatient enterprises (see Chapter 12, "The Valuation of Outpatient Enterprises"). These other healthcare enterprises (including those listed in Table 13.1) are a significant component of the U.S. healthcare transactional marketplace and have the potential to hold significant *value* for their owner(s)/investor(s), resulting from the integral

TABLE 13.1 Types of Other Healthcare Enterprises

Healthcare Provider Management Services	Healthcare Support Service Businesses
Management Service Organizations (MSOs)	Revenue Cycle Management Companies
Physician Practices Management Companies (PPMCs)	Billing Companies
Physician Hospital Organizations (PHOs)	Collection Agencies
Independent Practice Associations (IPAs)	Transcription Services
Accountable Care Organizations (ACOs)	Healthcare Informatics
Federal ACOs	Medical Record Companies
Commercial ACOs	Real Estate Leasing and Development
Co-Management Companies	Utilization Management and Case Management Firms
Disease Management	
Healthcare Payors	**Supply Side Enterprises**
Health System Plans	Group Purchasing Organizations (GPOs)
Blue Cross Blue Shield (BCBS)	Medical Equipment Leasing and Sales
Indemnity Insurers	Used Equipment Companies
Administrative Services Only (ASO) Services	Durable Medical Equipment
Provider-Sponsored Organizations	Office Equipment Vendors
Government Risk Contractors	
Managed Care Organizations	
Health Maintenance Organizations (HMOs)	

role these enterprises play in supporting the delivery of the medical care across the *patient care continuum*.

While each of the enterprises included in Table 13.1 is an important component of the U.S. healthcare delivery system, this chapter focuses on the following three categories, as representative of the valuation consideration of other healthcare entities:

1. **Management service enterprises**—which provide management or other administrative services to healthcare providers;

3. **Third-party payor enterprises**—which finance or reimburse the cost of healthcare services to the provider; and
4. **Supply side enterprises**—which provide the supplies to the provider that are required in the provision of healthcare services.

13.1 MANAGEMENT SERVICE ENTERPRISES

> *What was commonplace in 1997 is long gone, and new trends have replaced it. Thus we need to begin to work with the system as it is and where it is going, as accurately as we can predict to improve care decisions and raise the bar on evidence-based medicine as we know it. This way, everyone benefits: payers, employers, employees, consumers, providers, and vendors who are interrelated and interdependent on a working and integrated system.*[1]

Management service enterprises in the healthcare industry may be classified as those enterprises that provide *management* or other *administrative services* to healthcare providers. These enterprises often have the goal of facilitating the *integration of care* and/or improving *efficiencies* in order to lower the costs related to the provision of care and to improve quality and increase beneficial outcomes. The management of healthcare services has evolved through several phases, particularly during the last three decades, with new models appearing during each phase.

Management Service Organization (MSO)

A corporation owned by the hospital or by a physician-hospital joint venture that provides management services to one or more medical group practices.

A Guide to Physician Integration Models for Sustainable Success, *American Hospital Association, September 2012, http://www.hpoe.org/Reports-HPOE/guide_to_physician_integration_models_for_sustainable_success.pdf (accessed October 31, 2012).*

[1] Maria K. Todd, *Physician Integration and Alignment: IPA, PHO, ACOs, and Beyond* (Boca Raton, FL: CRC Press, 2013), p. 11.

13.1.1 Types of Management Service Enterprises

The rapid growth of *managed care* and the increased *integration* among providers,[2] as well as the changing reimbursement environment in the late 1980s and early 1990 led to the acceleration in the growth of management service enterprises. The volume of management service enterprises increased throughout the *provider integration frenzy* of the 1990s, but then declined as the *transactions pendulum* reversed itself and healthcare providers began the process of disintegration.[3] By the end of the 1990s, many of these management service enterprises were no longer financially viable and were consequently dissolved; however, several management service enterprises were able to evolve in response to the changing healthcare environment over the past decade and remain solvent.[4] Among the types of management service enterprises that emerged during that period include:

1. *Physician Practice Management Companies;*
2. *Management Service Organizations* (MSOs);
3. *Physician Hospital Organizations* (PHOs);
4. *Independent Practice Associations* (IPA);
5. *Co-management Arrangements*; and
6. *Accountable Care Organizations* (ACOs).

MANAGED CARE

A healthcare delivery system that manages the costs, quality, and access to healthcare delivered by a contracted panel of providers.

Essentials of Managed Health Care, *6th ed., by Peter R. Kongstvedt (Burlington, MA: Jones & Bartlett Learning, 2013), p. 657.*

[2] David W. Hilgers, *Hospital/Physician Relationships: Adversaries by Nature; Partners by Necessity* (Washington, DC: American Health Lawyers Association, June 2004), p. 93.

[3] "The Pitfalls of Using Historic Merger & Acquisition Data When Valuing Medical Practices," *Business Appraisal Practice* (Spring/Summer 2001): 4–21; Rod Aymond and Theodore Hariton, "Regrouping after Disintegration," *Family Practice Management* 7 no. 3 (March 2000): 37.

[4] Federico Ciliberto and David Dranove, "The Effects of Physician-Hospital Affiliations on Hospital Prices in California," *Journal of Health Economics* (2006); Maria K. Todd, *IPA, PHO, & MSO Development Strategies: Building Successful Provider Alliances*, Healthcare Financial Management Association (New York: McGraw-Hill, 1997), p. 3.

13.1.1.1 Practice Management Companies *Physician Practice Management Companies* (PPMCs) are enterprises that specialize in the management of large physician group practices or *independent practice associations* (IPAs), typically through *ownership of the practice* and/or *management agreements*. PPMCs are very similar to MSOs (discussed later), with the primary difference being that they typically do *not* include hospitals or other inpatient enterprise partners and generally manage larger numbers of more *geographically dispersed* and *unaffiliated* physician professional practices. PPMCs are *physician-dominated* and typically have common ownership with the physician practices with which they affiliate.

In the mid-1990s, large PPMCs began to expand into other *nonphysician medical practice arrangements*, such as *pharmaceutical benefits management* and *specialized management enterprises*, such as *dental management companies*.[5] For example, Caremark International merged with Medpartners/Mullikin in 1996 to form MedPartners, Inc.[6] By 1998, Medpartners, Inc., had changed its name to Caremark and discontinued all nonpharmaceutical services to focus on providing comprehensive prescription benefit management programs.[7]

Pharmaceutical benefits management (PBM) companies emerged in the early 2000s as a means of reducing costs and increasing access to pharmaceuticals through *economies of scale*, primarily for senior citizens.

Physician Practices Management Company

Management firms that specialize in the management of large group practices or independent practice associations through ownership, management agreements, or both.

A Guide to Consulting Services for Emerging Healthcare Organizations*, by Robert James Cimasi (New York: John Wiley & Sons, 1999).*

[5]Robert James Cimasi, *A Guide to Consulting Services for Emerging Healthcare Organizations* (New York: John Wiley & Sons, 1999), p. 42.

[6]The formation of MedPartners, Inc., created the largest management company for physician practices at the time, with 7,250 physicians and 1.5 million prepaid enrollees, as well as a mail-order pharmaceuticals division. Milt Freudenheim, "Caremark and Medpartners Seen Merging," *New York Times*, May 14, 1996, http://www.nytimes.com/1996/05/14/business/caremark-and-medpartners-seen-merging.html (accessed January 30, 2013).

[7]"Caremark Rx, Inc., History," Funding Universe, http://www.fundinguniverse.com/company-histories/caremark-rx-inc-history/ (accessed January 30, 2013).

Factoid

In 2012, the number of publicly traded PPMCs in the United States was only 17.

"Physician Practice Managment Companies," Bloomberg, *http://www.bloomberg.com/markets/companies/phys-practice-mgmnt/ (accessed November 16, 2012).*

PBMs typically contract with employers, third-party payors, and MCOs for administrative services related to overseeing the pharmacy benefits for enrolled beneficiaries. PBMs leverage their *size* when negotiating contracts with manufacturers and pharmacies to obtain cost concessions, acting as an *intermediary* between the third-party payor and the pharmaceutical vendor. PBMs typically generate revenue through *fees from customer contracts* and by *operating mail order pharmacies*, whereby a proportion of the cost savings achieved through contract negotiations is passed along to beneficiaries, with the remainder flowing to the earnings of the PBM.[8]

As of 2012, the PBM industry was fairly concentrated, with the top three companies managing 65 percent of outpatient prescription volumes, and the PMB industry adjudicating approximately 80 percent of all prescriptions dispensed in the United States.[9] The top 10 PMB companies by market share and covered lives are set forth in Table 13.2.

In April 2012, Express Scripts, Inc., a publicly traded PBM, acquired Medco Health Solutions, Inc., which created one of the largest PBM companies in the United States, approximately 30 percent of the market, as measured by the number of prescriptions filled per year.[10] For more information

[8]Tomas Gryta, "What Is a 'Pharmacy Benefit Manager'?" *Wall Street Journal*, July 21, 2011, http://online.wsj.com/article/SB10001424053111903554904576460322664055328.html (accessed January 25, 2013).

[9]"Pharmacy Benefit Management 101, Express Scripts," Presented at International Foundation of Employee Benefit Plans and Wharton School of the University of Pennsylvania, July 24, 2012, http://iscebs-philadelphia.org/wp-content/uploads/2012/07/Pharmacy-Benefit-Management-1012.pdf (accessed February 6, 2013), p. 7.

[10]Federal Trade Commission, "FTC Closes Eight-Month Investigation of Express Scripts, Inc.'s Proposed Acquisition of Pharmacy Benefits Manager Medco Health Solutions, Inc.," April 2, 2012, http://www.ftc.gov/opa/2012/04/medco.shtm (accessed April 18, 2012); "AIS's Pharmacy Benefit Survey Results: 4th Quarter 2012," Atlantic Information Services, Inc., 2013.

TABLE 13.2 Top Pharmacy Benefit Management Companies, as of Fourth Quarter 2012

Company	Parent Company (if applicable)	Number Rx/ Year	Market Share by Number of Rx/Year	Covered Lives	Market Share by Covered Lives
CVS Caremark	CVS Caremark Corporation	774,600,000	16.20%	63,000,000	10.14%
Medco Health Solutions, Inc.	Express Scripts Holdings	757,400,000	15.84%	65,000,000	10.46%
Express Scripts, Inc.	Express Scripts Holdings	653,800,000	13.68%	60,000,000	9.65%
Argus Health Systems, Inc.	Wholly owned subsidiary of DST Systems, Inc.	504,000,000	10.54%	26,000,000	4.18%
OptumRx, Inc.	UnitedHealth Group	319,465,726	6.68%	13,715,531	2.21%
ACS, Inc.	A Xerox Company	250,000,000	5.23%	14,000,000	2.25%
Humana Pharmacy Solutions		192,152,963	4.02%	7,571,704	1.22%
Catalyst Rx	Catamaran Corp.	188,634,710	3.95%	20,000,000	3.22%
MedImpact Healthcare Systems, Inc.		170,400,000	3.56%	23,236,000	3.74%
Magellan Medicaid Administration, Inc.	Magellan Health Services, Inc.	148,500,000	3.11%	10,000,000	1.61%

AIS's Pharmacy Benefit Survey Results: 4th Quarter 2012, Atlantic Information Services, 2013.

on the competitive concerns related to the merger of Express Scripts and Medco, see Section 4.6.2, "Reform of the Insurance Industry," in Chapter 4, "Competition."

Currently, *specialized management companies* are more prevalent than the traditional PPMCs of the past, which have been supplanted by other types of arrangements with similar goals and objectives, such as *co-management arrangements* (see Section 13.1.1.3, "Physician Hospital Organizations [PHOs]"). Some publicly traded PPMCs have maintained growth into the new millennium, for example, Mednax purchased 10 physician practices in 2011 and 14 in 2010 and plans to use emerging models of integration to foster new growth in the future. In order to participate in ACOs, current PPMCs are focusing on hospital-based medicine in an attempt to lower readmissions to achieve financial incentives for improving quality and lowering costs.[11]

13.1.1.2 Management Service Organization A *Management Services Organization* (MSO) provides *management services* to one or more providers and may be established as a *separate legal entity* or a division of an existing enterprise.[12] Typically, an MSO employs a *nonphysician staff* to provide *administrative* and *management* services to contracted medical practices in exchange for either a *flat fee* or a set *percentage of the medical practice's revenues*.[13]

The *scope of services* typically provided by an MSO may be characterized by two classifications, either (1) a comprehensive MSO, or (2) a limited MSO. The various levels along the spectrum of MSO activities, ranging from comprehensive to limited, are set forth in Exhibit 13.1.

The scope of MSO services may also reflect the specific needs and concerns of the healthcare entity contracting with the MSO. For example, as *fraud and abuse scrutiny increases* (see Chapter 3, "Regulatory Environment") and the claims submission process for reimbursement becomes significantly more complex (see Chapter 2, "Reimbursement Environment"), MSOs may choose to focus their services on *coding*, *billing*, and *other revenue cycle management* tasks. *Modern Healthcare's 32nd Annual Outsourcing*

---

[11] Victoria Stagg Elliott, "Practice Management Companies Look to ACOs for Growth," *American Medical News*, January 23, 2012, http://www.ama-assn.org/amednews/2012/01/23/bisc0123.htm (accessed November 16, 2012).

[12] American Hospital Association, "A Guide to Physician Integration Models for Sustainable Success," September 2012, http://www.hpoe.org/Reports-HPOE/guide_to_physician_integration_models_for_sustainable_success.pdf (accessed October 31, 2012).

[13] Lawton R. Burns, "Models of Physician-Hospital Organization: Possibilities and Pitfalls," *Issue Brief* 2, no. 7 (November 1995), http://www.upenn.edu/ldi/issuebrief2_7.html (accessed January 17, 2013).

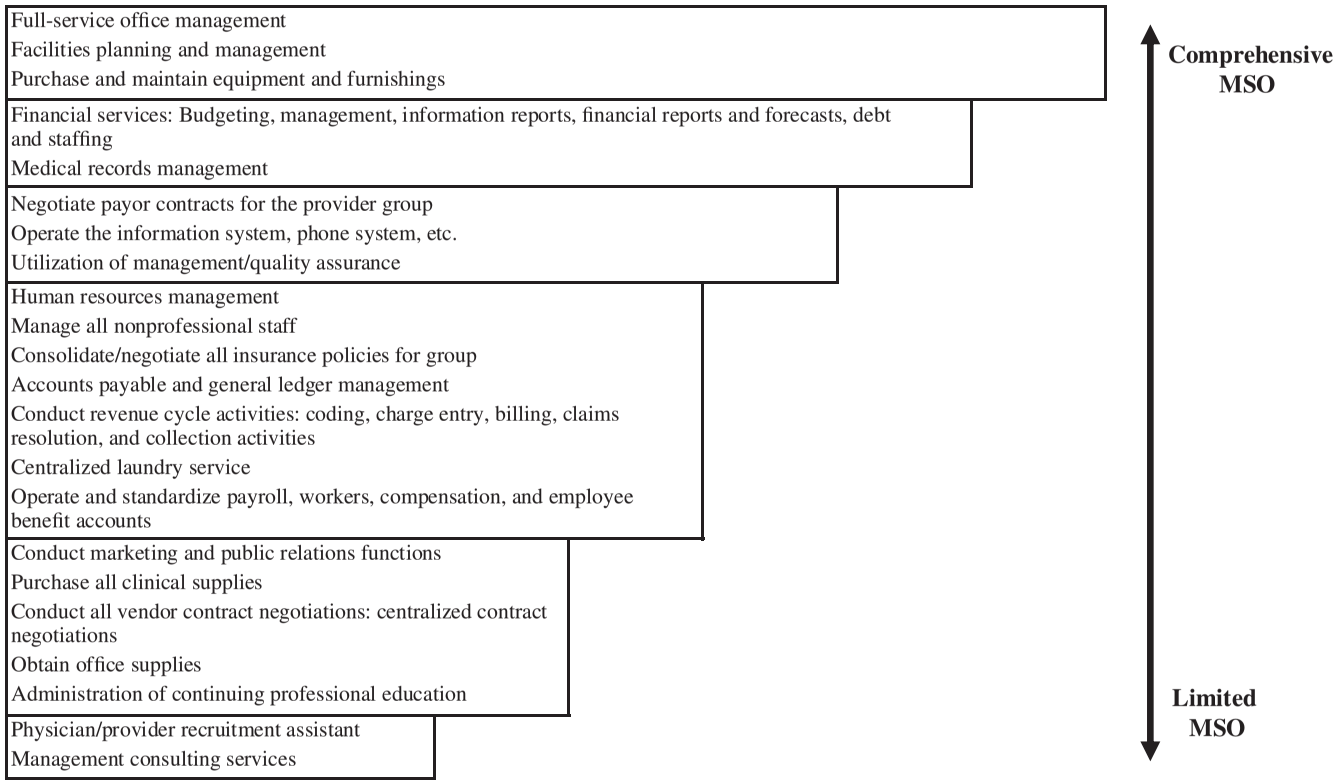


EXHIBIT 13.1 Range of MSO Services

REVENUE CYCLE

The multistep process in which a patient is provided with, is charged, and pays for medical services, including scheduling, diagnosis, coding, billing, claims resolution, and collection.

Survey, completed in 2010, found a 13.7 percent increase from 2008 to 2009 in the number of *healthcare provider enterprises* using *outside firms* to manage their *revenue cycle*.[14] During that period, the *Fraud Enforcement and Recovery Act* was signed into law by President Obama, which reduced the government's *burden of proof* in cases involving fraud by no longer requiring the showing of a *specific intent* to defraud the government.[15]

Similarly, as a result of pressure to decrease *operating overhead costs* for healthcare providers, medical transcription services have been outsourced to less expensive service providers, rather than remaining *in-house*, a trend that is possible due to the increasing ease with which *electronic information* may be shared.[16] For example, one cost advantage of outsourcing *coding services* is that coding providers will often charge a *set fee* per procedure coded, in contrast to an *internal coding department*, which has the potential for *high overhead costs* and other *less predictable cost factors*.[17] The medical transcription industry is expected to grow by 6 percent from 2010 to 2020.[18] In 2010, the number of transactions among *revenue-cycle management* companies *doubled* from 2009, with

[14] Maureen KcKinney, "Outsourcing Sees Stimulus Effect: Health Reform, Ailing Economy Prompt a Closer Look at Use of Contractors," *Modern Healthcare*, September 20, 2010, http://www.modernhealthcare.com/article/20100920/MAGAZINE/100919948 (accessed November 16, 2012).

[15] "Fraud Enforcement and Recovery Act, Sec. 4," *Pub. L.* 111-21, 123 Stat. 1617 (May 20, 2009); see Section 3.3.3.1, "FCA Prohibitions against Upcoding and Outlier Payments," in Chapter 3, "Regulatory Environment."

[16] Medical Group Management Association, "Outsourcing Transcription," *MGMA Connexion*, February 2007, p. 9.

[17] The Coding Network, "In House Coder vs. the Coding Network," http://www.codingnetwork.com/medical-coding/outsource-coding-analysis/ (accessed November 3, 2012).

[18] Bureau of Labor Statistics, "Medical Transcriptionists," in *Occupational Outlook Handbook*, 2012–2013 edition, March 29, 2012, http://www.bls.gov/ooh/healthcare/print/medical-transcriptionists.htm (accessed December 20, 2012).

most consolidation taking place between *small* and *mid-size* revenue-cycle management companies.[19]

With healthcare enterprise capital expense burdens continuing to rise and healthcare reform provisions being implemented that incentivize the *value* of care provided, many *utilization and case management enterprises* are promoting best practices regarding the *coordination of care*, as well as the *efficient* and *effective* delivery of care.[20] *Utilization management* firms may support healthcare enterprises by ensuring that healthcare services are being delivered at a *cost-efficient* level by assisting providers with managing the finite amount of healthcare resources available to patients.[21] The largest accrediting agency for *utilization and case management enterprises* is URAC, formerly known as the *Utilization Review Accreditation Commission*. In addition to accrediting *utilization and case management companies*, URAC also accredits specific case management programs and healthcare providers that focus on best practices for *utilization and case management*.[22]

13.1.1.3 Physician Hospital Organizations (PHOs) A *Physician Hospital Organization* (PHO), in the 1990s sometimes derided as "*physician hostage organizations*," integrates a hospital (or a group of hospitals) with a physician organization (or group of physicians) through *contractual relationships*, for the purpose of *negotiating managed care contracts* for both parties. In many cases, the PHO is owned jointly by both the physicians and the hospital and may be structured as a *not-for-profit* organization. Participants in the PHO

Physician Hospital Organization

Organizations that unite a hospital, or group of hospitals, and a physician organization through a contractual relationship for the purpose of contracting with managed care organizations.

The Managed Health Care Handbook, *3rd ed., edited by Peter R. Kongstvedt (Gaithersburg, MD: Aspen Publishers, 1996), p. 999.*

[19]Duff and Phelps, "Healthcare Services: Revenue Cycle Management," *Industry Insight*, January 2011, p. 7.

[20]URAC, "What Is Care Management?" Matrix Group International, Inc., https://www.urac.org/resources/careManagement.aspx (accessed December 15, 2012).

[21]Ibid.

[22]URAC, "General Questions about URAC Accreditation," https://www.urac.org/accreditation/ (accessed December 15, 2012).

typically provide a *modest investment* on an *annual* or *monthly basis* to fund the PHO's capital and operating expenses.

Hospitals and physicians often have differing motivations for joining a PHO. For example, hospitals may seek to expand their control over the *range of healthcare services provided* and *improve relationships* with certain physician practices, while physicians may be seeking some level of security under the shelter of a hospital's more significant capital base. However, at least one *common objective* desired by all parties is the *improved leverage* offered by PHOs in negotiating *managed care contracts*.

The PHO generally has two basic models by which it could negotiate contracts on the behalf of its members: (1) the *messenger model* and (2) the *preferred model*. Under *the messenger model,* a PHO analyzes each contract offered by a given third-party payor, for example, a *health maintenance organization* (HMO) or a *preferred provider organization* (PPO), and presents the contract (with its analysis) to each hospital and physician group, who will then *independently* decide whether to accept the terms of the contract on a member-by-member basis.

In contrast, under a *preferred model,* the physicians and the hospital establish the criteria for accepting a third-party payor contract *prior* to the contract negotiations. With such criteria in place, the PHO can negotiate with third-party payors with the assurance that its agreement criteria are met during a defined negotiation period, for example, 120 days.[23] If the PHO cannot reach an agreement with the third-party payor during the negotiation period, the third-party payor is free to negotiate with each physician individually. This "*back-door*" strategy is often executed by *managed care organizations* that believe they (1) are in a position to negotiate better rates with *individual* providers, (2) do not need *all of the PHO physicians* in their network, or (3) do not need the *PHO hospital(s)* in their network.[24]

Health Maintenance Organization

A group of participating healthcare providers that furnishes medical services to enrolled members of a group health-insurance plan.

Black's Law Dictionary, *9th ed., edited by Bryan A. Garner (St. Paul, MN: West, 2009), p. 788.*

[23] Robert James Cimasi, *A Guide to Consulting Services for Emerging Healthcare Organizations* (New York: John Wiley & Sons, 1999), pp. 51–53.
[24] Ibid.

Preferred Provider Organization

A corporation that receives health insurance premiums from enrolled members and contracts with independent doctors or group practices to provide care.

Dictionary of Health Insurance and Managed Care, *edited by David Edward Marcinko and Hope Rachel Hetico (New York: Springer, 2006), p. 226.*

Another means by which PHOs may be classified is through a description of their *provider panels*, which may operate under either (1) an *open model* or (2) a *closed model*. An *open model PHO* is one that allows any member of a hospital's medical staff to join, generally with a minimum credentialing requirement, which may be equivalent to obtaining admitting privileges at the hospital. Since specialists often have "*more to lose*" than primary care physicians by not consolidating contracting efforts, *open model PHOs* are often dominated by physician specialists.

Many *open model PHOs* are established with the vision of one day becoming "*closed panel*" *PHOs*, whereby cost-effective providers remain within the PHO and other physicians are removed; however, in practice, few PHOs have made such a transition.

Some PHOs began as *closed panels* and *limit membership* to a *defined group of physicians*. PHOs that begin as *closed panels* have a *higher* percentage of *primary care physicians* in their membership. While this may increase the attractiveness of the PHOs to those seeking managed care contracts, *closed panel HMOs* are often difficult to implement, due to political conflicts between the hospital and medical staff. For example, specialists have often been hospital "*allies*," and since *closed panel* PHOs disproportionately favor *primary care providers*, hospital administrators often choose *not* to exclude specialists based on their historical relationships with these groups.

13.1.1.4 Independent Practice Associations (IPAs) An *Independent Practice Association* (IPA) is a legal entity composed of *independent physicians* that is developed for the purpose of *improving leverage* against third-party payors through the utilization of contract(s) to provide specified medical services. IPAs may be considered a "*first step*" toward *integration* and are often developed by member physicians to (1) *preserve clinical autonomy*, (2) *avoid joining a group practice*, (3) *maintain their presence in the market*, and (4) *achieve negotiating leverage with third-party payors* by continuing to build relationships with a large number of third-party payors, thereby decreasing the likelihood that patients may discontinue receiving services

from a particular physician provider in the event that the patient changes his or her health coverage to a different third-party payor.[25] While IPAs were commonly associated with the *managed care boom* of the 1990s, they are once again receiving attention for their potential role in promoting the *development*, *implementation*, and *operation* of ACOs, as discussed in Section 13.1.1.6, "Accountable Care Organizations."[26]

13.1.1.5 Co-Management Arrangements *Co-management Organizations* are typically formed through a contractual agreement between a group of physicians and a hospital, for the purpose of the physicians providing *management services* to a specified hospital *service line* related to the *specialty* of the contracted physicians.[27] A *co-management agreement* between a *physician group* and a *hospital* typically requires:

> *direct physician participation in the design and oversight of annual clinical capital and operating budgets, the development and implementation of clinical strategies and business plans, the efficient delivery of physician and clinical staff services, the periodic assessment of the quality of patient care delivered, the measurement of patient satisfaction, and the development of clinical outreach programs.*[28]

Of note is that the *first generation* of *co-management arrangements* evolved from *gainsharing arrangements*, whereby hospitals gave physicians a share of agreed-on reductions in the hospital's patient care costs, which were attributable, in part, to the cost-cutting efforts of the physicians.[29] See Chapter 15, "Healthcare Services."

Co-management arrangements typically provide a predetermined fixed *management fee* to be paid to the physicians by the hospital, as well as some form of *performance-based compensation*, which are *contingent* on

---

[25] Ibid., p. 38.

[26] Victoria Stagg Elliott, "IPA's See ACOs as a Second Chance," *American Medical News*, June 6, 2011, http://www.ama-assn.org/amednews/2011/06/06/bisb0606.htm (accessed January 24, 2013).

[27] Victoria Stagg Elliott, "How to Seal a Co-Management Deal with a Hospital," *American Medical News*, January 24, 2011, http://www.ama-assn.org/amednews/2011/01/24/bica0124.htm (accessed November 2, 2012).

[28] Healthcare Financial Management Association, "Achieving Physician Integration with the Co-Management Model." http://www.hfma.org/Templates/Print.aspx?id=20619 (accessed July 19, 2010).

[29] Paul F. Danello, "Can Hospitals Share Cost Savings with Their Oncologist?" *Journal of Oncology Practice* 1, no. 4 (November 2005).

GAINSHARING

Arrangements in which hospitals gave physicians a share of any reduction in the hospital cost for patient care, attributable, in part, to the physicians' efforts.

"Can Hospitals Share Cost Savings with Their Oncologist?" by Paul F. Danello, Journal of Oncology Practice *1 no. 4, November 2005.*

the attainment of *specified, mutually agreed on, and objectively measured targets* (not related to the volume or value of referrals).[30] These targets are often based on several metrics, including:

1. *Clinical* and *outcome quality indicators;*
2. *Patient and physician satisfaction measures;* and
3. *Measurable improvements* in *operating efficiency.*[31]

The co-management arrangement is subject to review by a competent valuation professional to ensure that the *total compensation package*, including all benefits and prerequisites, to be paid to the physicians is at *Fair Market Value* and is *commercially reasonable.*[32] Furthermore, the arrangement should be reviewed by legal counsel to ensure that the arrangement is not structured in such a way that it may be construed as *legally impermissible* under *Stark* and *Anti-Kickback* regulations, as well as the applicable 501(c)(3) requirements for arrangements involving tax-exempt organizations.[33]

---

[30] Paul F. Danello, "Clinical Co-Management: Hospitals and Oncologists Working Together," *Journal of Oncology Practice* 2, no. 1 (2006).

[31] Ibid.

[32] See Chapter 3, "Regulatory Environment," Chapter 15, "Healthcare Services," as well as Chapter 16, "The Threshold of Commercial Reasonableness," for a discussion of fair market value and commercial reasonableness under the applicable fraud and abuse and IRC 501(c)(3) regulations.

[33] Jim Yanci, "Commentary: Clinical Co-Management Is Option for Hospital-Physician Alignment," *Cardiovascular Business*, January 28, 2010, http://www.cardiovascularbusiness.com/index.php?option=com_articles&view=article&id=20417:commentary-clinical-co-management-is-option-for-hospital-physician-alignment&division=cvb (accessed July 19, 2010); Jen Johnson, "Co-Management Agreements, Compensation & Compliance," *ABA Health eSource* 7, no. 10, June 2011, https://www.americanbar.org/newsletter/publications/aba_health_esource_home/aba_health_law_esource_1106_johnson.html (accessed November 28, 12).

Fair Market Value

The price at which property or the right to use property would change hands between a willing buyer and a willing seller, neither being under any compulsion to buy, sell, or transfer property or the right to use property, and both having reasonable knowledge of relevant facts.

"Excess Benefit Transaction." 26 CFR 53.4958–4(b)(i).

13.1.1.6 Accountable Care Organizations (ACOs) *Accountable Care Organizations* (ACOs) may perhaps best be defined as healthcare organizations in which a set of providers, usually physicians and hospitals, are held *accountable* under contract(s) with third-party payor(s) for the *cost* and *quality* of care delivered to a specific local population base.[34] ACOs are designed to induce their participants to increase *quality* healthcare services, while simultaneously decreasing healthcare delivery *costs* through the means of providing *financial incentives* tied to the achievement of certain agreed-on *cost* and *quality targets*.[35]

Section 3022 of the Affordable Care Act (ACA) directed the *secretary of Health and Human Services* (HHS) to create the *Medicare Shared Savings Program* (MSSP) by January 1, 2012, with the intent of encouraging the development of *Federal Medicare ACOs*, that is, by "promote[ing] accountability for a patient population and coordinat[ing] items and services under [Medicare] parts A and B, and encourag[ing] investment in infrastructure and redesigned care processes for high quality and efficient service delivery."[36]

Although a *Federal ACO* must be a *single legal entity*, it may consist of any number of *ACO participants* (i.e., providers that are included in the single legal entity) and *ACO providers/suppliers* (i.e., providers that may

[34] As discussed previously in Chapter 3, "Regulatory Environment," and Chapter 4, "Competition." Kelly Devers and Robert Berenson, *Can Accountable Care Organizations Improve the Value of Health Care by Solving the Cost and Quality Quandaries?* Robert Wood Johnson Foundation, Urban Institute, October 2009, http://www.rwjf.org/files/research/acosummaryfinal.pdf (accessed January 19, 2012), p. 1.

[35] "Medicare Program; Medicare Shared Savings Program: Accountable Care Organizations," *Federal Register* 76, no. 212 (November 2, 2011); David Glass and Jeff Stensland, "Accountable Care Organizations," MedPAC (April 9, 2008), p. 4.

[36] "Patient Protection and Affordable Care Act," *Pub. L.* 111-148 (March 23, 2010), p. 395.

indirectly participate in the *ACO's shared savings* through independent contracts). However, only certain types of providers are eligible to participate in the *MSSP*, as set forth in Table 13.3.

Accountable Care Organization

A legal entity that is recognized and authorized under applicable State, Federal, or Tribal law, is identified by a [TIN], and is formed by one or more ACO participants(s) that is(are) defined at 43 CFR § 425.102(a) and may also include any other ACO participants described at 43 CFR § 425.102(b).

"Medicare Program; Medicare Shared Savings Program: Accountable Care Organizations," Federal Register *76, no. 212 (November 2, 2011): 67974–67975; "Quality Reporting System," 42 USC § 1395w-4(k)(3)(A); "Definitions Specific to Medicare," 42 CFR § 400.202 (2012).*

Taxpayer Identification Number

A federal taxpayer identification number or employer identification number as defined by the IRS in 26 CFR 301.6109–1.

"Medicare Program; Medicare Shared Savings Program: Accountable Care Organizations," Federal Register *76, no. 212 (November 2, 2011): 67974–67975; "Quality Reporting System," 42 USC § 1395w-4(k)(3)(A); "Definitions Specific to Medicare," 42 CFR § 400.202 (2012).*

ACO Participant

An individual or group of ACO provider(s)/supplier(s) that is identified by a Medicare-enrolled TIN, that alone or together with one or more other ACO participants comprise(s) an ACO, and that is included on the list of ACO participants that is required under 42 CFR § 425.204(c)(5).

"Medicare Program; Medicare Shared Savings Program: Accountable Care Organizations," Federal Register *76, no. 212 (November 2, 2011): 67974–67975; "Quality Reporting System," 42 USC § 1395w-4(k)(3)(A); "Definitions Specific to Medicare," 42 CFR § 400.202 (2012).*

TABLE 13.3 Potential Federal ACO Participants: The Eligible Entities[37]

Eligible Entities	Potential Provider Organizations	Definition
ACO professionals in group practices	Primary Care Physician Practices	Practice that provides the patient with services, including health promotion, disease prevention, health maintenance, counseling, and so on, beginning at the first point of entry.
Networks of individual practices of ACO professionals	Independent Practice Associations (IPA)	Legal entities of independent physicians that contract with health insurance companies to provide medical services.
	Multispecialty Physician Groups (MSPG)	Group practice with physicians practicing in more than one specialty.
Partnerships or joint venture arrangements between hospitals and ACO professionals	Integrated Delivery Networks (IDN)	A network of facilities and providers working together in order to provide a continuum of care to a market or a geographic area.
	Clinical Integrated Networks (CIN)	Physicians, hospitals, and care delivery resources that collaborate as an integrated unit to increase care quality and coordination.
Hospitals employing ACO professionals	Hospital Medical Staff Organizations (MSO)	A legal entity owned by physicians, hospitals, or lay investors that provides an array of practice management services. In some cases, the hospital owns the entity that may sell management services to medical staff.
	Physician Hospital Organizations (PHO)	An enterprise that unites a hospital or a group of hospitals with a physician organization through a contractual relationship.
	Extended Hospital Medical Staff	A multispecialty group associated with a hospital that provides the hospital with direct and indirect referrals.
Critical Access Hospital (CAH)	Critical Access Hospital (CAH)	A rural hospital providing both inpatient and outpatient services located more than 35 miles from the nearest facility. The hospital must provide emergency services 24 hours a day, contain fewer than 25 inpatient beds, and have an average length of stay of less than 96 hours.
Such other groups of providers of services and suppliers as the secretary of HHS determines appropriate.		

[37] "Medicare Program; Medicare Shared Savings Program: Accountable Care Organizations and Medicare Program: Waiver Designs in Connection with the

ACO Provider/Supplier

An individual or entity that (1) is a provider (as defined at 42 CFR § 400.202) or a supplier (as defined at 42 CFR § 400.202); (2) is enrolled in Medicare; (3) bills for items and services it furnishes to Medicare fee-for-service beneficiaries under a Medicare billing number assigned to the TIN of an ACO participant in accordance with applicable Medicare regulations; and (4) is included on the list of ACO providers/suppliers that is required under 42 CFR § 425.204(c)(5).

"Medicare Program; Medicare Shared Savings Program: Accountable Care Organizations," Federal Register *76, no. 212 (November 2, 2011): 67974–67975; "Quality Reporting System," 42 USC § 1395w-4(k)(3)(A); "Definitions Specific to Medicare," 42 CFR § 400.202 (2012).*

Footnote 37 (*Continued*)

Medicare Shared Savings Program and the Innovation Center; Proposed Rule and Notice," *Federal Register* 76, no. 67 (April 7, 2011): 19537; Bruce Flareau and Joe Bohn, *Accountable Care Organizations: A Roadmap for Success: Guidance on First Steps* (Virginia Beach, VA: Convergent Publishing, LLC, 2011), p. 45; American Academy of Family Physicians, "Primary Care," 2012, http://www.aafp.org/online/en/home/policy/policies/p/primarycare.html#Parsys0003 (accessed January 24, 2012). (Definition for Primary Care Physician Practices) *Health Care Glossary*, Stoney Brook Medicine, 2012, http://stoneybrookmedicine.edu/patientcare/healtheducation/glossary#i (accessed June 12, 2012). (Definition for IPA) Medical Group Management Association, *Cost Survey for Primary Care Practices: 2010 Report Based on 2009 Data*, 2009, p. 369. (Definition for MSPG) Glen McDaniel, "Integrated Delivery Network (IDN)," GLG Research, Gerson Lehrman Group, Inc., 2011, http://www.glgresearch.com/Dictionary/HC-Integrated-Delivery-Network-(IDN).html (accessed January 24, 2012). (Definition for IDN) Bruce Flareau and Joe Bohn, *Accountable Care Organizations: A Roadmap for Success: Guidance on First Steps* (Virginia Beach, VA: Convergent Publishing, 2011), p. 53. (Definition for CIN) Robert James Cimasi, *The Advisor's Guide to Health Care: Professional Practices* (New York: American Institute of Certified Public Accountants, 2011), p. 477; Bruce Flareau and Joe Bohn, *Accountable Care Organizations: A Roadmap for Success: Guidance on First Steps*, (Virginia Beach, VA: Convergent Publishing, LLC, 2011), p. 45. (Definition for MSO) Bruce Flareau and Joe Bohn, *Accountable Care Organizations: A Roadmap for Success: Guidance on First Steps* (Virginia Beach, VA: Convergent Publishing, LLC, 2011), p. 10. (Definition for PHO) Elliot S. Fisher et al., "Creating Accountable Care Organizations: The Extended Hospital Medical Staff," *Health Affairs* (2007). (Definition for CAH) Centers for Medicare and Medicaid Services, "Clinical Access Hospitals," Rural Health Fact Sheet Series, January 2012, p. 2.

Integrated Delivery System

An organized system of healthcare providers spanning a broad range of health services, optimizing costs and outcomes, and accepting and managing financial arrangements to delivery care to a defined population.

Essentials of Managed Health Care, *6th ed., by Peter R. Kongstvedt (Burlington, MA: Jones & Bartlett Learning, 2013), p. 656.*

ACO Professional

An ACO provider/supplier who is either of the following: (1) a physician legally authorized to practice medicine and surgery by the State in which he performs such function or action; (2) a practitioner who is one of the following: (i) a physician assistant (as defined at 42 CFR § 410.74(a)(2)); (ii) a nurse practitioner (as defined at 42 CFR § 410.75(b)); (iii) a clinical nurse specialist (as defined at 42 CFR § 410.76[b]).

"Medicare Program; Medicare Shared Savings Program: Accountable Care Organizations," Federal Register *76, no. 212 (November 2, 2011): 67974–67975; "Quality Reporting System," 42 USC § 1395w-4(k)(3)(A); "Definitions Specific to Medicare," 42 CFR § 400.202 (2012).*

A *Federal ACO's* legal structure should provide both the *basis* for its *shared governance* and the *mechanism* to (1) *receive any shared savings* from CMS and (2) *distribute those shared savings payments* among the ACO participants. A *federal ACO* must accept the *responsibility* and *accountability* for the "overall care of the Medicare fee-for-service beneficiaries assigned to the ACO" through a formal application to the *Centers for Medicare and Medicaid Services* (CMS) in order to participate in the MSSP.[38] Once ACOs are accepted into the program, the MSSP requires that ACO participants collect and submit to CMS specific *expenditure information* and *quality data*.[39] CMS requires reporting for 33 *quality metrics*, divided into *four domains of care*, including (1) *patient/caregiver experience* (seven

[38] "Medicare Program; Medicare Shared Savings Program: Accountable Care Organizations," *Federal Register* 76, no. 212 (November 2, 2011): 67975.

[39] Ibid., p. 67870.

measures); (2) *care coordination/patient safety* (six measures); (3) *preventive health* (eight measures); and (4) *at-risk population* (11 measures), or risk termination from the MSSP.[40] These *quality measures*, as well as the reporting methods required of providers, are set forth by category, in Table 13.4.

ACOs are responsible for *collecting* and *transmitting* to CMS the data related to these 33 *quality measures* listed earlier; this is achieved through the utilization of the *Group Practice Reporting Option* (GPRO) *web interface*, which provides ACOs with examples as to the assignment of *vulnerable populations* to specific care categories (e.g., diabetes and heart failure).[41] For those quality measures that use survey reporting methods, CMS will bear the *administrative* and *financial* burden of collecting the *survey data* for the first two years of the ACO contract, after which period the ACOs must assume the *responsibility* of *acquiring* and *paying* for a *CMS-certified survey vendor* to continue reporting on these metrics.[42]

It should be emphasized that CMS *prospectively* defines the *Medicare beneficiary population* for which an ACO will be *accountable* by determining which patients are likely to receive the *majority of their primary care services* from providers participating in the ACO (not necessarily limited to the care received from primary care physicians) during the *participation period*.[43] The *quality* and *cost* outcomes of this assigned beneficiary

---

[40] Ibid., pp. 67899–67890, 67951.

[41] Chronic heart failure is currently the only major cardiovascular disorder that is continuing to increase in prevalence and incidence. This condition affects approximately 5 million people in the United States, primarily the elderly; cited in Leanne Groban and John Butterworth, "Preoperative Management of Chronic Heart Failure," *International Anesthesia Research Society* 103, no. 3 (September 2006): 557.

[42] *Accountable Care Organization 2012 Program Analysis: Quality Performance Standards Narrative Measure Specifications—Final Report*, by RTI International, to Quality Measurement & Health Assessment Group, Office of Clinical Standards & Quality, Centers for Medicare and Medicaid Services, Waltham, MA, December 12, 2011, p. 3.

[43] In assigning beneficiaries, CMS uses a stepwise process: (1) identification of beneficiaries who have received at least one primary care service from an ACO provider or supplier and (2) confirmation that the total charges billed for services from the beneficiary's ACO provider exceed the total charges billed for services from other non-ACO providers. Though this process is most directly applicable to primary care providers, the Final Rule also applies the beneficiary assignment process to specialists acting as primary care providers. For example, an elderly patient who receives most of his care from a cardiologist may also receive traditional primary care services, for example, blood pressure readings and annual wellness visits, from that cardiologist. "Medicare Program; Medicare Shared Savings Program: Accountable Care Organizations," *Federal Register* 76, no. 212 (November 2, 2011): 67855.

TABLE 13.4 Metrics and Methods to Establish Quality Performance

Measure	Domain	Measure Title	Method of Data Submission	Pay for Performance Phase In (R = Reporting; P = Performance)		
				Year 1	Year 2	Year 3
AIM: Better Care for Individuals						
1	Patient/Caregiver Experience	CAHPS: Getting Timely Care, Appointments, and Information	Survey	R	P	P
2	Patient/Caregiver Experience	CAHPS: How Well Your Doctors Communicate	Survey	R	P	P
3	Patient/Caregiver Experience	CAHPS: Patients' Rating of Doctor	Survey	R	P	P
4	Patient/Caregiver Experience	CAHPS: Access to Specialists	Survey	R	P	P
5	Patient/Caregiver Experience	CAHPS: Health Promotion and Education	Survey	R	P	P
6	Patient/Caregiver Experience	CAHPS: Shared Decision Making	Survey	R	P	P
7	Patient/Caregiver Experience	CAHPS: Health Status/Functional Status	Survey	R	R	R
8	Care Coordination/Patient Safety	Risk-Standardized, All Conditions Readmission	Claims	R	R	P
9	Care Coordination/Patient Safety	Ambulatory Sensitive Conditions Admissions: Chromic Obstructive Pulmonary Disease	Claims	R	P	P

AIM: Better Care for Individuals (cont.)						
10	Care Coordination/Patient Safety	Ambulatory Sensitive Conditions Admissions: Congestive Heart Failure	Claims	R	P	P
11	Care Coordination/Patient Safety	Percentage of PCPs Who Successfully Qualify for an HER Incentive Program Payment	EHR Incentive Program Reporting	R	P	P
12	Care Coordination/Patient Safety	Medication Reconciliation: Reconciliation after Discharge from an Inpatient Facility	GPRO Web Interface	R	P	P
13	Care Coordination/Patient Safety	Falls: Screening for Fall Risk	GPRO Web Interface	R	P	P
AIM: Better Health for Populations						
14	Preventive Health	Influenza Immunization	GPRO Web Interface	R	P	P
15	Preventive Health	Pneumococcal Vaccination	GPRO Web Interface	R	P	P
16	Preventive Health	Adult Weight Screening and Follow-Up	GPRO Web Interface	R	P	P
17	Preventive Health	Tobacco Use Assessment and Tobacco Cessation	GPRO Web Interface	R	P	P
18	Preventive Health	Depression Screening	GPRO Web Interface	R	P	P
19	Preventive Health	Colorectal Cancer Screening	GPRO Web Interface	R	R	P
20	Preventive Health	Mammography Screening	GPRO Web Interface	R	R	P
21	Preventive Health	Proportion of Adults 18+ Who Had Their Blood Pressure Measured within the Preceding 2 years	GPRO Web Interface	R	R	P

(*continued*)

TABLE 13.4 Metrics and Methods to Establish Quality Performance (*continued*)

Measure	Domain	Measure Title	Method of Data Submission	Pay for Performance Phase In (R = Reporting; P = Performance)		
				Year 1	Year 2	Year 3
AIM: Better Health for Populations (cont.)						
22	At Risk Population—Diabetes	Diabetes Composite (All or Nothing Scoring): Hemoglobin A lc Control (<8 percent)	GPRO Web Interface	R	P	P
23	At Risk Population—Diabetes	Diabetes Composite (All or Nothing Scoring): Low Density Lipoprotein	GPRO Web Interface	R	P	P
24	At Risk Population—Diabetes	Diabetes Composite (All or Nothing Scoring): Blood Pressure < 140/90	GPRO Web Interface	R	P	P
25	At Risk Population—Diabetes	Diabetes Composite (All or Nothing Scoring): Tobacco Non Use	GPRO Web Interface	R	P	P
26	At Risk Population—Diabetes	Diabetes Composite (All or Nothing Scoring): Aspirin Use	GPRO Web Interface	R	P	P
27	At Risk Population—Diabetes	Diabetes Mellitus: Hemoglobin A lc Poor Control (>9 percent).	GPRO Web Interface	R	P	P
28	At Risk Population—Hypertension	Hypertension (HTN): Blood Pressure Control	GPRO Web Interface	R	P	P

AIM: Better Health for Populations (cont.)

29	At Risk Population—Ischemic Vascular Disease	Ischemic Vascular Disease (IV): Complete Lipid Profile and LDL Control < 100 mg/dl	GPRO Web Interface	R	P	P
30	At Risk Population—Ischemic Vascular Disease	Ischemic Vascular Disease (IVD): Use of Aspirin or Another Antithrombotic	GPRO Web Interface	R	R	P
31	At Risk Population—Heart Failure	Heart Failure: Beta-Blocker Therapy for Left Ventricular Systolic Dysfunction (LVSD)	GPRO Web Interface	R	R	P
32	At Risk Population—Coronary Artery Disease	Coronary Artery Disease (CAD) Composite: All or Nothing Scoring: Drug Therapy for Lowering LDL Cholesterol	GPRO Web Interface	R	R	P
33	At Risk Population—Coronary Artery Disease	Coronary Artery Disease (CAD) Composite: All or Nothing Scoring: Angiotensin-Converting Enzyme (ACE) Inhibitor or Angiotensin Receptor Blocker (ARB) Therapy for Patients with CAD and Diabetes and/or Left Ventricular Systolic Dysfunction (LVSD)	GPRO Web Interface	R	R	P

"Medicare Program; Medicare Shared Savings Program: Accountable Care Organizations," *Federal Register* 76, no. 212 (November 2, 2011): 67899–67890.

Shared Savings

A portion of the ACO's performance year Medicare fee-for-service Parts A and B expenditures, below the applicable benchmark, it is eligible to receive payment for from CMS. An ACO's eligibility for shared savings will be determined for each performance year. For an ACO requesting interim payment, shared savings may result from the interim payment system calculation.

"Medicare Program; Medicare Shared Savings Program: Accountable Care Organizations," Federal Register *76, no. 212 (November 2, 2011): 67974–67975; "Quality Reporting System," 42 USC § 1395w-4(k)(3)(A); "Definitions Specific to Medicare," 42 CFR § 400.202 (2012).*

population determine the amount of *shared savings* (or *shared losses*, where applicable) an ACO may be eligible for, as calculated under the chosen disbursement model, that is, either the *one-sided* or the *two-sided shared savings disbursement model.*[44] An illustration of the various scenarios resulting in *shared savings* or *losses* for both the *one-sided* and the *two-sided distribution models* is set forth in Exhibit 13.2 and Exhibit 13.3.

Shared Losses

A portion of the ACO's performance year Medicare fee-for-service Parts A and B expenditures, above the applicable benchmark, it must repay to CMS. An ACO's eligibility for shared losses will be determined for each performance year. For an ACO requesting interim payment, shared losses may result from the interim payment calculation.

"Medicare Program; Medicare Shared Savings Program: Accountable Care Organizations," Federal Register *76, no. 212 (November 2, 2011): 67974–67975; "Quality Reporting System" 42 USC § 1395w-4(k)(3)(A); "Definitions Specific to Medicare," 42 CFR § 400.202 (2012).*

[44] As discussed in Section 2.7.2, "ACOs," in Chapter 2, "Reimbursement Environment"; Paul H. Keckley and Michelle Hoffman, "Accountable Care Organizations: A New Model for Sustainable Innovation," Deloitte Center for Health Solutions, 2010, p. 11; See Chapter 2, "Reimbursement Environment," Exhibit 2.18, "One- and Two-Sided Distribution Models for Federal ACOs."

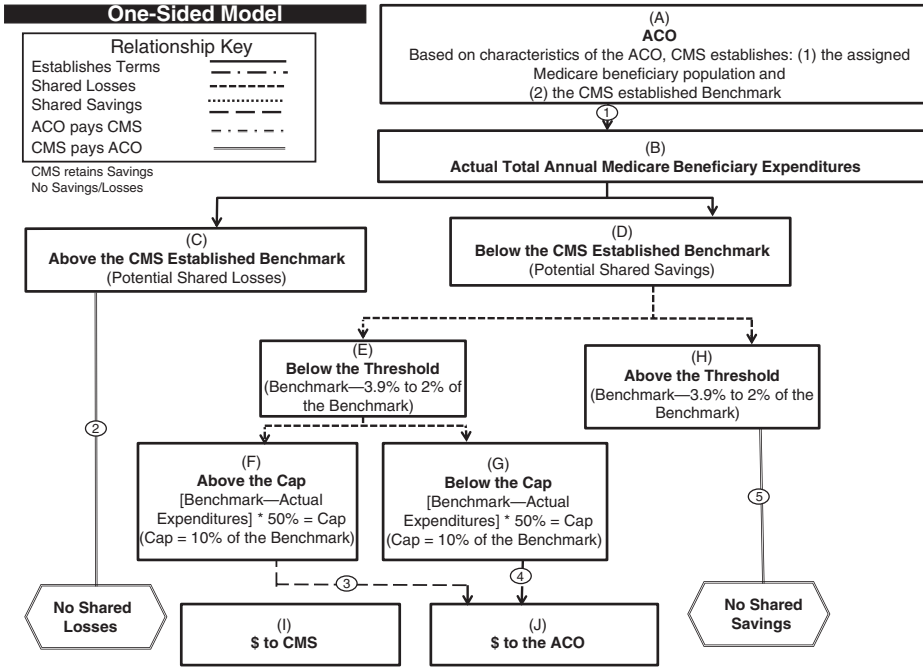


EXHIBIT 13.2 Relationship between an ACO and CMS Resulting in Shared Savings under the One-Sided Model

Each type of *distribution model*, that is, the *one-sided risk model* or the *two-sided risk model*, presents a different profile of the *potential benefits* (*shared savings amount*) that an ACO may achieve and *risks* (*shared losses*) that an ACO may incur. Generally, the *one-sided model* provides *lower risks* and *lower rewards*, while the *two-sided model* provides *higher risks* and *higher rewards*.

One-Sided Model

A model under which the ACO may share savings with the Medicare program, if it meets the requirements for doing so, but is not liable for sharing any losses incurred under subpart G of this part.

"Medicare Program; Medicare Shared Savings Program: Accountable Care Organizations," Federal Register *76, no. 212 (2011): 67974–67975; "Quality Reporting System," 42 USC § 1395w-4(k)(3)(A); "Definitions Specific to Medicare," 42 CFR § 400.202 (2012).*

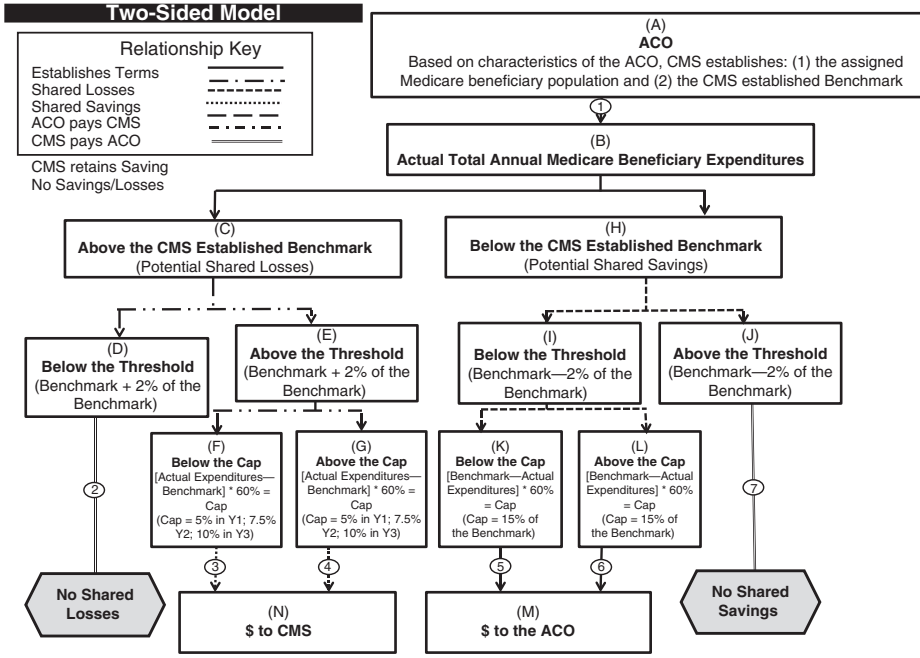


EXHIBIT 13.3 Relationship between an ACO and CMS Resulting in Shared Savings or Shared Losses under the Two-Sided Model

Two-Sided Model

A model under which the ACO may share savings with the Medicare program, if it meets the requirements for doing so, and is also liable for sharing any losses incurred under subpart G of this part.

"Medicare Program; Medicare Shared Savings Program: Accountable Care Organizations," Federal Register *76, no. 212 (2011): 67974–67975; "Quality Reporting System," 42 USC § 1395w-4(k)(3)(A); "Definitions Specific to Medicare," 42 CFR § 400.202 (2012).*

In hopes of incentivizing participation in the MSSP, CMS also created the *Pioneer ACO Model*, *which* is intended for "*mature ACO*" organizations that have already begun *coordinating care efforts.*[45] Paralleling the traditional

[45]US Department of Health and Human Services, "Affordable Care Act Gives Providers New Options to Better Coordinate Health Care," May 17, 2011, http://www.healthcare.gov/news/factsheets/accountablecare05172011a.html (accessed July 15, 2011).

MSSP ACO model, the *Pioneer Model* is designed to incentivize *the reduction of healthcare expenditures* and *increase quality outcomes*.[46] Although the *Pioneer Model* is separate and distinct from the MSSP model, the two programs are designed to be *complementary* and work *cooperatively* with each other.[47] In addition to *flexibility* within the *core payment arrangement*, after the first *two years* of its *contract term* with CMS, *Pioneer ACO Model Participants* are given the option to *transition* from a *volume-based FFS reimbursement model* to a *population-based payment model* for their *Medicare* beneficiaries. Furthermore, by *performance year two*, at least 50 percent of a *Pioneer ACO Model Participant's* revenue must be generated by *alternative Value-Based Purchasing (VBP) arrangements* with *non-Medicare payors* (either commercial or public), which may cause *Pioneer ACOs* to more closely resemble some of the reimbursement models used within the *commercial ACO* market.[48]

Commercial ACOs, in contrast to *federal ACOs*, establish contracts with *private third-party payors* and are able to negotiate a *wider range* of *reimbursement models*, *patient populations*, *service lines*, and *savings disbursement methods* than their *federal ACO counterparts*, thereby providing *commercial ACOs* with *greater flexibility* in *design* and *operation*.[49] Significantly, in contrast to *federal ACOs*, the *commercial ACO market* has no single set of uniform standards regarding ongoing monitoring of the ACO's adherence to specified *quality performance benchmarks*. In response to this lack of either regulatory or industry oversight, the *National Committee for Quality Assurance* (NCQA) launched an ACO *accreditation program*, setting forth requirements for:

1. *Quality metrics, monitoring performance;*
2. *Reporting data;*
3. *Reimbursement;* and
4. *Savings and loss distribution*.[50]

---

[46] Henry J. Kaiser Family Foundation, "CMS Announces ACO 'Pioneer' Program and Advanced Payment Initiative," May 17, 201, http://healthreform.kff.org/Scan/2011/May/CMS-Announces-ACO-Pioneer-Program-and-Advanced-Payment-Initiative.aspx (accessed July 15, 2011).

[47] Healthcare Financial Management Association, "The Pioneer ACO Model," 2011, http://www.hfma.org/PioneerACOModel/ (accessed July 15, 2011).

[48] Centers for Medicare and Medicaid Services, "Pioneer Accountable Care Organization Model: Fact Sheet," December 19, 2011, 6, 7.

[49] Philip Betbeze, "ACOs: Tailoring Your Own Solution," *HealthLeaders Media* (2011): 2.

[50] *Standards and Guidelines for the Accreditation of Accountable Care Organizations* (Washington, DC: National Committee for Quality Assurance, 2011).

For more information on the *reimbursement models* used for both *federal ACOs* and *commercial ACOs*, see Chapter 2, "Reimbursement Environment."

While almost any healthcare enterprise can participate in an ACO, larger enterprises may be best suited, from the perspective of financial returns, for ACO status, as larger organizations may be more capable of gaining access to the *significant capital required* for ACO *development, implementation*, and *operation*, for example, *healthcare information technologies* such as *electronic health records* (*EHR*). Other suggested characteristics of successful ACOs include strong *physician leadership*, established *patient-centered care* initiatives, and *efficient* and *effective communication* between providers.[51] By October 2012, 318 ACOs were serving patients in 48 states, including 161 ACOs using only private third-party payors, 126 using only public payors, and 31 ACOs using both public and private third-party payors.[52] At the beginning of 2013, CMS announced another 106 federal ACOs had been accepted into the Medicare Shared Savings Program (MSSP).[53] An example of the application of the revenue stream can be found online at http://www.wiley.com/go/healthcarevaluation.

13.1.2 Current and Future Trends: Regulatory, Reimbursement, Competition, and Technology

13.1.2.1 Regulatory Many *management service enterprises* involve the integration of various provider networks, which has traditionally been scrutinized by the *Federal Trade Commission* (FTC) as generally being *anti-competitive* and *legally impermissible* under antitrust laws.[54] However, *integration* is not considered to be a *per se* violation of antitrust regulations, such that the FTC will typically review *joint contracting arrangements* under a *rule of reason* analysis, determining whether the arrangement would actually lead to *pro-competitive* outcomes (see Section 3.4,

[51] American Medical Group Association, "Accountable Care Organizations: Principles," May 28, 2010, http://www.amga.org/AboutAMGA/ACO/principles_aco.asp (accessed August 27, 2010).

[52] Harris Meyer, "Many Accountable Care Organizations Are Now Up and Running, If Not Off to the Races," *Health Affairs* 31, no. 11 (November 2012).

[53] John Commins, "Medicare ACOs Add 106," *HealthLeaders Media* (January 11, 2013), http://www.healthleadersmedia.com/print/HOM-288223/Medicare-ACOs-Add-106 (accessed January 11, 2013).

[54] Barry Bader, "Clinically Integrated Physician-Hospital Organizations," *Great Boards* 9, no. 4 (Winter 2009): 2.

"Competition," in Chapter 3, "Regulatory Environment").[55] In addition, while some management service enterprises facilitate the integration of two healthcare providers, for example, some ACOs may act as a negotiating body for a set of providers, whereby each provider retains its *corporate autonomy*, even in these scenarios, providers and management enterprises must be attentive as to their compliance with the antitrust prohibitions against *price fixing*.

Some provider integration relationships have obtained certain protections from antitrust scrutiny. For example, in order to encourage providers to develop ACOs, the *U.S. Department of Justice* (DOJ) and the FTC issued a joint policy statement in October 2011 regarding a "*safety zone*" for certain ACOs, whereby the ACO will be *safe* from antitrust scrutiny, if an ACO's individual participants do not have a *combined share* of more than *30 percent* of each *common service* within each participant's "*primary service area*."[56]

Further guidance regarding *potential antitrust concerns* was provided in the FTC's February 13, 2013, release of an *advisory opinion* approving the proposal for the *clinical integration* of *Norman Physician Hospital Organization* (Norman PHO), a network of 280 physicians consisting of 28 medical specialties and the 288-bed Norman Regional Health System, located in Norman, Oklahoma.[57] The proposal for a *clinically integrated program*, submitted to the FTC on May 26, 2011, was made to replace "*messenger model operations*," where providers supply *individually determined reimbursement rates* for services, with a *coordinated reimbursement*

---

[55] *Per se* is defined in *Black's Law Dictionary* as "Of, in, or by itself; standing alone, without reference to additional facts," *Black's Law Dictionary*, 9th ed., edited by Bryan A. Garner (St. Paul, MN: West, 2009), p. 1257; letter from Markus H. Meier, Assistant Director, Federal Trade Commission Bureau of Competition, to Christi J. Braun and John J. Miles, law firm of Ober, Kaler, Grimes & Shriver, Greater Rochester Independent Practice Association, Inc., Advisory Opinion, September 17, 2007, http://www.ftc.gov/bc/adops/gripa.pdf (accessed April 18, 2008). *Rule of Reason* is defined in *Black's Law Dictionary* as "The judicial doctrine holding that a trade practice violates the Sherman Act only if the practice is an unreasonable restraint of trade, based on the totality of economic circumstances," *Black's Law Dictionary*, p. 1449.

[56] Federal Trade Commission, "Federal Trade Commission, Department of Justice Issue Final Statement of Antitrust Policy Enforcement Regarding Accountable Care Organizations," press release, October 20, 2011, http://www.ftc.gov/opa/2011/10/aco.shtm (accessed July 15, 2012).

[57] Markus H. Meier, "Re: Norman PHO Advisory Opinion," Federal Trade Commission, February 13, 2013, pp. 2–3.

and *clinical care plan* across all participating providers and specialties.[58] The FTC approved the Norman PHO proposal, citing the program's potential to "create a high degree of interdependence and cooperation … and to generate significant efficiencies in the provision of physician services" while "appear[ing] unlikely to unreasonably restrain trade."[59]

Approval of the Norman PHO proposal denotes "the FTC's first advisory opinion on a proposed clinically integrated network (CIN) since the [Affordable Care Act] was enacted."[60] The FTC's judgment in the case of the Norman PHO may prove to be a *watershed* decision regarding the future of *clinical integration*, as healthcare providers attempt to *bridge* service gaps and *increase integration* to stem the *rising costs* of healthcare, while *increasing the quality of care*.[61]

Included among the clinical integration plan elements proposed by the Norman PHO are:

1. A new *organizational structure* to support *clinically coordinated care*;[62]
2. *Obligatory* practitioner agreements for participating providers;[63]
3. Regular physician *quality* and *performance audits*;[64]
4. Physician-developed, *evidence-based clinical practice guidelines*;[65] and
5. Implementation of an *electronic platform* supported by a *medical informatics officer*.[66]

The successful implementation of some or all of these *proposed integration elements* may potentially provide value to:

1. **Patients,** through *reduced medical errors*, earlier *disease detection*, more timely *communication* and *scheduling*, elimination of *unnecessary* and *duplicative paperwork* and *tests*;

---

[58] Michael E. Joseph, "Re: Norman Physician Hospital Organization," McAfee & Taft on behalf of Norman Physician Hospital Organization, May 26, 2011, http://www.ftc.gov/os/2013/02/130213normanphoincomingadvltr.pdf.

[59] Ibid.

[60] Polsinelli Shughart LLP, "Clinical Integration on a Promise and a Plan," *Health Care Law in the News*, March 2013, p. 2.

[61] Joe Carlson, "Beyond ACOs: FTC Provides Another Path to Coordinated Care," *Modern Healthcare*, March 9, 2013, http://www.modernhealthcare.com/article/20130309/MAGAZINE/303099969/&template=# (accessed March 11, 2013).

[62] Ibid.

[63] Ibid.

[64] Ibid.

[65] Ibid.

[66] Ibid.

2. ***Payers***, through *centralized administrative work*, elimination of *duplication of services*, avoidance of *preventable hospitalization*, and *lower costs of care*; and
3. ***Providers***, through more timely receipt of *protected health information* (PHI) and *scheduling of services*, more streamlined *referrals*, and *reduced paperwork*.[67]

The FTC approval of the Norman PHO's *proposed* plan for clinical integration based on *expected* benefits, despite the incomplete execution of the plan, may pave the path for entities "to establish a joint venture evaluated under the antitrust rule of reason which is deemed to be legally compliant," especially for networks already piloting or implementing integration plans.[68]

Despite the tentative approval of the Norman PHO, the FTC explicitly reserved the right to revoke approval if future implementation of the program, "*results in substantial anticompetitive effects, if . . . used for improper purposes, if facts change significantly, or if it otherwise would be in the public interest to do so.*"[69] Despite its obvious benefit in providing a pathway to clinical integration, there are several potential pitfalls in the Norman PHO integration plan, including:

1. Maintaining *a nonexclusive structure*;
2. Avoiding *vertical arrangements* that may prevent collaboration between the Norman PHO and *non-network providers*; and
3. Potential "*spillover effects*" of participating physicians improperly *leveraging market power* associated with *network participation* to drive *non-network contract reimbursement rates*.[70]

Should the Norman PHO fail to appropriately *operate* and *maintain* a reliable *antitrust-compliant network*, it could jeopardize future proposals for *clinical integration* beyond the ACO model. But although the results of *full clinical integration* have yet to be achieved for the Norman PHO, the recent FTC decision provides helpful *guidance* and *encouragement* to *other provider networks* that may choose to forgo an ACO model in lieu of *alternate integration* models in an effort to adhere to changing *clinical* and *quality* outcomes in the era of healthcare reform.

---

[67] Ibid.

[68] Ibid.

[69] Ibid.

[70] Ibid.

In addition to the antitrust regulations discussed earlier, provider management services arrangements must also ensure that they are in regulatory compliance with applicable Stark, Anti-Kickback, and IRS provisions.

13.1.2.2 Reimbursement Compensation for services provided by management service organizations are typically determined in one of three ways: (1) as a *flat fee*, (2) as a *percentage of practice revenue*, or (3) as a *hybrid approach* combining elements of both the *flat fee* method and the *percentage of practice revenue* method. *Flat fee* reimbursement for management service enterprises involves the payment of *contractually* agreed-on fixed amounts to management service enterprises by the contracting healthcare provider entity. *Percentage of practice revenue* methods determine reimbursement based on a contractually agreed-on portion of the revenue generated by the contracting entity over the specified time period when the management services will be provided. The *hybrid model* uses elements of both the *flat fee* and the *percentage of practice revenue* methods, with some portion of reimbursement coming in the form of a *fixed fee*, while other reimbursement is variable, based on some measure of economic activity over a specified period of time during which management services are provided. An example of the *hybrid model* is a *percentage of total billings* or a *percentage of total collections* for the provision of billing services.

13.1.2.3 Competition Often the main competitors for *management service enterprises* are *healthcare provider enterprises* who retain certain support services *in-house* or who decide to fully integrate, by means of acquisition and/or employment, with a hospital or a healthcare system who would provide these management services. In addition, certain services are increasingly provided by *competitive substitutes*, for example, although the demand for *transcription services* is growing, advances in *speech recognition software technology* may ultimately render human transcriptionists obsolete.[71]

13.1.2.4 Technology To facilitate reimbursement models based on achieving certain "*value-based*" quality metrics, the utilization of EHR systems that can document the achievement of stated *quality* and *cost* benchmarks will likely become increasingly important for these integrated providers seeking to align *financial* and *quality incentives*. For more information regarding the adoption and utilization of EHRs by different types of healthcare

[71]United States Department of Labor Bureau of Labor Statistics, "Medical Transcriptionists Job Outlook," March 29, 2012, www.bls.gov/ooh/healthcare/medical-transcriptionists.htm#tab-6 (accessed November 12, 2012).

enterprises, see Section 5.2.2, "Electronic Health Records," in Chapter 5, "Technology."

13.1.3 Value Drivers of Healthcare Management Service Enterprises

While the *value drivers* of any enterprise are, to some extent, unique to the subject enterprise, the notion that "If you have seen one, you have seen one" is, perhaps, more pertinent to *management service enterprises*. The *value* of a healthcare enterprise is based on the enterprise's ability to generate *net economic benefit*, beyond the operating and capital expense burdens necessary to produce the revenue stream of the enterprise, which *net economic benefit* accrues to the owners of the enterprise.[72] Factors that may represent value drivers for *management service enterprises* include (1) *Scope of Services*, (2) *Revenue Stream*, (3) *Capital Structure and Operating Expenses*, (4) *Market Rivalries and Competitors*, and (5) *Subject Entity Nonsystematic Risk*.

13.1.3.1 Scope of Services The *diversification of services* may allow *management service enterprises* to benefit from *economies of scale and scope* emanating from the *vertical integration* in the healthcare industry. This *vertical integration* may result in a more stable revenue stream for these management service enterprises, particularly as trends lead toward a greater portion of the services provided by management service enterprises being outsourced and/or automated by provider client organizations. The *scope of services* provided by a particular management service enterprise will vary based on the *purpose*, or *function*, of the enterprise. For example, an MSO may offer any number of the following services, such as (1) *operations management*, (2) *billing* and *collection activities*, (3) *marketing*, (4) *contract negotiation*, (5) *new assets acquisition*, (6) *personnel management*, (7) *leasing*, (8) *physician recruitment*, (9) *MIS development*, (10) *purchasing*, and (11) *facilities development*.[73]

---

[72] As noted in Chapter 7, "Basic Valuation Tenets."

[73] Robert James Cimasi, *A Guide to Consulting Services for Emerging Healthcare Organizations* (New York: John Wiley & Sons, 1999), p. 57, citing Douglas Goldstein, "From Physician Bonding to Alliances: Building New Physician-Hospital Relationships" (Alexandria, VA: Capital Publications, 1992); Gerald R. Peters, "*Healthcare Integration: A Legal Manual for Constructing Integrated Organizations*," National Health Lawyers Association, 1995.

13.1.3.2 Revenue Stream As mentioned earlier, compensation for the provision of management services by management service enterprises can use one of three methods: (1) *flat fee*, (2) *percentage of revenue*, or (3) *hybrid method*. The primary concern for the valuation analyst should be the magnitude of the payments to be received by the management service enterprise, as well as the relative stability of those anticipated payments. Management service enterprises that contract with multiple provider entities may hold a *portfolio* of contracts that may use any of the three compensation models.

Flat fee arrangements will typically have the most certainty regarding the amount and timing of payments, as these should be terms to the agreement for the provision of the management services. *Flat fee* arrangements provide a *steady*, *known* stream of payments to the management service enterprise, regardless of the *operational* and *financial performance* of the healthcare provider entity contracting for the management services, except in the case where the management services contract is *abrogated* in the event of bankruptcy. The risk associated with the *flat fee* method will be the least among the alternative compensation models for management service enterprises.

Percentage of revenue payments, conversely, will typically be less certain regarding the amount to be paid, representing a *down-side risk*. However, *percentages of revenue* payments also have the potential for an *up-side* benefit, if the contracting healthcare provider entity is capable of generating significant revenues during the term of the management services agreement. This *up-side* benefit is counterbalanced by the *down-side risk* of the contracting healthcare provider entity underperforming during the contract period. In developing an indication of value for a management service enterprise using a *percentage of revenue* compensation model, the valuation analyst should consider the most likely payments to be received, based on an analysis of the historical payment pattern, as well as an assessment of:

1. The *expected operational* and *financial performance* of the contracting healthcare provider entity;
2. The expectations as to the *attrition* of *provider clients* (i.e., projected loss of contract revenue); and
3. The expectations regarding the addition of new clients (i.e., projected additional contract revenue).

Percentage of revenue contracts typically hold the most risk for management service enterprises and, as such, require careful *due diligence* by the valuation analyst.

The *hybrid model*, which combines elements of both the *flat fee* and the *percentage of revenue* methods, acts to mitigate the management service enterprise's exposure to the *business risk* of the contracting healthcare

provider, by providing some fixed payments that would result in a minimum level of revenue, regardless of the *operational* and *financial performance* of the contracting healthcare provider entity. On a *risk/reward* spectrum, the *hybrid model* would be located somewhere between the *flat fee* method and the *percentage of revenue* method.

13.1.3.3 Capital Structure and Operating Expenses The capital structure of management service enterprises typically exhibits lower levels of debt than the overall healthcare industry does. According to the *Ibbotson's 2012 Cost of Capital Yearbook*, the median management service enterprises (SIC code 8741, which includes all management service enterprises operating outside the healthcare industry) had a ratio of debt to total capital of just 16.01 percent in the latest period and a five-year average median ratio equal to 10.22 percent.[74] The lower levels of debt of management service enterprises is likely the outcome of the *lower physical capital requirements* necessary to operate a management service enterprise, which is relatively more *labor intensive*, as compared with, for example, a hospital, which would have a more significant level of *physical capital requirement* that may lead *to increased utilization of debt financing*. Elevated levels of debt utilization by a management service enterprise may warrant *increased scrutiny* by the valuation analyst, as the subject management service enterprise may be funding *ongoing operation*s through debt, bringing into question the *profitability* and *sustainability* of the subject enterprise.

In addition, newer, emerging enterprises may require greater capital funds, as their expenses may include start-up costs, such as the costs associated with implementing an EHR system. The estimated initial *start-up costs*, as well as ongoing *fixed* and *variable operating expenses*, incurred by an ACO will likely vary, based on the size of the enterprise, for example, the start-up costs for *a* "*Large Federal ACO*" with 80,000 Medicare beneficiaries may be as much as $12 million.

Generally, the operating expenses incurred by a management service enterprise include the cost of negotiating and establishing the contractual relationship between the management service enterprise and the participating provider(s), as well as the ongoing expenses related to the provision of the management services.

Management service enterprises generate value by providing management services at a *lower cost* to their member provider participants, thereby *enhancing* their provider members' *profit margins*, due to the management service enterprise's ability to leverage *economies of scale* and *scope*.

[74] *Ibbotson Cost of Capital 2012 Yearbook, Data through March 2012* (Chicago: Morningstar, 2012).

Consequently, these types of management service enterprises may act as an umbrella overarching two or more integrating or coordinating member providers, and, in this event, the objective of the management service enterprise may not be to seek to generate internal *profit margins* but to enhance the *profitability* of its member provider clients. This type of subject management service enterprise is organized in such a manner to channel the flow of *net economic benefits* to the provider member clients through the terms of the management service agreement, which may tend to reduce the revenue generated by the subject management service enterprise, as well as the indication of value for the subject management service enterprise. In the alternative, the *net economic benefit* generated by these types of management service enterprises may be retained by the subject management service enterprise and, subsequently, distributed to the provider member clients as *profit*.

The *operational performance* of a management service enterprise has a direct impact on the *operating cost burden* of that enterprise. *Value*, for management service enterprises, is created, in part, by realizing cost reductions as a result of the *economies of scale* and *scope* that exist in the healthcare industry and through *enhanced operational performance*.

13.1.3.4 Market Rivalries and Competitors *Management service enterprises* are found throughout the United States, providing services to a variety of *healthcare provider enterprises*, "*prevalent*" models including MSOs, PPCMs, and IPAs, experienced their "*hay day*" in the *integration fueled* transactional market of the 1990s. The resurgence of provider integration activities as a means *of coordinating care* toward better quality and lower cost in this current era of healthcare reform may once again be driving the expansion of both traditional and new models of *management service enterprises*.

An illustration of the evolution in the number of management service enterprises between 2000 and 2010 is set forth in Table 13.5.

TABLE 13.5 Number of Management Service Enterprises, 2000 and 2010

Type of Enterprise	2000	2010
Physician Hospital Organizations (PHOs)	905	675
Management Services Organizations (MSOs)	482	413
Independent Practice Associations (IPAs)	969	621
Physician Practice Management Companies (PPMCs)	259	120

National Directory of Physician Organizations, 2nd ed. (Manasquan, NJ: Managed Care Information Center, 2000), p. A33–A71; "National Directory of Physician Organizations," Health Resources Publishing, CD-ROM, 2010.

TABLE 13.6 Number of Management Service Enterprises Affiliated with Community Hospitals Between 2000 and 2010

	Year		
Type of Enterprise	**2000**	**2005**	**2010**
Community hospitals affiliated with an MSO	655	438	454
Community hospitals with open PHOs	939	751	630
Community hospitals affiliated with closed PHOs	360	249	203
Community hospitals affiliated with an IPA	831	700	563

"AHA Hospital Statistics 2002," American Hospital Association, 2002, p. 10; "AHA Hospital Statistics 2007," American Hospital Association, 2007, p. 10; "AHA Hospital Statistics 2012," American Hospital Association, 2012, p. 12.

The change between 2000 and 2010 in certain types of management service enterprises that were specifically affiliated with a *community hospital* is set forth in Table 13.6.

In contrast, ACOs, which formally came into existence in 2010, have been steadily increasing in both the *federal* and *commercial* markets.[75] As was noted earlier, there are 318 ACOs, federal and commercial, operating in 48 states, with another 106 federal ACOs already accepted to the MSSP.[76]

13.1.3.5 Subject Entity Nonsystematic Risk While an investor in a particular *third-party payor enterprise* would have additional investment opportunities available to him or her (e.g., government bonds, equity indexes), the discount rate used to determine the present value of the expected future net economic benefits accruing to the owners of a subject supply side enterprise should also include a consideration of the *idiosyncratic risk* associated with an investment in the specific subject third-party payor enterprise.[77] This *subject entity–specific/non-systematic (idiosyncratic) risk* for *third party payor enterprises* would include the *various risk factors* that are *inherent and specific to the enterprise* being valued, as well as the *enterprise's operational performance* compared to the *most*

[75] David Muhlestein, et al., *Growth and Dispersion of Accountable Care Organizations: June 2012 Update* (Salt Lake City, UT: Leavitt Partners, 2012), p. 3.

[76] See Section 4.5.4.2, "Accountable Care Organizations," in Chapter 4, "Competition."

[77] See Chapter 9, "Costs and Sources of Capital," for a more detailed discussion of discount rates.

probable performance of similar enterprises as reported in normative industry benchmark survey data. *Subject Entity–Specific/Nonsystematic Risk Factors* for most *third-party payor enterprises* include, but are not necessarily limited to,

1. *Client diversification*, which lowers a subject enterprise's dependence on a single client (*concentration risk*), so that, to use the old saying, "*all of their eggs aren't in one basket*"; and
2. *Contract Negotiation Innovation*, which may *lower risk*, particularly as *emerging reimbursement models* gain popularity among providers and third-party payors, by allowing enterprises that can easily modify negotiation tactics to fit these new models to gain a *competitive edge* in the market, in contrast to enterprises that continue to use boilerplate negotiating strategies for more traditional flat *fee-for-service* contracts.

In addition to the risks related to the management service enterprise being valued, client provider members should also be subject to a risk assessment by the valuation analyst as to the *stability* and *future sustainability* of the subject management service enterprise's *provider client* and/or *member*-generated revenue.

13.1.4 Other Pertinent Valuation Considerations

As discussed in Chapter 8, "Valuation Approaches and Methods," there are three approaches that can be used for a valuation assignment: (1) the *income approach*, (2) the *market approach*, or (3) the *cost approach*. Each approach should be considered for each valuation assignment, and, if possible, multiple methods should be used.

When appraising a *management service enterprise*, the enterprise being valued is typically *administrative in nature*, coordinating and/or facilitating the delivery of care from separate healthcare providers (see Chapters 11, "Inpatient Enterprises," and 12, "The Valuation of Outpatient Enterprises"). The *administrative nature* of *management service enterprises* is a significant factor in determining the *limiting factors* of each valuation method. The valuation analyst should determine which methodologies to employ in developing his or her indication of value after careful considerations of the *scope of the engagement*, the *nature of the value result desired*, and the *availability* of data and information to support the analyst's conclusion.

Table 13.7 illustrates some of the considerations pertinent to the valuation of a management service enterprise.

TABLE 13.7 Other Pertinent Considerations Related to the Valuation of Management Service Enterprises

Pertinent Considerations	Description
Operating Expenses and Capital Requirements	■ *Economies of scale* exist for many management service enterprises. Larger enterprises will be capable of distributing the *fixed* portion of their expenses across multiple customers, thereby reducing their *per customer* expenses and possibly enhancing their operating margins. ■ *Industry-specific information* can be leveraged across multiple customers, that is, operational methods and techniques may be applied in numerous contexts with minimal *incremental expense*. ■ *Scope of expertise* is important in assessing a management service enterprise's ability to leverage both *economies of scale* and its *industry-specific information*, as information specific to a particular industry subspecialty may not be applicable across all subspecialties. The acquisition of the knowledge, skills, and abilities, as well as the physical capital, necessary to expand into a new specialty, may require a significant investment of *time* and *capital* to accomplish. ■ *Manpower leverage*: A management service enterprise with a wide geographic scope may be capable of negotiating more favorable contracts with providers, due to its access to multiple geographic markets.
Intangible Assets	■ *Intangible assets*, such as a *trained and assembled workforce in place* and *protocols and procedures*, may make up a significant portion of the value of a management service organization, although this value may be limited to the *industry subspecialty* in which it operates. ■ *Contracts in place* and *existing customer relationships* may also provide significant value to an enterprise by reducing the uncertainty regarding the attainment of projected revenue levels.
Selection of Methodology	■ *Income-Based Approaches* are commonly used to value management service enterprises that are capable of producing *sufficient net economic benefit* to support the assets, both *tangible* and *intangible*, of the subject enterprise. ■ A *Multiperiod Discounting Method*, for example, the *discounted net cash flow method*, is typically used for the valuation of management service enterprises, as opposed to a *single period capitalization method*, such as an *income multiple*, due to the volatility of the underlying industry sector and/or subspecialty that forms its client base.

Pertinent Considerations	Description
Selection of Methodology (*cont.*)	■ *Market-Based Approaches* are also used in the valuation of management service enterprises, often in addition to *Income-Based Approaches*. ■ Numerous publicly traded management service enterprises are available to the valuation analyst to form the basis of a value indication using the Guideline Public Company Method. ■ Market transaction data may also be available to the valuation analyst to use in employing the *Guideline Transaction/Merged and Acquired Method*. ■ *Asset/Cost-Based Approaches* may also be employed in the valuation of a management service enterprise. However, the *Asset/Cost-Based Approaches* may fail to reflect the entirety of the *intangible* asset value of the enterprise, particularly if the enterprise is capable of producing significant *net economic benefit* accruing to the owners of the enterprise.

13.2 THIRD-PARTY PAYORS

Third-party payors may be classified as parties, other than the *patient*, that *reimburse* the healthcare provider for the cost of healthcare services to the provider. In addition to providing *payment* to providers for medical services rendered, third-party payors typically establish a *network of providers* for their enrollees to use. Among the unique characteristics of a healthcare third-party payor enterprise are the specific coverage plans offered and the associated models of reimbursement employed, the selection of which may be based on (1) the *ownership structure*, (2) the *enrolled patient population*, and (3) the amount of *risk* shared between the third-party payor and the healthcare provider along the *risk spectrum*, that is, from *fee-for service* (FFS) to full *capitation* (see Exhibit 2.6, "U.S. Health Insurance Providers and Plans," and Exhibit 2.14, "U.S. Health Insurance Reimbursement Options," both in Chapter 2, "Reimbursement Environment").

RISK SPECTRUM

The risk spectrum is the compilation of all levels of financial risk borne by healthcare payors and providers, ranging from fee-for-service, placing a majority of risk on payors, to full capitation, placing a majority of risk on providers.

13.2.1 Types of Third-Party Payors

There are two general classifications of payors: (1) *public payors,* which are operated by *federal or state governments*, the most notable of which are *Medicare* and Medicaid (See Section 2.4, "Public Payors"); and (2) *private third-party payors*, which consist of *for-profit commercial insurers*, *not-for-profit commercial insurers*, and *self-funded plans* (Section 2.5, "Private Payors"). Within this *private third-party payor arena*, which, in contrast to *public payors*, are subject to *financial appraisal, for-profit insurers* are taxable entities organized as either *mutual insurance companies* (which are owned by their policyholders) or *stock insurers* (which are owned by their shareholders).[78] *Not-for-profit insurers* are typically owned by a *not-for-profit parent organization*, for example, a *not-for-profit health system* such as *Kaiser* or *Geisenger* or a nonprofit managed care organization such as *Blue Cross Blue Shield* (BCBS).[79]

Factoid

In 1977, the independent accrediting agencies of Blue Cross insurance plans and Blue Shield insurance plans combined to form the Blue Cross and Blue Shield Association.

The Blues: A History of the Blue Cross and Blue Shield System*, by Robert Cunningham III and Robert M. Cunningham Jr. (DeKalb, IL: Northern Illinois University Press, 1997), pp. 196–199.*

[78] Alma Koch, *Introduction to Health Services* (Clifton Park, NY: Thomson Delmar Learning, 2008), p. 114.

[79] Susan Namovicz-Peat, *AIS's Directory of Health Plans: 2012* (Washington, DC: Atlantic Information Services, 2012), pp. 3–10; Alliance for Advancing Nonprofit Health Care, "Basic Facts and Figures: Nonprofit Health Plans," 2012, pp. 1–4. A *health system insurance plan* is a *combination* of a *healthcare provider* and a *health insurance provider*, which creates a health plan *controlled by the health system* that also *manages the delivery* of healthcare services. See Section 2.5.2.1, "Health System Plans," in Chapter 2, "Reimbursement Environment," for further discussion. In 1977, the independent boards of directors of the *Blue Cross* and *Blue Shield* accrediting associations merged to form a single not-for-profit *Blue Cross Blue Shield Association*, consisting of 38 independent BCBS companies. In the eight decades since the establishment of its two original component organizations, BCBSA has grown to cover nearly 100 million individuals in the United States as of 2012, through 38 independent companies that have been granted a license to the BCBS trademark from the BCBSA. Blue Cross Blue Shield Association, "About the Blue Cross and Blue Shield Association," http://www.bcbs.com/about-the-association (accessed August 15, 2012). See Section 2.5.2.2, "Blue Cross Blue Shield," in Chapter 2, "Reimbursement Environment."

TABLE 13.8 Top 10 Third-Party Payors by Enrollment as of 2012

Healthcare Payor Enterprise	Enrollees (in millions)	For-Profit/ Not-for-Profit
United Healthcare	34.7	For-Profit
WellPoint, Inc.	29.6	For-Profit
Aetna	18.6	For-Profit
Health Care Service Corporation	12.8	Not-for-Profit
Cigna	11.5	For-Profit
Kaiser Permanente	9.00	Not-for-Profit
Humana, Inc.	6.7	For-Profit
Blue Cross Blue Shield of MI	4.4	Not-for-Profit
Highmark, Inc.	4.4	Not-for-Profit
Coventry Health and Life Insurance Company	3.6	For-Profit

AIS's Directory of Health Plans: 2012, by Susan Namovicz-Peat (Washington, DC: Atlantic Information Services, 2012), pp. 10–11.

The 10 largest *for-profit health plans* by total enrollment and the 10 largest *not-for-profit health plans* by total enrollment are set forth in Table 2.13, "Ten Largest For-Profit Health Plans by Total Enrollment," and Table 2.15, "Ten Largest Not-for-Profit Health Plans by Total Enrollment," respectively, in Chapter 2, "Reimbursement Environment."

Both *for-profit* and *not-for-profit insurers*, which offer various plan options for enrollees, provide for various "*trade-offs*" between (1) *premium costs,* (2) *scope* of *services covered,* and (3) the degree of *flexibility* for the enrollee (patient) to choose his or her provider. As of 2012, total enrollment in *not-for-profit* health plans was approximately 104.3 million, while enrollment in *for-profit* health plans topped 122.4 million.[80] The top 10 nongovernmental healthcare third-party payor enterprises in the United States as of 2012 are set forth in Table 13.8.

In addition to being classified as *for-profit* or *not-for-profit*, *healthcare third-party payor enterprises* may also be classified by the varying *levels of provider coverage* that are offered under the plan and the *risks* associated with each. For example, in the *commercial risk-based* insurance market, the most popular plan type used (as measured by the number of enrollees) is the *preferred provider organization* (PPO), which accounted for approximately 24.2 percent of the market in 2012. See Table 13.9 for a further description

[80] Alliance for Advancing Nonprofit Health Care, "Basic Facts and Figures: Nonprofit Health Plans," 2012, p. 1, calculated from Susan Namovicz-Peat, *AIS's Directory of Health Plans: 2012* (Washington, DC: Atlantic Information Services, 2012), p. 3.

TABLE 13.9 Commercial Insurance Market as of 2012

Health Plan Option	Acronym	Percentage of Market
Preferred Provider Plan	PPO	24.17%
Health Maintenance Organization	HMO	21.42%
Medicare Supplemental Plans	MSP	7.57%
Point of Service Plans	POS	5.47%
Fee-for-Service/Indemnity	FFS	3.76%
Other Unspecified Plans		37.60%

AIS's Directory of Health Plans: 2012, by Susan Namovicz-Peat (Washington, DC: Atlantic Information Services, 2012), pp. 14–15.

TABLE 13.10 Government-Sponsored Public Insurance Market as of 2012

Health Plan Option	% of Market
Medicaid HMOs	48.24%
Medicaid FFS Plans	26.63%
Medicare Coordinated Care Plans	18.52%
Local CHIP Plans	5.67%
Medicare PFFS	0.91%
PACE	0.03%

AIS's Directory of Health Plans: 2012, by Susan Namovicz-Peat (Washington, DC: Atlantic Information Services, 2012), pp. 14–15.

of those types of third-party payor enterprises making up the *commercial risk-based* insurance market:

In comparison, the *government-sponsored/public insurance market* was dominated by *Medicaid HMOs*, making up 48.24 percent of the market in 2012, as set forth in Table 13.10.

13.2.1.1 Managed Care Organizations (MCOs) In a broad sense, a *Managed Care Organization* (MCO) may be described as a "organized system of care that seeks to influence the selection and utilization of health services…of an enrolled population."[81] MCOs integrate the *financing* and the *provision* of

[81] R. Danielle Federa and Tracey L. Camp, "The Changing Managed Care Market," in *JACM on Managed Care*, edited by Seth B. Goldsmith (Gaithersburg, MD: Aspen Publishers, 1995), p. 3. The article was previously published in *Journal of Ambulatory Care Management* 17, no. 1 (1994): 1–7.

Factoid

Henry J. Kaiser, a prominent industrialist and shipbuilder, is often credited with establishing the first MCO in 1930 in California, Kaiser Permanente.

"Health Maintenance Organizations," by Diana Barrett, in Making Sense of Managed Care—Volume 1: Building Blocks and Fundamentals, *edited by Kimball Austin Miller and Elaine King Miller (Tampa, FL: Hillsboro Printing, 1997), pp. 47–48.*

health services under the administration of a single entity in an effort to contain costs.[82] To achieve this, MCOs *share risk* with the healthcare provider by (1) reimbursing providers at predetermined levels (such as capitated payments) and (2) holding providers *accountable* for the quality of services provided.[83] In this manner, providers are then incentivized to *manage care* and *maintain quality*, as well as *manage costs*.[84] MCOs are typically established through the creation of a *provider network*, either through an existing integrated health system or through *contractual relationships* with *independent providers*.[85] Each type of managed care plan has a *varying degree of risk* shared between the participating *third-party payors* and *providers* (see Exhibit 2.12, "Managed Care Plan Options," in Section 2.5.1.2, "Managed Care").

The origin of managed care can be traced to the early twentieth century. In 1910, the Western Clinic in Tacoma, Washington, began offering *prepaid medical services* through its own providers to its members for a premium payment of $.50 per month, effectively becoming the first MCO in the United States.[86] In the period following World War II, MCOs

[82] Louis C. Gapenski, "Introduction to Healthcare Finance," in *Healthcare Finance: An introduction to Accounting and Financial Management*, 3rd ed. (Chicago: Health Administration Press/Arlington, VA: Association of University Programs in Health Administration, 2005), p. 4.

[83] Robert James Cimasi, *A Guide to Consulting Services for Emerging Healthcare Organizations* (New York: John Wiley & Sons, 1999), p. 12.

[84] Ibid.

[85] Louis C. Gapenski, "Introduction to Healthcare Finance," in *Healthcare Finance: An introduction to Accounting and Financial Management*, 3rd ed. (Chicago: Health Administration Press, 2005), p. 37.

[86] Peter D. Fox, "An Overview of Managed Care," in *The Managed Health Care Handbook*, 3rd ed., edited by Peter R. Kongstvedt (Gaithersburg, MD: Aspen Publishers, 1996), p. 4.

enjoyed wider popularity following passage of the *Health Maintenance Organization Act of 1973*, and approximately 30 *health maintenance organizations* (HMOs), one type of MCO, had been established by the end of the 1970s.[87] Following the 1970s, the number of HMOs rapidly grew in the United States, peaking in the 1990s with enrollment increasing each year from 15 to 20 percent in many states.[88] HMO enrollment continued to increase until the late 1990s, when HMOs began to consolidate, and an *anti–managed care sentiment* emerged in the United States, resulting in a decline in the number of HMOs and the number of enrollees in HMOs.[89]

13.2.1.1.1 Health Maintenance Organizations (HMOs) A HMO may be defined as "*a group of participating healthcare providers that furnish medical services to enrolled members of a group health-insurance plan.*"[90] In an HMO, a combination of *payors* and *providers* are held *accountable* for the costs of providing *specified healthcare services* to a *group of enrollees*, as well as assuming the *financial risk* of covering the cost to provide those specified healthcare services to the plan's enrollees at a *fixed per-member-per month price.*[91] HMOs are commonly known as *prepaid health plans*, as enrollees (or their employer) typically pay the HMO a *fixed price*, regardless of whether they use any medical services.[92] Typically, HMO enrollees are required to receive all of their care from the plan's *participating providers*, except for care provided in emergency situations, for which the HMO offers a *point of service*

[87] See Section 1.5.4, "Health Maintenance Organization Act of 1973," in Chapter 1, "The Chronology of U.S. Healthcare Delivery," for further discussion regarding the historical development of *HMOs*, and Section 2.5.1.2, "Managed Care," in Chapter 2, "Reimbursement Environment," for additional information regarding the various types of MCO plan models. Peter R. Kongstvedt, *Managed Care: What It Is and How It Works*, 3rd ed. (Sudbury, MA: Jones and Bartlett, 2009), p. 4.

[88] Allan Baumgarten, "Trend Note: HMO Enrollment Continues to Decrease in 2001–2002," *Allan Baumbarten's Managed Care Reviews*, April 16, 2003.

[89] Peter R. Kongstvedt, *Managed Care: What It Is and How It Works*, 3rd ed. (Sudbury, MA: Jones and Bartlett Publishers, 2009), pp. 7, 12; Allan Baumgarten, "Trend Note: HMO Enrollment Continues to Decrease in 2001–2002," *Allan Baumbarten's Managed Care Reviews*, April 16, 2003.

[90] Bryan A. Garner, ed., *Black's Law Dictionary*, 9th ed. (St. Paul, MN: West, 2009), p. 788.

[91] Arnold Birenbaum, *Managed Care: Made in America* (Westport, CT: Praeger, 1997), p. 15.

[92] Richard Stenson, *Thriving in the New Managed Care Environment* (Wilsonville, OR: BookPartners, 2000), p. 15; Arnold Birenbaum, *Managed Care: Made in America* (Westport, CT: Praeger, 1997), p. 15.

option.[93] (See Section 2.5.1.2.2, "Health Maintenance Organizations [HMOs]," in Chapter 2, "Reimbursement Environment," for a further discussion of HMOs.)

Despite the decreasing number of *operating HMOs* (from 902 in 1998 to 442 in 2011), the average enrollment per HMO plan has steadily been increasing from approximately 109,000 in 1999 to approximately 180,000 in 2011, which may be indicative of a trend toward consolidation within the HMO plan marketplace.[94] Further, while the number of HMO plans has remained stagnant from 2007 to 2011, the number of Medicare HMO plans and Medicaid HMO plans has increased by 32.8 percent and 16.9 percent, respectively, during that same time period.[95] In 2011, 83.4 percent (approximately 66.3 million) of all HMO enrollees were part of an HMO chain or network. Further, 77.5 percent of these enrollees were included under one of the *five largest HMO chains*, that is, (1) United Healthcare, (2) Blue Cross Blue Shield Association, (3) Kaiser Foundation Health Plan, Inc., (4) Aetna, and (5) Coventry Health Care, Inc.[96]

See Table 2.14, "Common Forms of HMOs," in Chapter 2, "Reimbursement Environment," as well as the following exhibits for an illustration of the five "*common*" models of HMOs.

A *Staff Model HMO* (or *Closed-Panel HMO*) is a *self-contained HMO* that directly employs or enters into a contractual relationship with physicians and staff and typically owns the fixed assets required for the delivery of care.[97]

Factoid

In 2011, there were 564 HMOs operating in the United States.

"United States: Number of HMOs, July 2011," Henry J. Kaiser Family Foundation, July 2011, http://www.statehealthfacts.org/profileind.jsp?ind=347&cat=7&rgn=1 (accessed November 9, 2012).

[93] Daniel J. Schwartz, Esq., "Regulation of Insurance," in *Fundamentals of Health Law*, 4th ed. (Washington, DC: American Health Lawyers Association, 2008), p. 247.

[94] *HMO-PPORx Digest: 2012–2013*, Managed Care Digest Series, 26th ed., Sanofi-aventis U.S. LLC, 2012, p. 6.

[95] Ibid.

[96] Ibid., p. 8.

[97] *Conomikes Managed Care Handbook* (Los Angeles: Conomikes Associates, 1994), p. 9; Eric R. Wagner, "Types of Managed Care Organizations," in *The Managed Health Care Handbook*, 3rd ed., edited by Peter R. Kongstvedt (Gaithersburg, MD: Aspen Publishers, 1996), p. 40.

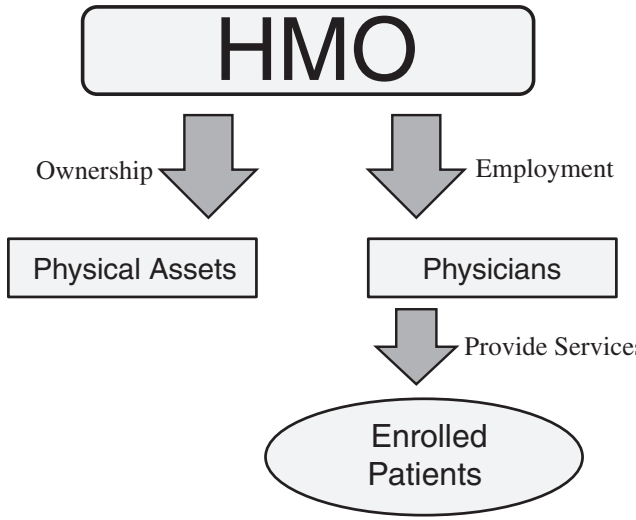


EXHIBIT 13.4 Staff Model HMO

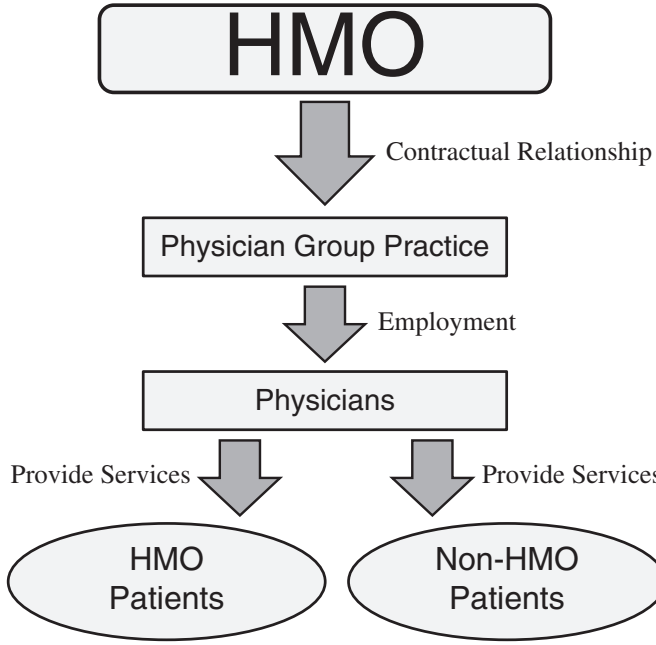


EXHIBIT 13.5 Group (Open) Panel Model HMO

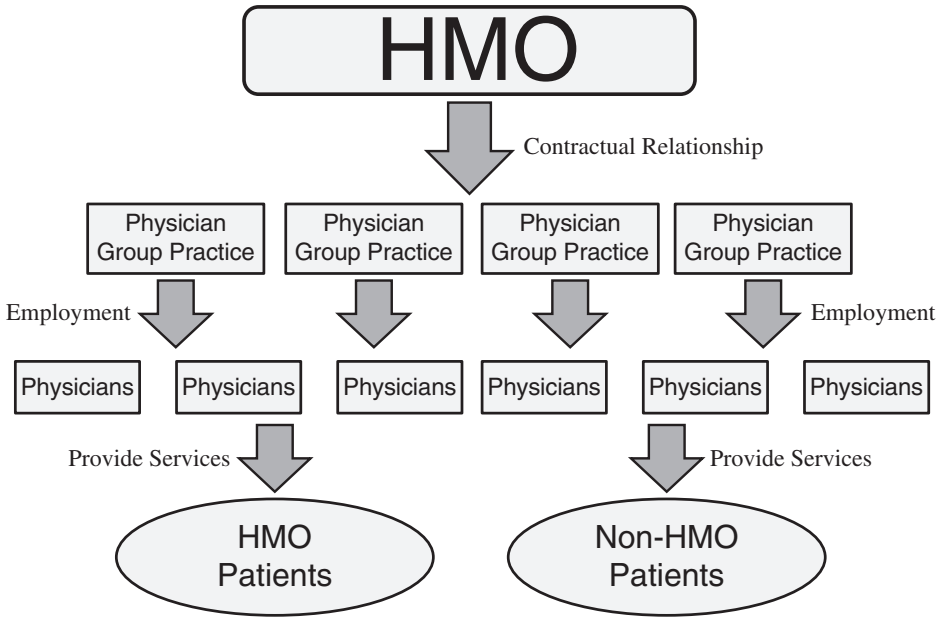


EXHIBIT 13.6 Network Model HMO

Staff Model HMOs are referred to as "*Closed-Panel HMOs*" because only *employed physicians* are permitted to provide services to enrollees.[98]

In contrast to a *Staff Model HMO*, a *Group Model HMO* typically does not own many fixed assets and *contracts* with one or more *medical group practices* for inpatient and diagnostic services needed by its *enrollees*.[99] In addition, unlike in a *Staff Model HMO*, physicians participating in a *Group Model HMO* are employed by their respective group practices, not by the HMO.[100] Further, participating physicians are not restricted to providing service to patients who are enrolled in the HMO plan.[101]

Similar to a *Group Model HMO*, a *Network Model HMO* enters into a contractual relationship with *group practices* and *individual physicians*. However, unlike a *Group Model HMO*, which typically has a primary, *large*

[98] Richard Stenson, *Thriving in the New Managed Care Environment* (Wilsonville, OR: BookPartners, 2000), p. 352.

[99] *Health Care Reform and Managed Care: A Guidebook for Orthopaedic Surgeons* (Rosemont, IL: American Academy of Orthopaedic Surgeons, 1994), p. 19; *Conomikes Managed Care Handbook* (Los Angeles: Conomikes Associates, 1994), p. 10.

[100] *Health Care Reform and Managed Care: A Guidebook for Orthopaedic Surgeons* (Rosemont, IL: American Academy of Orthopaedic Surgeons, 1994), p. 19.

[101] Ibid.

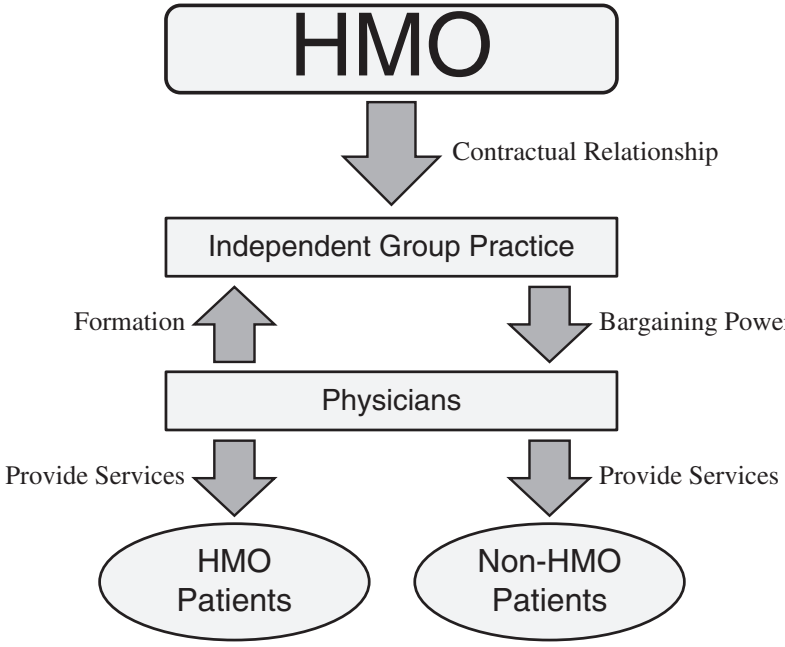


EXHIBIT 13.7 Independent Practice Association (IPA) Model HMO

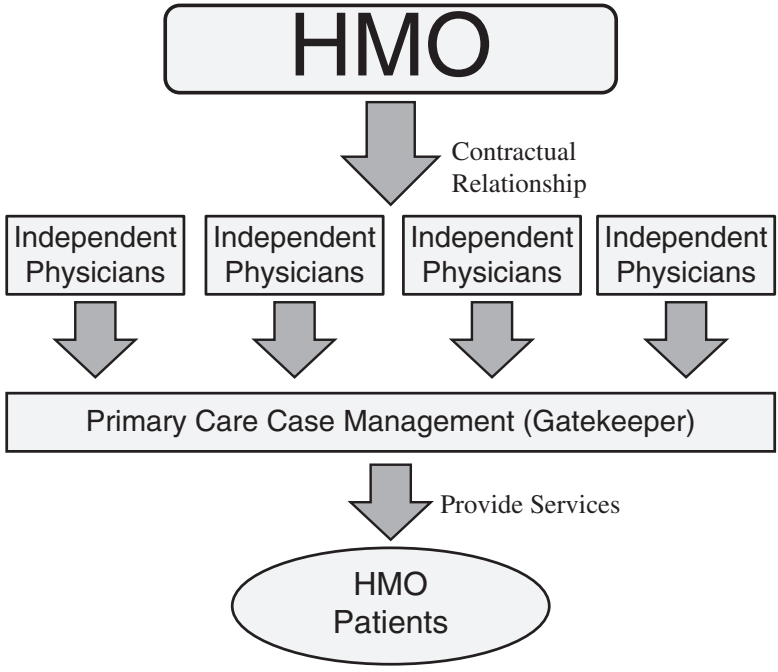


EXHIBIT 13.8 Direct Contract Model HMO

multispecialty group practice with which it contracts, a *Network Model HMO* enters into contracts with *numerous* small plan practices in order to meet the needs of its enrollees.[102]

In an *Independent Practice Association (IPA) Model HMO*, individual physicians join together to form the IPA (as discussed earlier in this chapter) and enter into a *contractual relationship* to provide services to enrollees in the plan, typically, on a *heavily discounted FFS model*. Physicians participating in an IPA may (1) retain their individual practices, (2) participate in several HMOs simultaneously, and (3) provide services to patients who are not enrolled in one of the participating HMOs.[103] IPAs often provide physicians with the bargaining power or market leverage of larger provider practices in negotiating managed care contracts.[104]

Similar to a *Network Model HMO,* a *Direct Contract Model HMO* enters into a *contractual relationship* directly with *individual physicians*, rather than with the physician group practice or an IPA.[105] *Direct Contract HMOs* typically contract with both primary care and specialist physicians and may also use a primary-care case management approach as a *gatekeeping*

GATEKEEPING

A cost and care utilization containment method widely used in managed care, requiring patients to gain preapproval for nonemergency healthcare services from their primary care physician.

The Managed Health Care Handbook*, 3rd ed., edited by Peter R. Kongstvedt (Gaithersburg, MD: Aspen Publishers, 1996), p. 994.*

[102] Ibid., p. 20.

[103] Arnold Birenbaum, *Managed Care: Made in America* (Westport, CT: Praeger, 1997), p. 16; Eric R. Wagner, "Types of Managed Care Organizations," in *The Managed Health Care Handbook*, 3rd ed., edited by Peter R. Kongstvedt (Gaithersburg, MD: Aspen Publishers, 1996), pp. 42–43.

[104] Eric R. Wagner, "Types of Managed Care Organizations," in *The Managed Health Care Handbook*, 3rd ed., edited by Peter R. Kongstvedt (Gaithersburg, MD: Aspen Publishers, 1996), pp. 42–43.

[105] *Health Care Reform and Managed Care: A Guidebook for Orthopaedic Surgeons* (Rosemont, IL: American Academy of Orthopaedic Surgeons, 1994), p. 21; Eric R. Wagner, "Types of Managed Care Organizations," in *The Managed Health Care Handbook*, 3rd ed., edited by Peter R. Kongstvedt (Gaithersburg, MD: Aspen Publishers, 1996), p. 44.

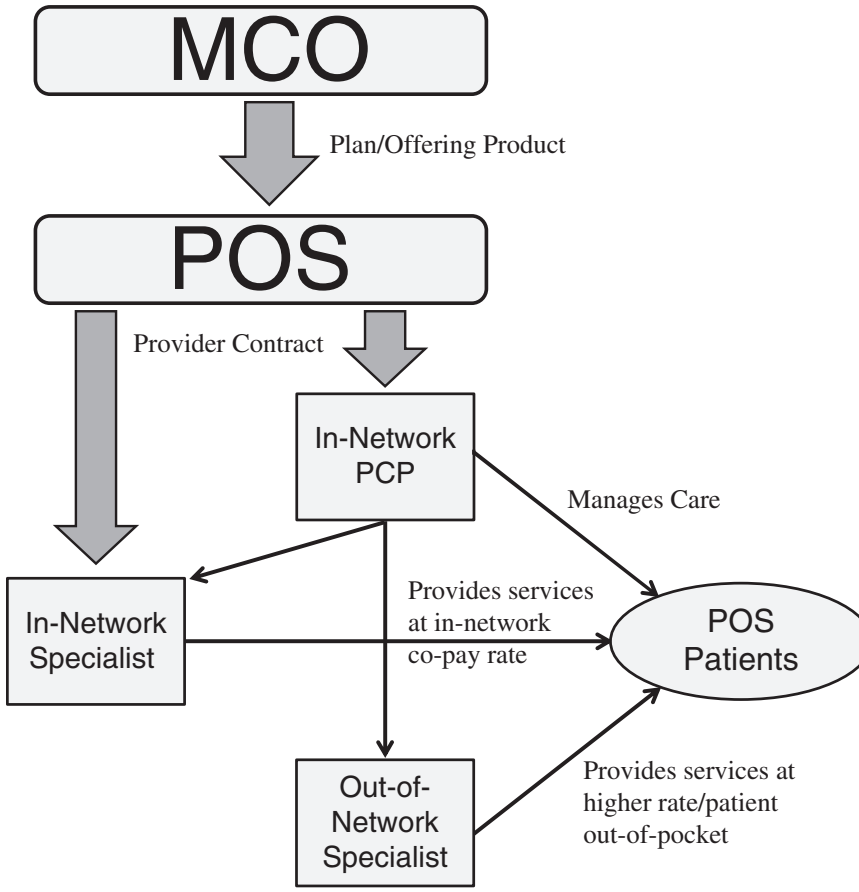


EXHIBIT 13.9 Point of Service Plan Model

function. Similar to an *IPA HMO Model*, *Direct Contract HMO* physicians may be reimbursed on either a *capitated* or an *FFS* basis.[106]

13.2.1.1.2 Point of Service (POS) Plans A *Point of Service* (POS) *Plan*, a hybrid form of an HMO, can be characterized as an HMO with additional *indemnity insurance* to cover *non-network* or *unauthorized* procedures for enrolled patients (see Exhibit 13.9).[107] In a *POS plan*, healthcare providers

[106] Peter R. Kongstvedt, *Essentials of Managed Health Care*, 2nd ed. (Gaithersburg, MD: Aspen Publishers, 1997), p. 47.

[107] Kimbal Austin Miller, MD, and Elaine King Miller, eds., *Making Sense of Managed Care, Volume I: Building Blocks and Fundamentals* (San Francisco: Jossey-Bass, 1997), p. 12.

contract with the POS to form a *network of providers,* with subscribers having the *option* of *choosing network* or *non-network* physicians for their healthcare needs. However, enrollees typically incur *higher* copayments and deductibles when obtaining care from *non-network* providers.[108] *POS plans* became increasingly popular in the early 2000s as an alternative to HMOs in the wake of the public backlash against the restrictions on patient choice on providers and the "*gatekeeping*" function of HMOs. (See Section 2.1.5.2.4, "Point-of-Service [POS] Plans," in Chapter 2, "Reimbursement Environment.") However, despite their early "*acceptance*" by consumers, as of 2012, only 9 percent of individuals covered under an employee-sponsored insurance plan were enrolled in a POS plan, as compared to 21 percent in 2000.[109]

13.2.1.1.3 Preferred Provider Organizations (PPOs) In contrast to the various types of HMOs described earlier, a *Preferred Provider Organization (PPO)* may be defined as "a corporation that receives health insurance premiums from enrolled members and contracts with independent doctors or group practices to provide care."[110] Typically, subscribers of a PPO receive treatment on an *FFS basis* from *network providers*. While patients enrolled in a PPO are not *required* to receive services from the *preferred panel of providers*, they are *incentivized* to stay within the *preferred panel network* through *discounts* and other *economic benefits*, including a *reduced* (or lack of) *deductible* or *copayment*.[111] (See Section 2.5.1.2.3, "Preferred Provider Organizations [PPO]," in Chapter 2, "Reimbursement Environment.")

PPOs typically do not accept the *financial risk* of an enrolled patient population, but rather act as the health plan's *third-party administrator* by *processing claims* and providing *financial incentives* for patients to receive services from those providers who participate in the PPO's panel.[112] An illustration of a typical *PPO* is set forth in Exhibit 13.10.

---

[108] Ibid., p. 25.

[109] Kaiser Family Foundation, *Employer Health Benefits: 2012 Annual Survey*, 2012, pp. 2, 67.

[110] David Edward Marcinko and Hope Rachel Hetico, eds., *Dictionary of Health Insurance and Managed Care* (New York: Springer, 2006), p. 226.

[111] United Policy Holders, "Chart: State Agencies regulating HMOs and PPOs," http://www.uphelp.org/pdfs/agencies_chart.pdf (accessed December 14, 2012).

[112] McDonald, Hopkins, Burke & Harbor Co., *Managed Care: Complete Guide to Mastering the Critical Health Care Issues*, (Lewisville, TX: American Institute of Certified Public Accountants, 2009), pp. 1-6–1-7.

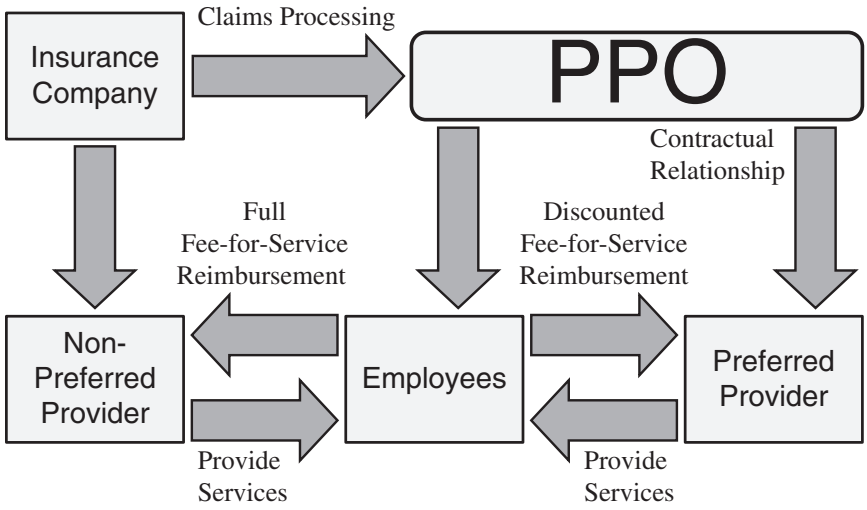


EXHIBIT 13.10 Preferred Provider Organization Model

Similar to the decreasing prevalence in the number of HMO plans during the last decade, the number of *PPOs* has also been declining, with 988 PPOs operating in 2000, as compared with 469 in 2011.[113] In addition, while total enrollment in PPOs *declined* from 156.4 million in 2007 to 146.1 million in 2010, total enrollment in PPOs *rebounded* to 150 million in 2011.[114] Furthermore, the average number of providers *affiliated* with a *PPO network*, across all provider types (e.g., primary care physicians, specialists, ancillary providers, and hospitals) also expanded in 2011, *increasing* by 4.8 percent for all physicians and 9 percent for primary care physicians from 2010.[115] The 10 largest PPOs by enrollment as of 2012 are set forth in Table 13.11.

13.2.1.1.4 Exclusive Provider Organizations (EPOs) An *Exclusive Provider Organization* (EPO), a *submodel* type of PPO, may be defined as "a plan in which patients must go to a participating provider or receive no benefit."[116]

---

[113] *HMO-PPORx Digest: 2012–2013*, Managed Care Digest Series, 26th ed., Sanofi-aventis U.S. LLC, 2012, p. 32.

[114] Ibid., p. 33.

[115] Ibid., p. 35.

[116] Peter R. Kongstvedt, *Essentials of Managed Health Care*, 6th ed. (Burlington, MA: Jones and Bartlett Learning, 2013), p. 29; David Edward Marcinko and Hope Rachel Hetico, eds., *Dictionary of Health Insurance and Managed Care* (New York: Springer, 2006), p. 109.

TABLE 13.11 Ten Largest PPOs by Enrollment

PPO Company	Enrollees (in millions)
MultiPlan's Complementary Networks	38
Integrated Health Plan, Inc.	21
MultiPlan's Primary PPO Networks	19
PlanCare America/NPPN	10.5
Three Rivers Provider Network	10
Prime Health Services	6.5
USA H&W Network	5.3
Fortified Provider Network	4.1
ChoiceNet	4
Galaxy Health Network	3.2

AIS's Directory of Health Plans: 2012, by Susan Namovicz-Peat (Washington, DC: Atlantic Information Services, 2012), p. 6.

Similar to a PPO, an EPO uses a *limited panel of providers* from which patients are encouraged to receive services. However, unlike a PPO, an EPO enrollee who chooses to use *nonemergency services* from a physician who is *out-of-network* typically must *self-pay* for these *nonemergency services*.[117] (See Section 2.5.1.2.3, "Preferred Provider Organizations," in Chapter 2, "Reimbursement Environment.") Although EPOs still represent only a small presence in the current insurance market, they have recently gained some popularity as an option for *self-funded employer plans* as a means of cost savings; for example, a survey by the *Society for Human Resource Management* found that in 2010, 9 percent of employers offered an EPO plan

Exclusive Provider Organization

A managed care plan in which patients must use a participating, in-network provider for nonemergency services or receive no insurance reimbursement, and they have to self-pay.

Dictionary of Health Insurance and Managed Care, *edited by David Edward Marcinko and Hope Rachel Hetico (New York: Springer, 2006), p. 109.*

[117] Peter R. Kongstvedt, *Managed Care: What It Is and How It Works*, 3rd ed. (Sudbury, MA: Jones and Bartlett, 2009), p. 221.

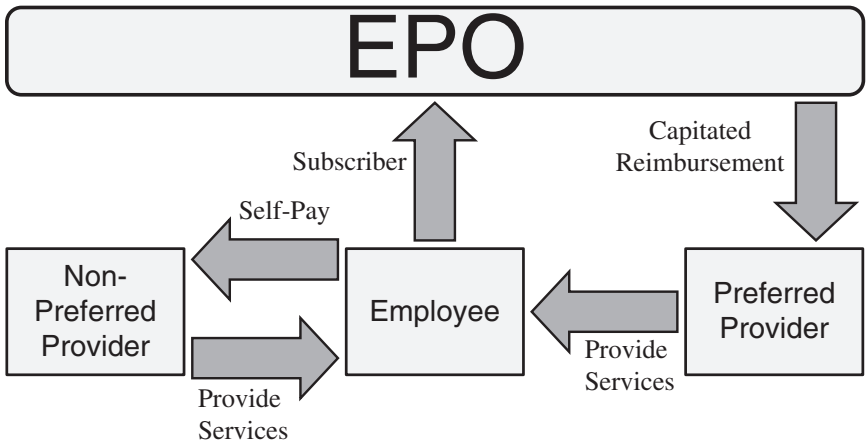


EXHIBIT 13.11 Exclusive Provider Organization Model

option to their employees.[118] An illustration of a typical *EPO* is set forth in Exhibit 13.11.

13.2.1.1.5 Medicare and Medicaid Managed Care Over the years, there have been various types of Medicare managed care models; this chapter focuses on Provider Sponsored Organizations (PSOs) and Medicaid Managed Care (MMC) plans. Generally classified as a *public payor, Medicare Part C*, or *Medicare Advantage*, is actually *administered* through *managed plans* offered by *private insurance companies*. Federal regulation mandates that *Medicare Advantage organizations* must pay 95 percent of *clean claims* submitted by *nonparticipating providers* within 30 days and pay interest on those *clean claims* that are not paid prior to this deadline.[119] *Medicare Advantage* plans have increased in popularity in recent years, with Medicare enrollment in private health plans rising from 5.6 million in 2005 to 13.7 million in 2013.[120] Under the ACA, government subsidies to insurance companies for the

[118] Peter R. Kongstvedt, *Essentials of Managed Health Care*, 6th ed. (Burlington, MA: Jones and Bartlett Learning, 2013), p. 30; Society for Human Resource Management, "2010 Employee Benefits: Examining Employee Benefits in the Midst of a Recovering Economy," June 2010, p. 13.

[119] Clean claims are those that have been reviewed and show no indication of fraud and abuse; 42 CFR, § 422.520

[120] Marsha Gold, et al., "Medicare Advantage 2013 Data Spotlight: Plan Availability and Premiums," Henry J. Kaiser Family Foundation, December 2012, p. 1; Marsha Gold, et al., "Medicare Advantage 2010 Data Spotlight: Plan Enrollment Patterns and Trends," Henry J. Kaiser Family Foundation, June 2010, p. 1.

Provider-Sponsored Organization

A cooperative venture of group providers who control an integrated provider system engaged in both delivery and financing of health care services.

Essentials of Managed Health Care, *6th ed., by Peter R. Kongstvedt (Burlington, MA: Jones and Bartlett Learning, 2013), p. 39.*

administration of *Medicare Advantage plans* will be reduced, leading some to conjecture that there might be an uncertain future for this Medicare option, but as of 2013, "the Medicare Advantage marketplace remains robust . . . with little change in the number of plans offered, and relatively modest increases in average premiums."[121] See Section 2.4.1, "Medicare," in Chapter 2, "Reimbursement Environment," for a further description of *Medicare Advantage* (Medicare Part C) vis-à-vis other *Medicare* reimbursement programs.

Provider Sponsored Organizations (PSOs), that is, a "cooperative venture of group providers who [control] an integrated provider system engaged in both delivery and financing of health care services," were first established as a *pilot program* as part of the *Medicare + Choice* (now known as *Medicare Advantage*) provision of the *Balanced Budget Act of 1997*.[122]

Factoid

Medicare beneficiaries being treated for five or more conditions account for 75 percent of all Medicare spending.

"The Rise in Spending among Medicare Beneficiaries: The Role of Chronic Disease Prevalence and Changes in Treatment Intensity," by Kenneth E. Thorpe and David H. Howard, Health Affairs *(August 22, 2006), http://content.healthaffairs.org/content/25/5/w378.full.pdf+html (accessed November 2, 2012), p. 380.*

[121] Marsha Gold, et al., "Medicare Advantage 2013 Data Spotlight: Plan Availability and Premiums," Henry J. Kaiser Family Foundation, December 2012, p. 1

[122] Peter R. Kongstvedt, *Essentials of Managed Health Care*, 6th ed. (Burlington, MA: Jones and Bartlett Learning, 2013), p. 39; "The Balanced Budget Act of 1997," *Pub. L.* 105-33, § 1855(d), 111 Stat. 316 (August 5, 1997).

PSOs were established with the purpose of controlling contracts directly with CMS for *Medicare risk-contracts*, while avoiding the "*middleman*," that is, Medicare HMOs.[123] PSOs have been perceived by some as a "*failed experiment*," due to the deep financial losses resulting from healthcare plans taking on full risk for older adults without the *case and utility management* strategies used by HMOs.[124]

Medicaid Managed Care (MMC) plans began to surface during the 1990s, and by 2011, there were 42.4 million individuals (approximately 74 percent of the Medicaid population) in the United States covered by MMC plans.[125] Many states welcomed the perceived cost efficiencies of managed care and began to mandate that Medicaid enrollees join MMC plans because of the plans' touted ability to *control and estimate costs*.[126] However, several studies have recently raised issues about the sustainability of cost savings achieved by these plans.[127] See Section 2.4.2.1, "Medicaid Overview," in Chapter 2, "Reimbursement Environment," for a detailed discussion of the *Medicaid managed care* program. While there is still uncertainty regarding how many states will participate in the *voluntary Medicaid expansion* program called for under the ACA, the increase in the number of Medicaid-eligible individuals in states that do choose to participate will likely have a significant impact on overall MMC enrollment. As of 2013, only seven states had expanded Medicaid coverage under the provisions of the ACA (CA, CT, CO, DC, MN, NJ, and

---

[123] Stephen C. Gleason, Jacque J. Sokolov, and Christine Henshaw, "Provider Sponsored Organizations: A Golden Opportunity in Medicare Managed Care," *Family Practice Management*, March 5, 1998, http://www.aafp.org/fpm/1998/0300/p34.html (accessed November 2, 2012).

[124] Peter R. Kongstvedt, *Essentials of Managed Health Care*, 6th ed. (Burlington, MA: Jones and Bartlett Learning, 2013), pp. 39–40.

[125] Centers for Medicare and Medicaid Services," *2011 Medicaid Managed Care Enrollment Report: Summary Statistics As of July 1, 2011*," July 2011, http://www.medicaid.gov/Medicaid-CHIP-Program-Information/By-Topics/Data-and-Systems/Downloads/2011-Medicaid-MC-Enrollment-Report.pdf (accessed November 15, 2012), pp. 1, 5.

[126] Tom Reinke, "Insurers Rush to Fill States' Medicaid Needs," *Managed Care* 17, no. 4 (April 2008): 46–49;

[127] Jessica E. Haberer, et al., "Does Medicaid Managed Care Affect Access to Care for the Uninsured?" *Health Affairs* 24, no. 4 (2005): 1095–1105; John Holahan and Brian Bruen, "Medicaid Spending: What Factors Contributed to the Growth between 2000 and 2002?" Henry J. Kaiser Family Foundation, Kaiser Commission on Medicaid and the Uninsured Issue Papers, September 2003, p. 4.

Factoid

Between 1978 and 2012, the market share for employer-based indemnity insurance fell from 95 percent to less than 1 percent.

Health Benefits of Small Employers in 1998, *by John Gabel, et al., Henry J. Kaiser Family Foundation, February 1999, p. 2;* Employee Health Benefits 2012 Annual Survey, *Kaiser Family Foundation and Health Research & Educational Trust, 2012, p. 7.*

WA).[128] See Section 6.4.3.2, "ACA's Impact on the Medicaid Program," in Chapter 6, "Healthcare Reform."

13.2.1.1.6 Indemnity Insurers In 1988, 73 percent of covered workers in employer-sponsored health plans were enrolled in a *conventional* insurance plan, a number that declined to less than 1 percent by 2012.[129] While no longer prevalent in the current U.S. health insurance marketplace, *indemnity insurers* offer indemnity or "*traditional*" *fee-for-service plans* to enrollees that do not restrict the patient's choice of provider and do not typically use the case management procedures that are present in many managed care plans.[130] Under an *indemnity plan*, a patient will typically pay the amount charged by the provider for the healthcare service. If the service provided is

ADVERSE SELECTION

Adverse selection occurs when different groups of people have different intrinsic probabilities of sustaining losses, but the . . . [healthcare payor] . . . cannot distinguish between one group and another.

Microeconomics with Calculus, *2nd ed., by Brian R. Binger and Elizabeth Hoffman (Reading, MA: Addison-Wesley Educational Publishers, 1998), p. 538.*

[128] Kaiser Commission on Key Facts, "Where Are States Today? Medicaid and CHIP Eligibility Levels for Children and Non-Disabled Adults," Kaiser Family Foundation, March 2013.

[129] Kaiser Family Foundation and Health Research & Educational Trust, *Employee Health Benefits 2012 Annual Survey*, 2012, p. 67.

[130] Jon R. Gabel, et al., "Withering on the Vine: The Decline of Indemnity Health Insurance," *Health Affairs* 19, no. 5 (September/October 2000): 152.

STABLE RISK GROUPS

Enrollee populations that have general good health and are at low risk of requiring expensive or excessive healthcare services, or the employer has a low number of enrollees.

covered under *the indemnity plan*, the patient may then *submit a claim* to the insurer and receive *partial reimbursement* for his or her cost of the visit.[131]

13.2.1.2 Administrative Services Only (ASO) Plan An *administrative services only* (ASO) plan is a *self-insured* plan that contracts with an MCO or an insurance company for the provision of *administrative services* for the plan, e.g., *claims processing, actuarial analysis, and utilization review.*[132] In some circumstances, the *self-insured* plan may "*rent*" access to the third-party payor's *provider network* and may receive healthcare services on a *discounted* basis.[133] In an *ASO arrangement,* the healthcare third-party payor does *not* assume any of the *risk* of the *covered population*, and its administrative responsibilities are limited to those set forth in the service contract.[134]

ASO plans permit *stable risk groups*, such as *employee populations* of a *single large employer*, to *self-fund* their own plan, thereby allowing *large employers* to *retain the risk* of insuring their stable employee population while *outsourcing* the administrative tasks required for the operation of the plan to an outside enterprise. Although returns are typically low for enterprises providing ASO services (as well as their associated risks), their *bargaining power* with healthcare providers may be strengthened by the number of patients they represent through their ASO arrangement.[135]

---

[131]Virginia Health Information, "Traditional Indemnity Insurance Plans," http://www.vhi.org/hio_trad.asp (accessed November 2, 2012).

[132]David Edward Marcinko and Hope Rachel Hetico, eds., *Dictionary of Health Insurance and Managed Care* (New York: Springer, 2006), p. 226; Peter R. Kongstvedt, ed., *The Managed Health Care Handbook*, 3rd ed. (Gaithersburg, MD: Aspen Publishers, 1996), p. 988.

[133]J. Goldsmith, "The Internet and Managed Care: A New Wave of Innovation," *Health Affairs* 19, no. 6 (November/December 2000): 45.

[134]David Edward Marcinko and Hope Rachel Hetico, eds., *Dictionary of Health Insurance and Managed Care* (New York: Springer, 2006), p. 226.

[135]J. Goldsmith, "The Internet and Managed Care: A New Wave of Innovation," *Health Affairs* 19, no. 6 (November/December 2000), p. 45.

MORAL HAZARD

Moral hazard occurs when the policy holder can take steps to reduce his or her probability of loss, but the insurance company cannot distinguish between loss due to carelessness and loss due to a random event that the policy holder could not have prevented

Microeconomics with Calculus, *2nd ed., by Brian R. Binger and Elizabeth Hoffman (Reading, MA: Addison-Wesley Educational Publishers, 1998), p. 538.*

As of 2012, 27.84 percent of insured individuals were enrolled in an ASO plan.[136] Of those individuals enrolled in an ASO plan, approximately 90.63 percent were enrolled in a plan managed by the *commercial market*, as compared to 4.09 percent who were enrolled in plans sponsored by the *government*.[137] This type of third-party payor plan is often captive to the employer sponsor and is therefore typically not transferred.

13.2.2 Current and Future Trends: Regulatory, Reimbursement, Competition, and Technology

13.2.2.1 Regulatory The managed care industry is subject to a broad spectrum of *regulation* and *legislation*. The industry has recently come under increasing public scrutiny regarding the *legal permissibility* of certain *insurer methods* and *practices*. This has led to the introduction of several types of *reform legislation* on the *national* and *state level*, some of which have the potential to exert significant changes on the *market structure* and *profitability* of the industry. Areas of regulation that may affect the third-party payor industry include:

1. **Corporate practice of medicine.** In many states, statutes may prohibit corporations from practicing medicine. Specifically, they *prohibit corporations*, including *hospitals* and *clinics*, from employing physicians to provide medical treatment. Several states explicitly prohibit the *corporate practice of medicine* by *separate statute*, while other state courts have read a *prohibition on the corporate practice of medicine* into the *state's*

[136] *AIS's Directory of Health Plans: 2012* (Washington, DC: Atlantic Information Services, 2012), p. 14.

[137] The sponsorship of the remaining 5.27 percent of those individuals enrolled in an ASO plan was unspecified. *AIS's Directory of Health Plans: 2012* (Washington, DC: Atlantic Information Services, 2012), p. 15.

Any Willing Provider Laws

Laws that require managed care plans to contract with all healthcare providers that meet their terms and conditions.

Dictionary of Health Insurance and Managed Care, *edited by David Edward Marcinko and Hope Rachel Hetico (New York: Springer, 2006) p. 25.*

medical practice act.[138] The primary rationale for prohibiting the corporate practice of medicine is the fear that *physicians' medical decisions* will be controlled by their *corporate nonphysician supervisor's decisions.*[139] However, this prohibition has, in the past, been inconsistently enforced across jurisdictions, with some states explicitly prohibiting corporations from employing physicians for the provision of medical services, while in other states there is no statutory direction.[140]

There are some exceptions to the general prohibition for the *corporate practice of medicine*, including (1) professional corporations, a special corporate form *solely owned* by *licensed professionals*, which are allowed to *employ physicians*; and (2) many states allow *exempt organizations, hospitals, and foundations* to employ physicians.[141] (See Section 3.7, "Corporate Practice of Medicine and Related Provisions," in Chapter 3, "Regulatory Environment.")

2. **"Any willing provider"** laws. These require third-party payors such as HMOs, PPOs, and insurance companies to contract with *any* healthcare provider *willing* to meet the third-party payor's *established terms of participation*. These laws also address issues related to *consumer freedom* to use *non-network providers* related to providers who have been dropped from *preferred* or *exclusive provider panels.*[142] (See Section 3.4.2, "Any Willing Provider Statutes," in Chapter 3, "Regulatory Environment.")

---

[138] John W. Jones, Esq., "Corporate Medicine in 21st Century Health Care," *Physician's News Digest*, June 2007, http://www.physiciansnews.com/law/607jones.html (accessed July 9, 2009).

[139] *People v. United Medical Service*, 362 Ill. 442, 200 N.E. 157, 163 (1936), p. 6.

[140] "Corporate Practice of Medicine," Thomson/Reuters, *50 State Statutory Surveys: Health Care: Health Care Facilities*, October 2011.

[141] Ibid.

[142] John F. Buckley and Nicole D. Prysby, *2009 State by State Guide to Managed Care Law*, Wolters Kluwer Law & Business (Gaithersburg, MD: Aspen Publishers, 2009), pp. 2–7.

3. **Employee Retirement Income Security Act of 1974 (ERISA).**[143] This law contains *preemption provisions* that allow certain *state legal claims* to be brought against insurance plans but requires others to be removed to *federal court* where *damages are limited* to those stipulated under ERISA (generally, the amount of benefits provided under the plan and potentially attorney's fees and other costs of litigation). There have been *regulatory changes considered* and *court decisions* that could affect these protections for managed care enterprises under ERISA. Such changes may also *increase* the *administrative requirements* and *costs* for which plans are responsible.
4. **Health Insurance Portability and Accountability Act of 1996 (HIPAA).** This act serves many purposes; it is most widely used for safeguarding the privacy of *Protected Health Information* (*PHI*), or individually identifiable health information.[144] This protection extends to information relating to the "past, present or future physical or mental health condition of an individual; the provision of healthcare services to an individual; or the past, present or future payment for the provision of healthcare to an individual."[145] The *HIPAA Privacy Rule* provides standards for the *use* and *disclosure* of PHI by *covered entities*, as well as rights for individuals to control how their PHI is used.[146] *The Privacy Rule* governs such covered entities as "health plans, healthcare clearinghouses, and any health care provider who transmits health information in electronic form in connection with a transaction for which the Secretary of HHS [Department of Health and Human Services] has adopted [HIPAA] standards."[147] Transactions by healthcare providers falling under the HIPAA Privacy Rule include *claims*, *benefit eligibility inquiries*, *referral authorization requests*, and *other transactions for which HHS has established particular standards.*[148] These transactions are covered regardless of whether they are performed by the *healthcare provider* themselves, a *billing service*, or *any other third party under contract with the provider.*[149] When a *covered*

[143] Alma Koch, *Introduction to Health Services* (Clifton Park, NY: Thomson Delmar Learning, 2008), p. 113.

[144] 45 CFR 160.103; "Health Insurance Portability and Accountability Act of 1996," *Pub. L.* 104-191 (August 21, 1996).

[145] 45 CFR 160.103.

[146] "Summary of the HIPAA Privacy Rule," OCR Privacy Brief, United States Department of Health and Human Services, May 2003, pp. 4, 9, http://www.hhs.gov/ocr/privacy/hipaa/understanding/summary/privacysummary.pdf (accessed June 17, 2009).

[147] Ibid., p. 2.

[148] Ibid.

[149] Ibid.

entity contracts with a third-party entity to perform *billing* or *other business associate activities*, *claims processing*, *data analysis*, *utilization review*, *and so on*, the *covered entity* must impose *specific safeguards* of PHI.[150] The *business associate agreement* and the covered entity *cannot authorize* the business associate to use the PHI in a way that would *violate the Privacy Rule.*[151] (See Section 3.5.1, "Health Insurance Portability and Accountability Act [HIPAA]," in Chapter 3, "Regulatory Environment.")

5. **Prompt payment mandates.** Medicare law 42 USC 1395u(c)(2)(B) mandates prompt payment of bills submitted by providers and states that "payment must be issued for at least 95% of all submitted clean claims within 30 calendar days of the date on which the claim is received. A clean claim is defined as a claim without defect or need for any required substantiating documentation that would otherwise prevent timely payment from being rendered within 30 days. If payment is not issued as required, interest must be paid for the period beginning on the day after the required payment date and ending on the date on which payment is made."
6. **Impact of the ACA.** The ACA has had a significant impact on the healthcare third-party payor industry, not only because of the expanded *volume* of the insured population that is anticipated to enter the health insurer marketplace as a result of the June 2012 SCOTUS decision upholding the ACA's provisions related to the *individual mandate,* but also the ACA's provisions related to prohibiting health insurers from excluding individuals on the basis of a preexisting condition and *mandating* health insurance *coverage for dependent children.*[152]

13.2.2.2 Reimbursement Third-party payors are currently experimenting with *novel* reimbursement models along the *risk spectrum*, which include *value-based reimbursement options* and *episode-based payment models*, in contrast to these models at either end of the spectrum, from Fee-for-Service (*FFS*) models to the *full-capitation* models of the past. (See Exhibit 2.14, "U.S. Health Insurance Reimbursement Options," in Chapter 2, "Reimbursement Environment.")

---

[150] "Uses and Disclosures of Protected Health Information: General Rules," 45 CFR 164.502(e); "Summary of the HIPAA Privacy Rule," OCR Privacy Brief, United States Department of Health and Human Services, May 2003, p. 3, http://www.hhs.gov/ocr/privacy/hipaa/understanding/summary/privacysummary.pdf (accessed June 17, 2009).

[151] Ibid.

[152] Kaiser Family Foundation, "A Guide to the Supreme Court's Affordable Care Act," Focus on Health Reform, May 2012; Kaiser Family Foundation, "Health Insurance Market Reforms: Pre-existing Condition Exclusions," September 2012. See Section 6.4.1, "Impact on Individuals," and Section 6.4.3, "Impact on Insurers," both in Chapter 6, "Healthcare Reform."

Third-party payors typically create a *risk pool* from the enrollees in the plan, within which the expenses associated with the most costly enrollees, that is, those who will require the third-party payor to reimburse providers for a *large amount of* or *expensive care*, are offset by healthy, typically young, patients, who are less likely to use a significant amount of care. The type of insurance plans a third-party payor offers will also affect the expense associated with the plan's enrollees. For example, under a *capitated* plan, third-party payors provide a *per member per month* (PMPM) reimbursement payment to providers, under which the risk of excessive services associated with individual patients are borne by the provider. In contrast, under a *fee-for-service* plan, whereby the third-party payor is responsible for the expense of costly patients, managing an effective *risk pool* may be more significant. New regulations established under the ACA, for example, the requirements to maintain a specified *medical loss ratio*, as well as provisions against denying coverage based on preexisting conditions, may also affect the operating expense incurred by third party payors. (See Chapter 6, "Healthcare Reform.")

13.2.2.3 Competition Consolidation within the healthcare third-party payor industry has been observed during the last decades. Fueled by the decline of employer-based health insurance, third-party payors have sought to augment declining enrollments through a process of acquiring plans.[153] Of note is that as a result of this expansion by acquisition, in only three states (Colorado, Oklahoma, and Wisconsin) do the three largest commercial third-party payors account for less than 50 percent of the total market enrollment.[154] This continuing trend toward the consolidation of the healthcare third-party payor market may lead to more limited competition, which may ensure that historical premium growth rates may continue in the near future and may subject third-party payors to greater regulatory scrutiny. As was noted earlier, the *net impact* of the ACA and its *individual mandate* on healthcare third-party payor profitability is, as yet, indeterminate, although it is anticipated to increase market demand for healthcare third-party payor services. This expansion of the insured population, should it prove to be profitable to third-party payors, may give rise to increased value in existing payors but may also incentivize new participants to enter the healthcare third-party payor marketplace. The ultimate method by which the healthcare exchanges will develop within the third-party payor industry is a "*wild card*" in this value equation.

13.2.2.4 Technology Within this *emerging network* of *accountable* third-party payor and provider relationships, third-party payors will need to increasingly

[153] Jamie Robinson, "Consolidation and the Transformation of Competition in Health Insurance," *Health Affairs* 23, no. 6 (November/December 2004): 11–24.
[154] Ibid.

rely on a stable and robust *technological infrastructure* that can *record*, *measure*, *monitor*, and *manage* the high volume of *enrollee data* for which they are responsible, particularly as third-party payors begin to participate in *state health insurance exchanges*. As such, the *interoperability* of these healthcare information technology systems between third-party payors and providers will be instrumental in allowing access not only to billing information, but also to the quality metrics on which *value-based payments* will be based.

13.2.3 Value Drivers: Third-Party Payors

As discussed earlier in this chapter and noted in Chapter 7, "Basic Valuation Tenets," the *value* that may be attributed to a specific healthcare third-party payor is based on its ability to generate *net economic benefit* beyond the operating and capital expense burden necessary to produce the revenue stream. The most significant value driver for healthcare third-party payor enterprises is likely to be their ability to *manage* or, in some cases, *avoid risk*. For commercial insurers, *value* is often created through their ability to collect *premium dollars* from enrollees, while *minimizing administrative* and *clinical costs*. Commercial health insurers benefit from enrollees *limiting* their utilization of the healthcare services covered under the plan. This may be achieved through a strategy of enrolling "*healthy individuals*" and avoiding the risk associated with "*sick or at-risk individuals*," either through establishing *eligibility criteria* that make it more difficult or more costly for those likely to have conditions requiring significant utilization of health services to obtain coverage or by *denying coverage* to individuals with *preexisting conditions*. While the ACA contains regulations that attempt to prevent or limit this behavior, commercial health insurers may still structure their coverage options to attract a greater portion of healthy enrollees.[155]

Managed care plans may also create *value* through the establishment of a *comprehensive provider network* by contracting with a sufficient base of primary care physicians, specialists, and facilities. Traditionally, managed care plans created value by controlling the utilization of healthcare services of their enrolled population, typically through *specialist restriction practices*.[156]

In addition to the ability to *mitigate risk*, the (1) *Revenue Stream*, (2) *Operating Costs*, (3) *Capital Structure*, (4) *Market Rivalries and Competitors*,

---

[155] Diane Archer and Theodore Marmor, "Medicare and Commercial Health Insurance: The Fundamental Difference," *Health Affairs* (February 15, 2012), http://healthaffairs.org/blog/2012/02/15/medicare-and-commercial-health-insurance-the-fundamental-difference/ (accessed November 8, 2012).

[156] Paul R. DeMuro, *The Financial Manager's Guide to Managed Care & Integrated Delivery Systems: Strategies for Contracting, Compensation & Reimbursement* (Burr Ridge, IL: Probus Professional Publishers, 1995), p. 2.

(5) *Scope of Services*, and (6) *Risk Adjustments* of a subject healthcare third-party payor all have the potential to affect the value that may be attributed to these enterprises.

13.2.3.1 Revenue Stream Third-party payors typically generate *revenue* from the *premiums* paid by the enrolled population covered (also known as "*covered lives*"). Accordingly, increasing the *volume* of *covered lives* will result in a corresponding increase in the *revenue* generated by a third party-payor. The potential increase in volume of covered lives is a function of two factors: (1) *changes in utilization demand for coverage* and (2) *changes in market share*.

In addition to a market services area's changing demographics, for example, increases or decreases in total population and the proportion of the population eligible for Medicare, the utilization demand for coverage has been, and will continue to be, affected by several of the provisions of the ACA that are designed to expand access to insurance coverage. Since the passage of the ACA in 2010, *preexisting conditions cannot* be used as a *means for denying coverage* to *children*, and *dependent coverage* was extended to include children up to the age of 26, each of which may increase the number of covered lives for third-party payors.[157] However, these provisions, particularly the acceptance of *preexisting conditions*, may also be associated with higher medical loss payments for third-party payors, as *preexisting conditions* tend to be an indication of *future medical care needs*. The provision of the ACA that will likely have the most significant impact on the volume of covered lives is the *individual mandate*, discussed more fully in Chapter 6, "Healthcare Reform," that requires all U.S. citizens and legal residents to maintain "*minimum essential coverage,*" which necessarily requires them to obtain some form of health insurance coverage.

Some provisions of the ACA may also act to lessen the volume of covered lives for third-party payors by affecting their market share. For example, for those states that choose to participate in the Medicaid expansion, some individuals currently receiving healthcare coverage from third-party payors may become newly eligible for Medicaid coverage.[158] Similarly, other changes in the insurance market may also affect the volume of covered lives for third-party payors, for example, as the aging baby boomer population becomes

[157]"Patient Protection and Affordable Care Act, Sec. 1302, 2714," *Pub. L.* 111-148, 124 Stat 119 (March 23, 2010).

[158]The current status of the Medicaid expansion is fully discussed in Chapter 6, "Healthcare Reform."

eligible for Medicare, those third-party payors incapable of replacing these lost *covered lives* may have difficulty maintaining their current revenue levels (with the exception of those commercial third-party payors that offer Medicare Advantage plans).

In addition, acquisitions related to horizontal consolidators within the third-party payor industry are often motivated by a desire to expand through procurement of the *covered lives* of the other third-party payors. The volume of covered lives of third-party payors may be affecting by the attractiveness of their *provider network* and patient choice, for example, by increasing the number of providers to facilitate patient access and by increasing access to the types of specialist included in the network and/or by lowering copayment or deductible amounts. (See Chapter 6, "Healthcare Reform," for a fuller discussion of the ACA.)

While each payor uses its own methodology for establishing annual *premium rates*, these rates are designed to cover the *anticipated costs* related to paying for the care provided to enrollees. Accordingly, rates typically vary, based on the *health status* and *coverage plan* chosen by the enrollee. The methods used to determine those factors that may affect the cost of care for a defined population are typically referred to as *rating practices*, several of which are set forth in Table 13.12.

Of note is that premium rates paid by Medicare and Medicaid enrollees are set by CMS and the applicable state Medicaid agency. See Section 2.4.1, "Medicare," and Section 2.4.2, "Medicaid and CHIP," in Chapter 2, "Reimbursement Environment."

Rate bands and *community ratings* are the two main forms of state rate restrictions. States that have implemented *rate bands* limit a third-party payor's ability to use *health status rating practices* by establishing a *range*, or *band*, of rates a third-party payor may charge, typically based on the third-party payor's *average premium rate* (commonly known as the *index rate*).[159] An illustration of a hypo*thetical rate band restriction* is set forth in Exhibit 13.12.

Community rating is generally a restriction that requires third-party payors to set *one premium rate* for all enrollees in the same plan. States may also implement an *adjusted* or *modified community rating* restriction, which allows third-party payors to adjust the *single premium rate* based on

[159]Kaiser Family Foundation, "Health Insurance Market Reforms: Rate Restrictions," Focus on Health Reform June 2012, pp. 1–2; "Health Insurance 101: Setting Insurance Premiums," Community Catalysis, Georgetown University Health Policy Institute, 2011, http://101.communitycatalyst.org/aca_provisions/setting_premiums (accessed January 17, 2013).

TABLE 13.12 Common Rating Practices

	Description	When Applied to Plan	Example(s)
Health Status Rating	Premiums may be set higher for individuals more likely to use a greater amount of, or more expensive, healthcare services.	Typically at issuance	Chronic conditions, allergies.
Demographic Rating	Premiums may be set higher based on demographic factors that are typically associated with a higher use of healthcare services.	At issuance and renewal	Age, gender, and geographic location.
Industry Rating	Premiums may be set higher for enrollees in professions that are associated with high medical costs.	Typically at issuance	Loggers, miners.
Durational Rating	Premiums may be raised after a year or more, as indicators of future cost change. This practice is not common among payors.	At renewal	Preexisting condition exclusion period ends, medical underwriting expires.
Tier Rating	Payors may put enrollees into tiers of premium rates based on various factors that may suggest the amount of, and cost of, healthcare services that may be used. This practice is also known as re-underwriting.	At issuance and renewal	Historical use of healthcare services, health status.
Experience Rating	Group premiums are based on the group's history of insurance claims. This practice is common among payors.	At renewal	Dependent on group's historical usage of healthcare services.

"Health Insurance Market Reforms: Rate Restrictions," Kaiser Family Foundation, Focus on Health Reform, June 2012, pp. 1–2; "Health Insurance 101: Setting Insurance Premiums," Community Catalysis, Georgetown University Health Policy Institute, 2011, http://101.communitycatalyst.org/aca_provisions/setting_premiums (accessed January 17, 2013).

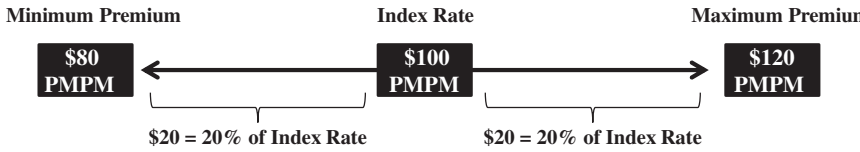


EXHIBIT 13.12 Hypothetical 20 Percent Rate Band Restriction

minimal demographic factors, typically not *experience* or *health status*.[160] In addition, some states impose *renewal rate protections*, which limit a third-party payor's ability to raise *premium rates*, typically limiting any inflation to 10 to 15 percent of the third-party payor's *best business rate*, that is, the lowest rate available.[161]

As of January 2012, 18 states and the District of Columbia (DC) limited third-party payor *rating practices*. "Of those states (including the District of Columbia), 12 imposed *rate bands;* 6 imposed an *adjusted community rating restriction;* and, 1, New York, imposed a *community rating restriction*. In addition, almost all states allowed for some kind of *rating practices* based on *age* (48 states and D.C.), *health status* (43 states and D.C.), and *tobacco use* (45 states and D.C.), while a majority of states allowed for rating practices based on *gender* (37 states) and the *industry* in which an enrollee is employed (37 states and D.C.).[162] Further, in 2014, ACA provisions will limit the rating practices of third-party payors on a federal level, that is, all third-party payors, regardless of which state they reside in, will be allowed to *adjust premiums* based only on: (1) *individual enrollment versus family enrollment*, (2) *geographic location*, (3) *age*, and (4) *tobacco use*.[163]

Despite regulations restricting certain *premium rate–setting practices* by commercial third-party payors, rates for *employer-sponsored health*

---

[160] "Health Insurance 101: Setting Insurance Premiums," Community Catalysis, Georgetown University Health Policy Institute, 2011, http://101.communitycatalyst.org/aca_provisions/setting_premiums (accessed January 17, 2013); Janet L. Kaminski, "*Community versus Experience Rating Health Insurance*," OLR Research Report, July 3, 2008, http://www.cga.ct.gov/2008/rpt/2008-R-0377.htm (accessed January 17, 2013).

[161] "Health Insurance 101: Setting Insurance Premiums," Community Catalysis, Georgetown University Health Policy Institute, 2011, http://101.communitycatalyst.org/aca_provisions/setting_premiums (accessed January 17, 2013).

[162] Kaiser Family Foundation, "Individual Market Rate Restrictions (Not Applicable to HIPAA Eligible Individuals), 2012," January 2012, http://www.statehealthfacts.org/comparetable.jsp?ind=354&cat=7&sub=87&yr=255&typ=5#notes-1 (accessed January 17, 2013).

[163] "Patient Protection and Affordable Care Act," *Pub. L.* 111-148, 124 Stat 155 (March 23, 2010).

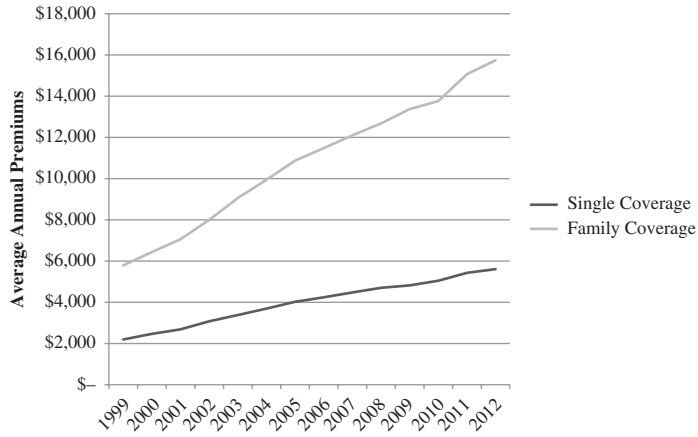


EXHIBIT 13.13 Growth in Average Annual Premiums for Employer-Sponsored Plans, 1999 to 2012
Employer Health Benefits: 2012 Annual Survey, by Gary Claxton, et al., Kaiser Family Foundation, 2012, p. 30.

plans increased 127 percent for individual coverage, and 145 percent for family coverage from 2000 to 2012.[164] This growth in annual premiums is illustrated in Exhibit 13.13.

In addition, in 2012, there were significant variations in annual average premium payments based on the benefits offered, cost sharing, and geographical location, for example, 19 percent of individuals paid an annual premium of less than $4,492 for individual coverage (which is less than 80 percent of the average annual premium paid for individual coverage), and 18 percent of individuals paid an annual premium of more than $6,738 (which is more than 120 percent of the average annual premium paid for individual coverage). Similar variation was seen in the family market.[165]

Metropolitan Statistical Area

Typically, a geographic area that includes one city with at least 50,000 inhabitants.

Dictionary of Health Insurance and Managed Care, *edited by David Edward Marcinko and Hope Rachel Hetico (New York: Springer, 2006) p. 186.*

[164] Gary Claxton, et al., *Employer Health Benefits: 2012 Annual Survey*, Kaiser Family Foundation, 2012, p. 30.
[165] Ibid., p. 3.

Another important consideration when projecting revenues for a healthcare third-party payor enterprise is accounting for changes in the circumstances that generate enrollee volume, for example, (1) *commercial employer groups*, (2) *state or local employment groups*, (3) *insurance companies*, (4) *Medicare beneficiaries* (Medicare advantage), (5) *Medicaid beneficiaries*, and (6) *individual markets*. Regulatory and financial trends may affect a third-party payor's enrollment differently, based on the enrollee population. One such regulatory change that may be a significant consideration for the projection of patient utilization/demand for the services offered by a healthcare third-party payor is the implementation of the *individual mandate* and *state health insurance exchanges* in 2014. Under the *individual mandate*, most individuals will be required to obtain insurance, typically from those commercial third-party payors who are included in a state's health insurance exchange. Participation in a state health insurance exchange may form the basis for a projection of increased market demand/utilization for a subject healthcare third-party payor. For more information on the *state exchanges* and the *individual mandate*, see Chapter 6, "Healthcare Reform."

Despite the ACA provision requiring third-party payors to submit rate increases of 10 percent or more to HHS for state and federal review, premiums are still projected to grow during the next decade.[166] A 2012 study performed by the Commonwealth Fund suggested that "[a]bsent a significant change in the way private insurance and health care markets function, cost pressures will continue to push up private insurance costs and out-of-pocket medical expenses."[167] In contrast to the long-held view that the economics of the healthcare industry display inelastic demand, purchasers of *healthcare insurance* tend to exhibit *price elastic demand*, that is, small increases in premiums tend to lead to large decreases in quantity sold. Accordingly, increasing price cost pressures may drive premium increases, which may lead to a reduction in *covered lives* but not necessarily a reduction in *profits*. An example of the application of other pertinent valuation considerations can be found online at http://www.wiley.com/go/healthcarevaluation.

---

[166] Health and Human Services, "State-Federal Review of Health Insurance Rate Increases Begins, Double-Digit Price Hikes Must Be Justified," press release, September 1, 2011, http://www.hhs.gov/news/press/2011pres/09/20110901a.html (accessed January 24, 2013).

[167] Cathy Schoen, et al., *Realizing Heath Reform's Potential: State Trends in Premiums and Deductibles, 2003–2011: Eroding Protection and Rising Costs Underscore Need for Action*, The Commonwealth Fund, pub. 1648, vol. 31, December 2012, p. 2.

Health Savings Account

A tax-exempt trust or custodial account that a qualified individual may set up to pay or reimburse certain medical expenses in which they incur.

Publication 909, *"Main Content," Internal Revenue Service, 2011, http://www.irs.gov/publications/p969/ar02.html (accessed November 28, 2012).*

13.2.3.2 Operating Expense The expenses incurred by third-party payors are typically categorized as either *medical expenses*, also referred to as *medical losses*, or *administrative expenses*. *Medical* expenses may be defined as the expenses incurred by the third-party payor related to the provision of healthcare services to enrollees. The proportion of medical expense to total premium revenue is commonly referred to as the *medical loss ratio* (MLR). Under the ACA, third-party payors are required to have a *minimum MLR* in order to reduce third-party payor spending on activities that do *not directly benefit* enrollees, that is, *administrative tasks* and *profits*.[168] As set forth in the *MLR Final Rule*, published on December 2, 2011, certain *commercial third-party payors* are required to spend at least *80 percent* of insurance premiums on *medical care* and *healthcare quality improvement* in the *individual* and *small group markets* and 85 percent of premiums on these components in the *large group markets*, exclusive of administrative costs.[169] The MLR requirements do not apply to self-funded plans where the patient or the employer assumes the risk for medical care.[170] For more information on the MLR, see Chapter 4, "Competition."

The *MLR Final Rule* allows the secretary of HHS, through *the Center for Consumer Information and Insurance Oversight* (CCIIO), to adjust the MLR standard in states where it is determined that meeting the 80 percent MLR standard might destabilize the individual market. In order to qualify, a state must demonstrate that requiring its insurers to meet this standard

[168] "Patient Protection and Affordable Care Act," *Pub. L.* 111-148, 124 Stat 130 (March 23, 2010).

[169] "Medical Loss Ratio Requirements under the Patient Protection and Affordable Care Act," *Federal Register* 76, no. 235 (2011): 76574–76594.

[170] MLR requirements also do not apply to long-term care, dental, vision, or retiree health plans. Suzanne M. Kirchhoff and Janemarie Mulvey, "Medical Loss Ratio Requirements Under the Patient Protection and Affordable Care Act (ACA): Issues for Congress," Congressional Research Service, September 18, 2012, p. 4.

would decrease the availability of insurance plan choices for consumers.[171] As of February 2012 (when the last request was submitted), 17 states had applied for an adjustment to the MLR standard, as set forth in Table 13.13.

Administrative expenses for third-party payors may be defined as the *nonmedical related overhead expenses* necessary to the operations of the third-party payor. Typically, *administrative expenses* include, but are not limited to, (1) *claims adjustment expenses*, excluding depreciation; (2) *IS implementation expenses*, excluding depreciation; (3) *administration expenses*, excluding depreciation; (4) *depreciation for expenses*; (5) *case-management*; (6) *contracting*; and (7) *network development*. There is growing investor concern that these regulations may tend to create a *manufactured bottom line* by controlling the third-party payors' *administrative expenses*, that is, cash flow to the owners of third-party payors.

Uncertainty within the U.S. healthcare delivery system has resulted in an increased transactional marketplace, with larger third-party payor enterprises citing the ability to *spread costs over a larger membership* as a significant reason for consolidation. However, according to the *Sherlock Company*, as of 2012, only 19.4 percent of third-party payors reported that their *expenses* were affected by *economies of scale*.[172] The study further indicated that in 2012, there were five areas that had the potential to be significantly affected by economies of scale: (1) *other provider network management and services*, (2) *information systems operations and support services*, (3) *information systems application and maintenance*, (4) *audits*, and (5) *printing and mailroom services*.[173] While larger third-party payors typically offer lower *per member per month* (PMPM) rates ($30.15 for *larger third-party payors*, as compared to $32.78 for *smaller third-party payors*), the magnitude of this *economy of scale* varies based on *product mix*, that is, the types of plans offered by a third-party payor, and may not be as significant as *effective plan management*.[174]

Despite concerns among third-party payors and their investors that the ACA may significantly hinder their ability to maintain their current level of profitability, the *commercial healthcare third-party payor industry* has realized increased revenues in the post-ACA period, with revenues up by 10 percent from April 2011 to October 2012, as compared to 21 percent

---

[171] Center for Consumer Information and Insurance Oversight, "Medical Loss Ratio," http://cciio.cms.gov/programs/marketreforms/mlr/index.html (accessed January 4, 2012).

[172] "Economies of Scale in Health Plan Administration," *Pulse*, September 2012, p. 4.

[173] Ibid.

[174] "Type, Scale, and Concentration: Do They Determine Health Plan Costs?" *Pulse*, August 2012, pp. 3, 8.

TABLE 13.13 State Adjustments to Medical Loss Ratio Requirements

State	Denied	Gradual MLR Adoption (full implementation in 2013)	Delayed MLR Adoption (one-year delay)	Downward Adjustment
Delaware	X			
Florida	X			
Georgia		X		
Indiana	X			
Iowa		X		
Kansas	X			
Kentucky		X		
Louisiana	X			
Maine				X
Michigan	X			
Nevada			X	
New Hampshire		X		
North Carolina			X	
North Dakota	X			
Oklahoma	X			
Texas	X			
Wisconsin	X			

"Letter from CCIIO to Various States Regarding Requests for Adjustment to Medical Loss Ratio Standards," by Steven B. Larsen, Center for Consumer Information and Insurance Oversight, to Kevin M. McCarty, Florida Office of Insurance Regulation, December 15, 2011; Adam W. Hamm, North Dakota Insurance Department, July 22, 2011; James J. Donelon, Louisiana Department of Insurance, December 28, 2011, p.1; Sandy Praeger, Kansas Insurance Department, January 4, 2011; Karen Weldin, Delaware Department of Insurance, September 9, 2011; Steven W. Robertson, Indiana Department of Insurance, December 28, 2011; Kevin Clinton, Michigan Office of Financial and Insurance Regulation, December 16, 2011; John D. Doak, Oklahoma Insurance Department, January 2, 2012, p. 2; Mila Kofman, State of Maine Bureau of Insurance, March 8, 2011, p. 2; Susan E. Voss, Iowa Insurance Division, July 22, 2011; Ralph T. Hudgens, Georgia Commissioner of Insurance, November 8, 2011; Sharon P. Clark, Commonwealth of Kentucky Department of Insurance, July 22, 2011; Roger A. Sevingy, State of New Hampshire Insurance Department, May 13, 2011, p. 2; Brett J. Barratt, State of Nevada Department of Business and Industry, May 13, 2011, p. 2; Eleanor Kitzman, Texas Department of Industry, January 27, 2012, p. 2; Wayne Goodwin, North Carolina Department of Industry, February 16, 2012, p. 2; and Theodore K. Nickel, State of Wisconsin, February 16, 2012, p. 2.

TABLE 13.14 Third-Party Payor Current and Historical Operating Margins

Date	Operating Margin
3/2013	3.6%
12/2012	4.2%
12/2011	5.2%
12/2010	6.3%
12/2009	5.0%

Note: Data collected from Sherlock Company *PULSE* newsletters for the corresponding month and year.

during the same time period for all health third-party payors and significantly increased profitability, as displayed in Table 13.14.[175]

13.2.3.3 Capital Structure A consideration unique to healthcare third-party payor enterprises is the existence of *net worth requirements*, which mandate that third-party payors maintain *sufficient capital reserves* that would be available to pay for *outstanding* and *impending claims* based on "incurred liabilities, prior experience, and projections that assumed moderately adverse conditions."[176] These regulations vary by state and are designed to protect enrollees against a third-party payor's *insolvency.* See Chapter 3, "The Regulatory Environment."

States use various methodologies for establishing the *minimum regulatory capital levels* that third-party payors are required to maintain under the regulations of the states in which they operate (Statutory Reserves). One model, in use in 37 states (as of July 2010), uses as the basis for the minimum capital reserves the *risk-based capital (RBC) system*, developed by the *National Association of Insurance Commissioners* (NAIC).[177] The intent of the RBC is to "provide a capital adequacy standard that is related

[175] "Health Plan Dashboard," *Pulse*, September 2012, p. 1.

[176] General Accounting Office, *Private Health Insurance: Federal and State Requirements Affecting Coverage Offered by Small Businesses*, GAO-03-1133, September 2003, p. 28.

[177] Ibid., p. 39. The National Association of Insurance Commissioners (NAIC) is an accreditation and regulatory support organization operated by chief insurance regulators from all 50 states, the District of Columbia, and 5 U.S. territories. National Association of Insurance Commissioners, "FAQ," http://www.naic.org/documents/about_faq.pdf (accessed January 17, 2013).

to risk, raises a safety net for insurers, is uniform among the states, and provides regulatory authority for timely action."[178] The NAIC RBC system is developed to systematically assess the riskiness of the portfolio of assets held by the third-party payors as reserves against projected future *actuarial loss claims*. It is intended to limit the risk of insolvency among third-party payors by reducing the "*book value*" of reserves in accordance with the riskiness of the asset type. Risk considerations included in the NAIC's RBC calculation are:

1. **Asset risk—affiliates**, that is, "the risk of default of assets for affiliated investments";
2. **Asset risk—other**, that is, "the potential for default of principal and interest or fluctuation in fair value of assets";
3. **Underwriting risk**, in other words, "[that] medical expenses will exceed the premiums collected";
4. **Credit risk**, that is, an adjustment for the potential "beneficial effect of managed care arrangements in decreasing the fluctuations in medical expenses"; and
5. **Business risk**, in other words, an adjustment for instability resulting from poor controls of administrative expenses and medical expenses, based on "Administrative Expense Risk (variability of operating expenses), Non-Underwritten and Limited Risk (collectability of payments for administering third party programs), Guaranty Fund Assessment Risk and Excessive Growth."[179]

The RBC ratio is then calculated as the ratio of total capital to adjusted capital for the healthcare third-party payor. The median *RBC ratios* for third-party payors located in states that have adopted the RBC system are typically higher for those third-party payors with a greater number of assets, as indicated in Table 13.15.

Two other capital considerations that should be analyzed when assessing the capital structure of a healthcare third-party payor are (1) *incurred but not reported* (IBNR) *liabilities* and (2) *reported but not recorded liabilities*. IBNR typically consists of those expenses that have been *incurred* by a provider for services rendered to a patient covered by the third-party payor, for which a claim has yet to be submitted, that is, *reported*; see Chapter 14,

[178] National Association of Insurance Commissioners, "Risk-Based Capital: General Overview," July 15, 2009, http://www.naic.org/documents/committees_e_capad_RBCoverview.pdf (accessed January 17, 2013).

[179] Ibid.

TABLE 13.15 Median RBC Ratios by Asset Size, 2010

Payor Assets (in millions)	RBC Ratio	Number of Payors
Less than $10	1165%	269
$10 to $25	491%	99
$25 to $100	497%	217
$100 to $250	496%	132
$250 or More	639%	139
All Payors	606%	856

Private Health Insurance: State Oversight of Premium Rates, General Accounting Office, GAO-11–701, July 2011, p. 41.

"The Valuation of Tangible and Intangible Assets." Similarly, *reported but not recorded liabilities* refer to those claims that have been submitted by the provider but have yet to be processed for reimbursement by the third-party payor. To determine the *true net economic value* that may be attributed to a subject healthcare third-party payor, including the impact of any *IBNR* and *reported but not paid* liabilities, the valuation analyst may perform a *lag analysis* that considers such factors as (1) *time from date of service performed to receipt of claim*, (2) *provider contract rate changes*, (3) *service utilization trends*, and (4) *membership demographics and volumes*.

13.2.3.4 Market Rivalries and Competitors As indicated earlier in this chapter, the *commercial health insurance market* includes all non-Medicare and non-Medicaid *individual*, *group*, and *employer markets*.[180] Within the commercial market, groups may be classified by *membership size*, as (1) *individual*, (2) *small group* (2–50 members), (3) *mid-market* (51–5,000 members), and (3) *large case* (more than 5,000 members).[181]

While consolidation within a given market has the potential to result in larger enterprises with greater market power and may act as a *market entrance barrier* to emerging enterprises, provisions in the ACA provide for the establishment of ACOs, a new competitor to traditional third-party payors. In the employer-purchased insurance market, some employers have expressed concerns regarding a possible *domino effect*, whereby the

[180] James C. Robinson, "The Commercial Health Insurance Industry in an Era of Eroding Employer Coverage," *Health Affairs* 25, no. 6 (2006).

[181] Peter R. Kongstvedt, *Essentials of Managed Health Care*, 6th ed. (Burlington, MA: Jones and Bartlett Learning, 2013), p. 354.

increased market leverage of third-party payors resulting from *provider consolidation,* including *the formation of ACOs*, may result in *higher prices* for *private sector purchasers*.[182] In contrast, other employers view ACOs as a means of reducing *healthcare costs,* thereby making the provision of *health benefits to employees* more affordable, which has been a significant issue for small business owners as *healthcare premiums* have continued to rise.[183]

In 2010, there were 1,061 *life/health insurance enterprises* in the United States, including for-profit, not-for-profit, and government payors. Since 2010, there has been an increase in the number of transactions taking place among healthcare third-party payor enterprises. One result of this consolidation is that as of 2012, there were only 38 Blue Cross and Blue Shield enterprises, covering nearly 100 million individuals. A 2012 study by the American Medical Association examined competition in health insurance markets across the United States and found that the majority of commercial health insurance markets in the United States are highly concentrated. Two recent attempts to consolidate were closely scrutinized and, as a result, canceled by one of the companies, including a 2010 Blue Cross Blue Shield of Michigan and Physicians Health Plan of Mid-Michigan merger. Recent consolidation attempts have been more closely analyzed. Coupled with other market conditions, including insurer profitability, lower scope of benefits, and high barriers to entry, a 2012 AMA study suggests that health insurers have been exercising increasing market power and, in turn, "causing competitive harm to consumers and providers of care."[184] In considering the competitive environment, the valuation analyst should be concerned with

---

[182] "Letter from PBGH to CMS Regarding ACOs," by David Lansky, president and CEO of Pacific Business Group on Health, to Donald M. Berwick, administrator of Centers for Medicare and Medicaid Services, February 14, 2011; Rebecca Vesely, "Large Employers Air Doubts about ACOs," *Healthcare Business News*, posted on ModernHealthcare.com, February 15, 2011, http://www.modernhealthcare.com/article/20110215/NEWS/302159958 (accessed January 19, 2012).

[183] Aon Hewitt and Polakoff Boland, *2011 Employer Driven Accountable Care Organizations Survey Report: What They Are and What They Can Do for Your Organization*, 2011, p. 6; "Cost Containment Measures under Healthcare Reform," *Small Business Majority*, December 2, 2011, http://smallbusinessmajority.org/policy/docs/SBM_Small_Biz_Cost_Containment_120211.pdf (accessed January 20, 2012); Meena Seshamani, *Lower Premiums, Stronger Businesses: How Health Insurance Reform Will Bring Down Costs for Small Businesses*, HHS Web Communications and New Media Division, http://healthreform.gov/reports/smallbusiness2/smallbusiness2.pdf (accessed June 7, 2012), p. 1.

[184] American Medical Association, "Competition in Health Insurance: A Comprehensive Study of U.S. Markets," 2012, pp. 4, 9.

the ability of the subject third-party payor enterprise to achieve its projected level of revenue. Anticipated changes in the competitive market may lead the valuation analyst to project future revenues significantly different from the historical performance of the subject third-party payor. Further, uncertainty regarding the future competitive environment within which the subject third-party payor will operate may tend to increase the investor's perception of risk and thereby drive up the *required rate of return*, resulting in a lower indicated value.

13.2.3.5 Scope of Services As discussed in Section 4.5.1, "Intermediary Role of Insurance," in Chapter 4, "Competition," third-party payors perform an intermediary function between consumers and providers of healthcare services by managing the purchase of and payment for healthcare services, through the credentialing of provider panels, negotiation of provider reimbursement, and coordination of wellness and case management programs in the provision of healthcare coverage to consumers. The scope of services provided by third-party payors may be described by the range of insurance products provided to enrollees, beneficiaries, and employers. As discussed earlier, these products include HMOs, PPOs, POS, EPOs, Indemnity Insurers, HSAs and other high deductible plans, as well as Medicare Advantage and Medicaid Advantage and other supplemental plans. Commercial third-party payors may also provide administrative-only services (ASOs) to MCOs and other healthcare payors.

Third party payors have increasingly been venturing into the provision of clinical services, opening *retail clinics* and *other sites of care*. Under this scenario, the value of the clinical portion of the healthcare third-party payor enterprise would also need to be, in most instances, separately appraised, as it involves a significantly different *market* and

COVERAGE GAP

In a consumer-directed health plan, on a patient's HSA being extinguished, the coverage gap is the high deductible amount paid out of pocket by the patient before his or her health insurance will begin reimbursing for healthcare services.

"Consumer-Driven Health Care: What Is It, and What Does It Mean for Employees and Employers?" by Song G. Yi., Bureau of Labor Statistics, October 25, 2010, http://www.bls.gov/opub/cwc/cm20101019ar01p1.htm (accessed November 2, 2012).

financial environment in regard to *reimbursement*, *regulatory*, *competition*, and *technology.*

13.2.3.6 Subject Entity–Specific/Nonsystematic Risk While an investor in a particular *third-party payor enterprise* would have additional investment opportunities available to him or her (e.g., government bonds, equity indexes), the discount rate used to determine the present value of the expected future net economic benefits accruing to the owners of a subject supply side enterprise should also include a consideration of the *idiosyncratic risk* associated with an investment in the specific subject third-party payor enterprise.[185] This *subject entity–specific/nonsystematic (idiosyncratic) risk* for *third-party payor enterprises* would include the *various risk factors* that are *inherent and specific to the enterprise* being valued, as well as the *enterprise's operational performance* compared to the *most probable* performance of similar enterprises as reported in normative industry benchmark survey data. *Subject entity–specific/nonsystematic risk factors* for most *third-party payor enterprises* include, but are not necessarily limited to,

1. Competitiveness of the subject third-party payor's premium rates;
2. The diversification of enrollment/covered lives for the subject third-party payor;
3. The diversification and size of the third-party payor's provider network;
4. State and local regulatory oversight unique to the geographic region within which the subject third-party payor operates;
5. The utilization of healthcare information technology, for example, care mapping, case management, and executive decision support systems; and
6. Uncertainty regarding the profitability of the specific patients covered by the ACA's *individual mandate* who may constitute a significant source of new *covered lives* for the subject third-party payor enterprise.

13.2.4 Other Pertinent Valuation Considerations

Each of the three recognized valuation approaches (i.e., income, market, and asset/cost) may be applicable to the valuation of third-party payors. The valuation analyst should determine which methodologies to employ in developing his or her indication of value after careful considerations of the *scope of the engagement*, the *level of value desired*, and the *availability* of data and information to support the analyst's conclusion. Table 13.16 illustrates some of the other pertinent considerations related to the valuation of third-party payors.

[185] See Chapter 9, "Costs and Sources of Capital," for a more detailed discussion of discount rates.

TABLE 13.16 Other Pertinent Considerations Related to the Valuation of Third-Party Payors

Pertinent Considerations	Description
Economies of Scale	▪ *Distribution of* ***Actuarial Risk***. Healthcare payors with larger pools of beneficiaries, can distribute the *medical loss risk* across greater numbers of *beneficiaries*, which, depending on the *risk profile* of the pool of beneficiaries, may lower the *per beneficiary* expense. ▪ Size also generates *leverage* for the healthcare payor when bargaining with *providers* for reimbursement rates. Providers may be more willing to accept *price concessions* if they anticipate greater patient volumes from an association with a healthcare payor.
Adverse Selection	▪ *"**Adverse selection** occurs when different groups of people have different intrinsic probabilities of sustaining losses, but the . . . [healthcare payor] . . . cannot distinguish between one group [and] another."*[*] ▪ May arise under circumstances where those individuals with the lowest anticipated costs choose to *self-insure* rather than join the *risk pool* of *covered beneficiaries* of the healthcare payor. ▪ As a result, the *pool* of covered beneficiaries is relatively *riskier* than the population in general and the premiums required to offset this excess risk may therefore be greater.
Moral Hazard	▪ *"**Moral hazard** occurs when the policy holder can take steps to reduce his or her probability of loss, but the insurance company cannot distinguish between loss due to carelessness and loss due to a random event which the policy holder could not have prevented."*[†] ▪ A consequence of this concept is that an individual may be more likely to engage in *riskier* behavior as a result of receiving coverage from a healthcare payor and therefore the anticipated expenses related to the beneficiary may be greater when coverage is extended.
Selection of Methodology	▪ *Income-based approaches* are commonly used to value healthcare payors that are capable of producing *sufficient net economic benefit* to support the assets, both *tangible* and *intangible*, of the subject enterprise. ▪ *Market-based approaches* are also used in the valuation of healthcare payors, often in addition to *income-based approaches*. ▪ Numerous publicly traded healthcare payors are available to the valuation analyst to form the basis of a value indication using the *Guideline Public Company Method*.

Pertinent Considerations	Description
	■ Market transaction data may also be available to the valuation analyst to use in employing the *Guideline Transaction/Merged and Acquired Method*. ■ Asset/Cost-Based Approaches may also be employed in the valuation of a healthcare payor. However, the *Asset/Cost-based approaches* may fail to reflect the entirety of the *intangible* asset value of the enterprise, particularly if the enterprise is capable of producing significant *net economic benefit* accruing to the owners of the enterprise
Affordable Care Act	■ Any *modifications* to the ACA, for example, changes to the *minimum MLR*, may have a *material* impact on the profitability of healthcare payors and may affect the value indication determined by the valuation analyst. ■ An increased *required rate of return* may be necessary to reflect the *uncertainty* generated by the possibility of modifications to the ACA.

*Brian R. Binger and Elizabeth Hoffman, *Microeconomics with Calculus,* 2nd ed. (Reading, MA: Addison-Wesley Educational Publishers, 1998), p. 538.
† Ibid.

13.3 SUPPLY SIDE ENTERPRISES

Healthcare-related supply side enterprises provide medical supplies to healthcare enterprises providing healthcare services to patients. These supplies can range from tongue depressors to pharmaceuticals to high-end surgical machines. Supply side enterprises may be classified into two types: (1) the *manufacturers* that *build*, and in many cases *distribute*, supplies (e.g., *medical equipment sellers* and *lessors)*; and (2) enterprises that take advantage of *economies of scale* to negotiate better prices for their healthcare provider members (e.g., *group purchasing organizations*). Numerous independent suppliers exist within the healthcare industry, including:

1. Medical consumables suppliers, that is, bandages, gauze, needles, and so on;
2. Durable medical equipment suppliers;
3. Used medical equipment companies; and
4. Office equipment vendors.

While healthcare providers may *independently* contract with suppliers, the greatest portion of medical supply expenditures originates from *GPOs*

Group Purchasing Organization

Purchasing agents that negotiate contracts for the purchase of medical goods and services on behalf of their members, which generally consist of healthcare provider organizations.

An Analysis of Group Purchasing Organizations' Contracting Practices under Antitrust Laws: Myth and Reality, *by Robert Bloch, et al. Mayer, Brown, Rowe & MAW, October 2003, http://www.ftc.gov/ogc/healthcarehearings/docs/030926bloch.pdf (accessed November 28, 2012).*

Durable Medical Equipment

Durable medical equipment (DME) is medical equipment designed to improve the quality of life of patients with illnesses or injuries and must be able to withstand repeated use; primarily serve a medical purpose; and generally not be useful to a person lacking an injury or an illness.

"Durable Medical Equipment Payment System," MedPAC, October 2011, http://www.medpac.gov/documents/MedPAC_Payment_Basics_11_DME.pdf (accessed November 5, 2012).

and *medical equipment leasing and sales enterprises* (see Section 11.1.7.8, "Cost Reduction Methods," in Chapter 11, "Inpatient Enterprises"). Accordingly, while other supply side enterprises exist, for example, *independent suppliers*, the scope of this chapter focuses on these significant types of enterprises.

13.3.1 Medical Equipment Leasing and Sales Enterprises

The demand for *medical equipment* and *devices* by hospitals and providers continues to rise, due to rapidly developing *technological advancements* and the *increased utilization* of healthcare services by the aging *baby boomer* population. At the same time, the number of *medical equipment and device suppliers* has been decreasing at a rate of approximately 5.5 percent per year during the last five years, resulting in approximately 828 companies in the United States as of 2012. This decline may likely be due, in part, to *consolidation* and *vertical integration* within the medical equipment and

device industry, with large firms expanding their *product lines* by purchasing small *niche technology* providers.[186]

Some types of medical equipment and devices are typically *leased* by healthcare providers, rather than being purchased, including *office equipment*, as well as new, and often expensive, *major medical equipment*.[187]

As of 2010, there were 3,002 enterprises engaged in the *sale* or *lease* of *medical equipment and supplies* that generated revenues of approximately $2.9 billion. Some of the largest companies in this industry included *Apria Healthcare Group, Inc.*, *Rotech Healthcare Inc.*, *Universal Hospital Services*, and *Hill-Rom Co., Inc.*[188] A separate discussion of the durable medical equipment supplier industry is provided in Chapter 12, "The Valuation of Outpatient Enterprises."

The *used medical equipment and devices* market (i.e., medical equipment and devices being sold or leased to patients in contrast to providers) consists of (1) hospitals and other healthcare providers reselling outdated equipment and (2) medical equipment manufacturers selling *used* equipment and devices on an "*as is/where is*" basis, in which the *purchaser* takes

Factoid

Almost half of U.S. medical supplies and equipment are imported from only four countries: 17 percent from Mexico, 15 percent from Ireland, 9 percent from Germany, and 8 percent from China.

"Reliance on Overseas Manufacturers Worries Supply Chain Experts," by Haydn Bush, Hospitals & Health Networks*, July 2011, http://www.hhnmag.com/hhnmag/jsp/articledisplay.jsp?dcrpath=HHNMAG/Article/data/07JUL2011/0711HHN_Inbox_supplychain&domain=HHNMAG (accessed November 27, 2012).*

[186] Yair Holtzman, "The U.S. Medical Device Industry in 2012: Challenges at Home and Abroad," Medical Device and Diagnostic Industry, July 17, 2012, http://www.mddionline.com/article/medtech-2012-SWOT (accessed November 7, 2012).

[187] Julie A. Jacob, "Factors to Weigh When Deciding to Buy or Rent," *Amednews*, April 2, 2001.

[188] The Gale Group, "Medical Equipment Rental and Leasing," 2012, http://business.highbeam.com/industry-reports/business/medical-equipment-rental-leasing (accessed December 15, 2012).

on the *financial risk* of the machine *malfunctioning*.[189] As stated in a recent article published by the *Healthcare Financial Management Association*, the resale of *used medical equipment* may be a profitable way for many *original equipment manufacturers* (OEMs) and *lessors* to recoup a portion of their *initial capital investments* by reselling equipment returned to them following the completion of a lease.[190] In this scenario, OEMs are typically responsible for the *refurbishing process* of the equipment, which includes (1) *selecting* the *optimal equipment* to be *refurbished*, (2) *de-installing* the equipment from the lessee's location (e.g., *cleaning*, *replacing* parts, *updating* software), (3) *customizing* the system to the client's needs, and (4) professionally *installing* the *refurbished equipment* at the new lessee's location.[191]

13.3.2 Group Purchasing Organizations (GPOs)

Group Purchasing Organizations (GPOs) are enterprises that *negotiate* contracts for the *purchase* of medical *goods* and *services* on behalf of their healthcare provider members, which typically consist of *health systems*, *hospitals*, and *nursing homes*. GPOs may be generally classified into two basic types: (1) *Integrated Health Networks* (IHNs) and (2) *Voluntary GPOs*.

GROUP PURCHASING

Group purchasing allows healthcare provider enterprises to consolidate and leverage their purchasing power to purchase goods and services at lower prices from suppliers.

[189] Siemens, "From Used Medical Equipment to Proven Excellence Quality," http://www.medical.siemens.com/webapp/wcs/stores/servlet/LandingPage~q_catalogId~e_-1~a_catTree~e_100010,1007660,1010354~a_Identifier~e_~a_langId~e_-1~a_pageId~e_143481~a_storeId~e_10001.htm (accessed November 7, 2012); Jeffrey Gren, "Pre-Owned Medical Equipment: Regulation & Markets," U.S. Department of Commerce, Regulation and Supply of Refurbished Medical Devices, 9th Global Harmonization Task Force Conference, May 15, 2002.

[190] Jeffrey Gren, "Pre-Owned Medical Equipment: Regulation & Markets," U.S. Department of Commerce, Regulation and Supply of Refurbished Medical Devices, 9th Global Harmonization Task Force Conference, May 15, 2002.

[191] Siemens, "From Used Medical Equipment to Proven Excellence Quality," http://www.medical.siemens.com/webapp/wcs/stores/servlet/LandingPage~q_catalogId~e_-1~a_catTree~e_100010,1007660,1010354~a_Identifier~e_~a_langId~e_-1~a_pageId~e_143481~a_storeId~e_10001.htm (accessed November 7, 2012).

Factoid

Ninety-seven percent of all not-for-profit and nongovernment hospitals participate in group purchasing.

"A Primer on Group Purchasing Organizations: Question and Answers," Healthcare Supply Chain Organization, http://c.ymcdn.com/sites/www.supplychainassociation.org/resource/resmgr/research/gpo_primer.pdf (accessed November 8, 2012).

IHNs consist of *affiliated* hospitals and healthcare facilities, which have increasingly been performing their own group purchasing functions since 1991, while *Voluntary GPOs* are made up of *unaffiliated* hospitals, each of which maintains its *independent status* but "engages in particular joint activities with other member hospitals through the hospital organization, including group purchasing."[192] Historically, GPOs have been successful in using *product management* and *volume aggregation* techniques to obtain lower prices than their members could achieve by purchasing supplies individually and have, accordingly, become more popular as healthcare providers continue to face *cost pressures* from rising healthcare expenditures.[193]

As of 2013, there were approximately 620 enterprises participating in some form of group purchasing activity, accounting for more than 12,000 member institutions.[194] However, only 30 *group purchasing enterprises* were classified by the *Healthcare Supply Chain Association* (HSCA) as "*true GPOs, that negotiate sizeable contracts for their members*" as of 2011. In contrast to "true GPOs," the remaining organizations typically offer members access to larger contracts and negotiate *regional* vendor contracts.[195]

---

[192] Robert Bloch, et al. "An Analysis of Group Purchasing Organizations' Contracting Practices under Antitrust Laws: Myth and Reality," Mayer, Brown, Rowe & MAW, October 2003, http://www.ftc.gov/ogc/healthcarehearings/docs/030926bloch.pdf (accessed November 28, 2012), p. 5.

[193] "Letter from GAO to the U.S. Senate regarding Group Purchasing Organizations: Federal Oversight and Self-Regulation," by Linda T. Kohn, director of Healthcare, U.S. Government Accountability Office, to Herb Kohl, chairman, U.S. Senate and Charles E. Grassley, Ranking Member U.S. Senate, GAO-12-399R, March 30, 2011, p. 5.

[194] *Directory of Health Care Group Purchasing Organizations: Detailed Profiles of GPOs and Integrated Delivery Networks with Member Institutions and Key Executives*, 18th ed. (Amenia, NY: Grey House Publishing 2012), p. ix.

[195] Healthcare Supply Chain Association, "Frequently Asked Questions," 2011.

TABLE 13.17 M&A Transactions in the GPO Sector

Year	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
# Deals	3	1	1	3	5	7	6	2	2	2	5

"The Health Care M&A Report: Fourth Quarter 2012," by Irving Levin Associates, Inc., "Health Care M&A Monthly" (Norwalk, CT: Irving Levin Associates, Inc., 2012), pp. 73, 78, 176.

Currently, the GPO industry is extremely consolidated, with the six largest GPOs accounting for 90 percent of the market revenue in 2007. As of 2012, the six largest GPOs, as measured by *annual purchasing volume*, were (1) *MedAssets*, (2) *Novation LLC*, (3) *Premier, Inc.*, (4) *HealthTrust Purchasing Group*, (5) *Amerinet, Inc.*, and (6) *PDM Healthcare*.[196]

13.3.3 Current and Future Trends: Regulatory, Reimbursement, Competition, and Technology

13.3.3.1 Regulatory GPOs can be compensated by either the *suppliers* or the *healthcare provider enterprise*. Anti-kickback provisions in federal and state regulations are applicable to GPOs. Contracts involving GPOs should be carefully constructed to avoid the perception of any unsubstantiated payments between the GPO and the healthcare providers they serve. Of note is that a "*safe harbor*" may be available to GPOs under the federal *Anti-Kickback Statute*, which applies to "any amount paid by a vendor of goods or services to a person authorized to act as a purchasing agent for a group of individuals or entities who are furnishing services reimbursed under a Federal health care program."[197] In addition, in 2005, nine GPOs formed the *Health Group Purchasing Industry Initiative* (HGPII), a private organization responsible for monitoring the daily activities of its member GPOs in order to promote *best practices* and *public accountability*.[198] Through *HGPII*, GPOs are self-regulated, and each of the current 11 members (as

[196] "GPO Facts and Figures: GPO Headliners 2012," *Healthcare Purchasing News*, http://www.hpnonline.com/resources/GPOs.html (accessed December 14, 2012).

[197] "Criminal Penalties for Acts Involving Federal Health Care Programs," 42 USC § 1320a-7b(b)(3)(C), March 23, 2010. See Section 13.2.3.1, "Revenue Stream," in this chapter and Section 3.3.1, "Anti-Kickback," in Chapter 3, "Regulatory Environment."

[198] "Letter from GAO to the U.S. Senate regarding Group Purchasing Organizations: Federal Oversight and Self-Regulation," by Linda T. Kohn, director of Healthcare, U.S. Government Accountability Office, to Herb Kohl, chairman, U.S. Senate and Charles E. Grassley, Ranking Member U.S. Senate, GAO-12-399R, March 30, 2011, p. 8.

of October 2011) is required to submit accountability reports describing its contracting practices and other purchasing policies.[199]

In 2001, HealthTrust Purchasing Group (HPG), a GPO with $3.3 billion in contracting volume, signed an exclusive participation agreement with the publicly traded Health Management Associates (HMA), a 37-facility operator of nonurban acute care hospitals in Tennessee, which also established HMA as an equity partner in HPG.[200] Consequently, HPG may now be subject to the tighter regulatory scrutiny that is typically unique to healthcare providers.

As discussed in Chapter 3, "Regulatory Environment," both the Stark Law and the anti-kickback prohibitions are applicable in situations where there may exist a referral relationship between the lessor and the lessee. Before rendering an opinion of value, the valuation analyst needs to review payments made between the parties to ascertain whether they exceed *fair market value*, which may be construed as a *legally impermissible transaction*.

13.3.3.2 Reimbursement GPOs act as *middle men* between healthcare provider enterprises and their vendors. A typical GPO enters into a contract with a vendor to provide certain products to a healthcare enterprise that is a member of the GPO. GPO revenues are derived from *administrative fees* negotiated with the vendor to allow the vendor access to the GPO's members. After amounts necessary to cover operating expenses and to fund new operations for the GPO have been deducted, some portion of this *administrative fee* may be shared with the healthcare enterprises that are members of the GPO, and the remainder is used. The *administrative fee* is typically based on a *percentage* of the purchases of the GPO member healthcare enterprises and is received by the GPO at the time the individual purchases are made.[201]

Medical reimbursement revenues for *medical equipment leasing and sales enterprises* are typically provided for in the *lease* or *sales contract*. Draft lease agreements will typical itemize the specific terms of the arrangement, including:

1. Identification of the equipment to be provided by the leasing company;
2. Terms related to the delivery and installation of the equipment;

---

[199] Ibid., pp. 11–12.

[200] Hospital Corporation of America, "HealthTrust Purchasing Group Signs an Exclusive Agreement with Health Management Associates," May 23, 2001, http://phx.corporate-ir.net/phoenix.zhtml?c=63489&p=irol-newsArticle_pf&ID=561223&highlight= (accessed January 28, 2013).

[201] GAO, "Group Purchasing Organizations: Services Provided to Customers and Initiatives Regarding Their Business Practices," August 2010, pp. 6–7.

3. Terms of any maintenance agreements included with the lease agreement;
4. Lease payment amounts;
5. The timing of payments;
6. The term of the contract;
7. Terms related to early termination of the lease, that is, termination fees; and
8. Terms for the return or sale of the equipment at the expiration of the lease.

Sales contracts will similarly be constructed, specifying (1) the specific assets to be transferred, (2) the amounts to be paid for the assets, and (3) arrangement for the delivery of the purchased assets.

13.3.3.3 Competition The number of existing medical equipment suppliers has decreased at a rate of approximately 5.5 percent per year since 2008; this is most likely the result of the growing amount of medical supply purchases being conducted through GPO contracts, for example, 90 percent of hospital purchases were made through the collective volume of the nation's six largest GPOs.[202] This period of decrease in supply side enterprises represents a diminution in the competition in the supply side enterprise industry.

The healthcare industry, which accounted for 7.0 percent of all new business volume in equipment financing in 2011, is expected to grow in that:

> *80% of healthcare companies say they are very likely (57%) or likely (23%) to make a significant acquisition of medical equipment.*[203]

---

[202] Yair Holtzman, "The U.S. Medical Device Industry in 2012: Challenges at Home and Abroad," Medical Device and Diagnostic Industry, July 17, 2012, http://www.mddionline.com/article/medtech-2012-SWOT (accessed November 7, 2012); U.S. Government Accountability Office, "Group Purchasing Organizations: Services Provided to Customers and Initiatives Regarding Their Business Practices," GAO-10-738, August 2010, p. 4, citing Eugene Schneller, "The Value of Group Purchasing—2009: Meeting the Needs for Strategic Savings," *Health Care Sector Advances, Inc.*, April 2009, https://www.novationco.com/media/industryinfo/value_of_gpo_2009.pdf (accessed November 8, 2012); U.S. Government Accountability Office, "Group Purchasing Organizations: Services Provided to Customers and Initiatives Regarding Their Business Practices," GAO-10-738, August 2010, p. 4.

[203] Equipment Leasing and Finance Association, "Fact Sheet: Equipment Finance in the *Medical Equipment Industry*," http://www.elfaonline.org/Research/PDFs/EMA/FactSheetMedicalAug2012.pdf (accessed April 15, 2012), August 2012, p. 1; Forbes Insights, *U.S. Capital Goods and Equipment Financing Outlook: A Focus on Essential Acquisitions*, New York, 2012, p. 2.

As a result of this growth in demand, there may be new entrants into the medical equipment leasing and sales industry, reflecting a growing intensity in the competitive market.

13.3.3.4 Technology The struggle of many of the U.S. healthcare delivery system's providers to fund *emerging technologies* in the current capital environment can be attributed to several factors, including:

1. The indefinite duration of the recovery from the recent economic downturn;
2. The sluggish rebound of the capital investment market to prerecession levels;
3. The uncertainty surrounding the ultimate impact of *healthcare reform*; and
4. Continuing reimbursement and cost containment pressures.[204]

However, recent data suggests that many healthcare provider enterprises are still committed to *capital spending*, and many remain confident that they will be able to secure funding for future projects, including those related to new medical technology systems, which will likely result in a continued demand for resources provided by GPOs and other medical suppliers.[205]

Technological advancement affects both the operations and the product lines offered by many medical equipment leasing and sales enterprises. Information technology advances allow for the efficient management of client lease contracts and the *real-time* monitoring of inventory by these firms, allowing for expanded operations without compromising their *span of control.*

13.3.4 Value Drivers for Supply Side Enterprises

The ability to negotiate and sustain contracts with large healthcare systems may perhaps be the most significant value driver for GPOs. The mutually beneficial relationship between healthcare providers and GPOs creates a significant value driver, as additional healthcare providers contracting with GPOs create greater *group purchasing bargaining power* and, accordingly, lower prices to the healthcare provider.

For medical equipment and device suppliers, a primary *value driver* may be the ability to patent *medical devices* and *equipment*, particularly

[204] Karen Minich-Pourshadi, *2011 Capital Spend: EMR Dominates Budgets*, HealthLeaders Media Intelligence Report, March 2011, p. 3.

[205] Ibid., pp. 8, 11.

those that are unique and have few substitute products. Medical devices and equipment are *required* to have *approval* from the FDA prior to *commercialization*, either through sales or leases. FDA approval can act as a significant barrier to entry for healthcare suppliers, and the future economic benefit from any patent cannot be realized until *after* the approval is gained from the FDA. Because a healthcare supplier can typically control the price at which it will sell its product, and the population of potential customers is typically well known, gaining FDA approval removes the single largest source of uncertainty related to the future economic benefit to be derived from ownership of the patent, and, as such, FDA approval of a product is a significant value driver for healthcare suppliers.[206]

In addition, a healthcare enterprise, historically, was capable of financing large equipment–related capital expenditures through lease arrangements without the requirement to *book* the liability on the enterprise's balance sheet. The trend toward convergence between the U.S. generally accepted accounting procedures (GAAP) and the international financial reporting standards (IFRS) may eliminate this perceived "*off balance sheet*" benefit to lease financing, in contrast to outright purchasing of medical equipment and devices.[207]

Value drivers that may be attributable to healthcare supply side enterprises include (1) *Scope of Services*, (2) *Capacity*, (3) *Revenue Stream*, (4) *Operating Expense*, (5) *Capital Structure*, (6) *Suppliers*, (6) *Market Rivalries and Competitors*, and (7) *Subject Entity Nonsystematic Risk*.

13.3.4.1 Scope of Services While GPOs and medical equipment sales and leasing companies have a distinct scope of services, each may benefit from the *ability to diversify* the services offered, which has the potential to reduce risk, particularly considering the *rate of technological advancement* in the healthcare industry. This *diversification benefit* should be considered against the offsetting capital costs required to expand their scope of services, which may be a particular concern for medical sales and leasing companies if they are not *middle men* but are also the *manufacturers* of the products they sell.

13.3.4.2 Capacity The *capacity* of a *supply side enterprise* may be defined as the *availability* of those *resources* needed to manage customer demands and is an important consideration for the appraisal of a *healthcare supply enterprise*. Resources applicable to supply side enterprises may include

[206] A more in-depth discussion of the valuation of patents can be found in Section 14.4.2.3.4, "Patents," in Chapter 14, "The Valuation of Tangible and Intangible Assets."

[207] See Section 8.1.1.2.1.3, "Operating versus Capital Leases," in Chapter 8, "Valuation Approaches and Methods," for a fuller discussion of accounting standards regarding leases.

(1) *raw materials*, (2) *manufacturing equipment*, (3) *building and office space*, and (4) *support staff*. Accordingly, the valuation analyst, in completing his or her *due diligence*, should ensure that an enterprise has *sufficient resources* to generate the projected revenues for the subject enterprise, as well as to meet customer (i.e., provider) demands. A shortage of capacity may impinge on the supply side enterprise's growth potential, which may adversely affect the valuation analyst's volume and revenue projections. Also, excessive unused capacity may indicate inefficient use of resources and may result in the enterprise incurring unnecessary expenses, reducing its profitability.

13.3.4.3 Revenue Stream Healthcare suppliers, such as GPOs, typically derive their revenues from the following sources:

1. *Contract administration fees* (CAFs) from manufacturers/vendors;
2. *Membership fees* from member providers;
3. *Administrative fees* from authorized distributors to distribute products under the GPOs' contracts; and
4. *Miscellaneous service fees*.[208]

The *CAFs* earned from vendors, which are typically based on a *percentage of dollars spent* by their hospital and health system clients, are the primary source of revenue of GPOs. These vendors typically pay *administrative fees* to GPOs, as well as provide their products at *discounted prices*, as GPOs provide vendors with a single access point to all of the GPO's clients, thereby allowing these vendors to reduce their marketing, sales, and overhead expenses related to the *negotiation* and *management* of contract terms within *a highly fragmented provider market*.

The terms of CAFs can vary greatly, depending on the individual contract negotiated with each vendor, and are typically based, in part, on the level of the provider's total expenditures on products purchased through the GPO contract. However, it should be noted that a GPO does not always retain the entire amount of the CAF; for example, in some circumstances, the GPO *shares*, or *distributes* a portion of, these payments with its hospital and health system clients as refund payments conditioned on the achievement of certain performance targets, measured by *provider supply savings*.

In 2008, the average CAF paid by vendors, weighted by purchasing volume, ranged from 1.22 percent of customer purchases to 2.25 percent of

[208] Qiaohai (Joice) Hu, Leroy B. Schwarz1, and Nelson A. Uhan, "The Impact of Group Purchasing Organizations on Healthcare-Product Supply Chains," *Manufacturing & Service Operations Management* 14, no. 1 (Winter 2012): 3.

purchases.[209] As many CAFs account for the *value and volume of services provided* by a vendor, in order to operate in compliance with the federal Anti-Kickback Statute, many GPOs seek to meet the requirements of the established "*safe harbor*" for GPOs under the Anti-Kickback Statute, which necessitates that (1) there is a *written agreement* between the GPO and each of its customers that specifies either that the vendor will pay a fee of no more than *3 percent of the purchase price of goods or services provided* or that each vendor will pay a *fixed sum* or *percentage* of the value of purchases made by provider members under the contract between the vendor and the GPO; and (2) if any entity participating in the arrangement is a provider of healthcare services, the GPO must disclose, in writing, annually, to the provider of healthcare services and to HHS, the amount received from each vender related to purchases.[210]

It is important for the valuation analyst to review the GPO's contracts with both the *manufacturers/vendors* and *provider clients*, as well as to examine *provider clients' purchasing trends*, in order to accurately project the *revenue* of the subject GPO. In addition to trending historical purchases, the valuation analyst should consider the changes in utilization demand related to a given product(s), for example, *capital and regulatory requirements* related to certain medical equipment may determine which providers purchase (or lease) various types of equipment or supplies.

13.3.4.4 Operating Expense Operating expenses for GPOs are primarily administrative and generally fixed, at least over the short run. Included among these expenses may be costs related to (1) developing *new* healthcare enterprise members, (2) developing *vendor contracts*, or (3) *maintenance* and *monitoring* of existing vendor contracts. A useful metric for evaluating operating expenses for GPOs may be to consider costs on a *per contract* basis, which allows for comparisons of enterprises, regardless of size. If *economies of scale* exist in the GPO industry, then it would be anticipated that larger GPOs would have lower *per contract* expenses.

Medical equipment leasing and sales enterprise expenses are largely determined by the nature of the enterprise under consideration. Enterprises solely involved in sales and the leasing of equipment will have different cost considerations than enterprises that are also involved in

---

[209] U.S. Government Accountability Office, "Group Purchasing Organizations: Services Provided to Customers and Initiatives Regarding Their Business Practices," GAO-10-738 (U.S. Government Accountability Office: Washington, DC, August 2010), p. 11.

[210] "Exceptions," 42 CFR § 1001.952(j) (2009).

the manufacture of the equipment. Operating expenses for enterprises' strictly provided leasing and sales services would be centered on the *cost of goods sold* (or *leased)*, as well as the *marketing* and *sales* expenses related to *identifying* and *contracting* with *potential customers*, and may be similar to other retail operations. Those medical equipment leasing and sales enterprises that include the manufacture of the products sold, conversely, will have operating expense more similar to traditional manufacturing firms, including expenses related to *property, plant, and equipment*.

13.3.4.5 Capital Structure GPOs and medical equipment leasing and sales enterprises are service-oriented organizations and would be expected to have capital structures similar to other service-oriented enterprises. As such, they may require less investment in *physical capital*, such as *machinery and equipment*, than other enterprises whose focus is in the *nonservice arena*. This may indicate that these enterprises will be financed largely through *equity*. However, the extent of capital investment may be dependent on the nature of the supply side enterprise's operation, for example, supply side enterprises that do not rely on *just in time* (JIT) inventory methods may require greater levels of capital related to warehouse expenses than other enterprises do. Greater levels of capital demand may act to increase financing costs for some enterprises, which may limit their access to capital markets and may be reflected in their capital structures.

In addition, the high levels of consolidation within the GPO market during the last decade may have necessitated some GPOs accessing *debt markets* to finance acquisitions, and their capital structure may reflect the increased use of *debt*. Also, medical equipment leasing and sales enterprises that engage in the manufacture of the equipment may have significantly different physical capital requirements and may therefore have capital structures more reflective of the manufacturing industry.

13.3.4.6 Suppliers As mentioned earlier, GPOs do not *purchase equipment* for providers but rather *contract* with suppliers in order to establish discounts for providers. Often, *medical equipment leasing and sales enterprises* will be the *OEM* and are the origin of the healthcare *supply chain*. As a manufacturer, *medical equipment leasing and sales enterprises* will likely contract with suppliers of those *raw materials*, or *components of a product* that are required for assembly, as well as with suppliers of the *manufacturing* and *fabricating equipment* used to assemble a product. Alternatively, *used equipment dealers* may either *resell* or *lease* equipment that has been returned to them at the completion of a lease or *purchase*

used equipment for the purpose of *reselling* or *leasing* it. Unlike medical equipment lessors, office equipment vendors are rarely the OEMs of office supplies, furniture, and equipment. The *depth of management* of supply side enterprises may provide efficiencies for their enterprises through *supply chain management*, which may provide market leverage when negotiating *supply chain contracts* (e.g., materials, components, and manufacturing equipment). This *depth of management*, to the extent that it produces a market advantage, may enhance the value of a *medical equipment leasing and sales enterprise*.

13.3.4.7 Market Rivalries and Competitors The market reach for GPOs is significantly widespread, as 96 percent of all acute care hospitals and 98 percent of all community hospitals contract with at least one GPO. In addition, 97 percent of all *not-for-profit* and *nongovernment hospitals* participated in *group purchasing*.[211] In 2010, approximately 72 percent of *community hospitals* (3,595 hospitals) had a GPO affiliation.[212] In 2009, approximately 72 percent of all non–labor related hospital purchases were transacted through GPO contracts.[213]

In recent years, competition in the GPO market has been altered through increasing consolidation with the merger of some of the larger GPOs, leading to a diminution of the intensity of competition. For example, in 2007, Consorta, a resource management firm catering to *nonprofit* and *faith-based health systems*, became an equity owner in HealthTrust Purchasing Group (HealthTrust), which took over the purchasing services for Consorta.[214] In addition, in 2010, MedAssets purchased the Broadlane Group, which increased the purchasing volume of MedAssets from approximately $24 billion in 2009 to $45 billion in 2011.[215]

---

[211] Healthcare Supply Chain Organization, "A Primer on Group Purchasing Organizations: Question and Answers," http://c.ymcdn.com/sites/www.supplychainassociation.org/resource/resmgr/research/gpo_primer.pdf (accessed November 8, 2012).

[212] American Hospital Association, "AHA Hospital Statistics 2012," 2012, p. 12.

[213] U.S. Government Accountability Office, "Group Purchasing Organizations," GAO-13-399R, March 30, 2012, p. 4; citing Healthcare Supply Chain Association, *Frequently Asked Questions* (accessed December 14, 2011), http://www.supplychainassociation.org/?page=FAQ (accessed November 8, 2012).

[214] Company Profile, http://www.healthcaregpoii.com/signatorycompanies/consorta.html (accessed March 20, 2013).

[215] U.S. Government Accountability Office, "Group Purchasing Organizations: Federal Oversight and Self-Regulation," GAO-12-399R, March 30, 2012, p. 5.

As was noted earlier, medical equipment leasing may be construed as an alternative form of asset purchase financing. With the amending of the Bank Holding Act by the U.S. Congress, banks were allowed to own holding companies, which included equipment leasing companies.[216] This opened the equipment leasing market to new, well-financed entrants. In developing an indication of value for a medical equipment leasing and sales enterprise, the valuation analyst should consider all alternative sources of equipment financing available to a healthcare enterprise when assessing the competitive environment.

13.3.4.8 Subject Entity Nonsystematic Risk While investors in a particular *supply side enterprise* would have additional investment opportunities available to them (e.g., government bonds, equity indexes), the discount rate used to determine the present value of the expected future net economic benefits accruing to the owners of a subject supply side enterprise should also include a consideration of the idiosyncratic risk associated with an investment in the specific subject supply side enterprise.[217] This *subject entity–specific/nonsystematic (idiosyncratic) risk* for *supply side enterprises* would include the *various risk factors* that are *inherent and specific to the enterprise* being valued, as well as the *enterprise's operational performance* compared to the *most probable* performance of similar enterprises as reported in normative industry benchmark survey data. *Subject Entity–Specific/Nonsystematic Risk Factors* for most *supply side enterprises* include, but are not necessarily limited to:

1. The *uncertainty related to the continuity of the projected revenue stream*, based on the *probability of achieving the projected productivity volume*, and the efficacy of the *projected reimbursement yield* used in the analysis;
2. The *risk related to the probability of achieving industry-indicated operational and financial benchmarks* used in the analysis;
3. The *competitive marketplace* within which the supply side enterprise operates;
4. The *historical operations* of the freestanding outpatient enterprise *in comparison to the industry benchmarks*;
5. The underlying stability of the current contracts in use by the *supply side enterprise*;

[216] Amy Miller Holmes, "The History of Equipment Leasing," CAE, Equipment Leasing Association, 2003.

[217] See Chapter 9, "Costs and Sources of Capital," for a more detailed discussion of discount rates.

6. The remaining duration of lease agreements and current clients' payment history for the subject *supply side enterprise*; and
7. The risk of obsolescence of the technology mix currently leased by a specific *supply side enterprise*. An enterprise with aging and outdated leasable assets may require significantly greater future capital investment in comparison to an enterprise with more *up-to-date* equipment.

13.3.5 Other Pertinent Valuation Considerations

The approaches used to value *GPOs* will likely be similar to those used for *a management service enterprise* (see earlier), as the services offered by both types of enterprises are primarily *administrative* in nature. However, the valuation of *medical equipment leasing and sales enterprises*, particularly those operating as *original equipment manufacturers* (OEMs), may be more similar to a *manufacturing enterprise*. The valuation analyst should determine which methodologies to employ in developing his or her indication of value after careful consideration of the *scope of the engagement*, the *nature of the value result desired*, and the *availability* of data and information to support the analyst's conclusion. Table 13.18 illustrates some of the other pertinent considerations related to the valuation of supply side enterprises.

TABLE 13.18 Other Valuation Considerations Pertinent to Supply Side Enterprises

Pertinent Considerations	Description
Economies of Scale	▪ *Group Purchasing Organizations* with greater numbers of members may be able to gain an advantage when bargaining with suppliers, such as bulk purchasing discounts. ▪ Similarly, *medical equipment leasing companies* may be able to attain more favorable financing terms based on their volume of business, that is, a leasing company diversified across clients may be more attractive to lenders than a small concentrated physician practice is.
Intangible Assets	▪ A significant portion of the value of *supply side enterprises* may be constituted in the intangible assets made up of the enterprise's *current ongoing contracts*, as well as its *established client relationships*. ▪ In addition to directly affecting the cash flow of the enterprise, these contracts and relationships may reduce the perceived *riskiness* of the enterprise's operations, thereby reducing the *required rate of return* used in the *income-based approaches*, resulting in an increased *indication of value*.

Pertinent Considerations	Description
Selection of Methodology	■ *Income-based approaches* are common used to value supply side enterprises that are capable of producing *sufficient net economic benefit* to support the assets, both *tangible* and *intangible*, of the subject enterprise. ■ *Market-based approaches* are also used in the valuation of supply side enterprises, often in addition to *income-based approaches*. ■ Numerous publicly traded supply side enterprises are available to the valuation analyst to form the basis of a value indication using the Guideline Public Company Method. ■ Market transaction data may also be available to the valuation analyst to use in employing the *Guideline Transaction/Merged and Acquired Method* ■ Asset/Cost-based approaches may also be employed in the valuation of a supply side enterprise. However, the *Asset/Cost-based approaches* may fail to reflect the entirety of the *intangible* asset value of the enterprise, particularly if the enterprise is capable of producing significant *net economic benefit* accruing to the owners of the enterprise
Additional Risk Factors	■ *Technology*: In maintenance of their share of the marketplace, supply side enterprises may need to expend *time* and *capital* in ensuring that their product offerings include the *most up-to-date*, technologically advanced products. The projection of expenses for a supply side enterprise should include a consideration of possible future expenses related to *market research*. ■ The existence of a *disaster recovery plan*, for example, loss of Just In Time Inventory delivery services due to a *natural disaster*. The absence of a disaster recovery plan may increase investors' uncertainty regarding the sustainability of *net economic benefit* projected for the subject supply side enterprise, thereby increasing the *required rate of return* for investment and reducing the indication of value.
Capital Considerations	■ *Access to capital*: Continued restrictions on supply side enterprises access to capital markets may constrain their ability to take advantage of strategic opportunities. ■ Nonfinancial capital constraints, for example, increasingly restrictive debt covenants, may also restrict a supply side enterprise's access to capital and reduce its strategic flexibility.

13.4 CONCLUSION

What's old is new again.

As *provider coordination* and *cost efficiencies* gain traction in this new *era of reform*, relationships among providers will likely continue to consolidate and evolve in an effort to adapt to the changing paradigms of healthcare delivery in the United States. As the U.S. healthcare industry becomes increasingly complex, due to *new regulations*, *decreasing reimbursement* to providers, *increasing competition*, and rapidly developing technological advancements, healthcare providers will likely increase their scrutiny of their relationships with "*other healthcare related enterprises.*" In many cases, the traditional supplier/customer relationship of the past may give way to the formation of *collaborative arrangements* that facilitate *integration*, *value-based reimbursement*, and *efficient operational management* in the provision of the continuum of patient care. The *value drivers* of these other enterprises rely on their ability to accommodate the providers' needs, based mainly on the shift to a new paradigm of healthcare delivery, where value is ascribed to lower cost with higher quality and improved outcomes.

13.5 KEY SOURCES

Dictionary of Health Insurance and Managed Care

A 3-in-1 reference, including 5,000-plus definitions, 3,000-plus abbreviations and acronyms, and 2,000-plus resources, readings, and nomenclature derivatives.

Dictionary of Health Insurance and Managed Care, edited by David Edward Marcinko and Hope Rachel Hetico (New York: Springer, 2006).

Standard Industrial Classification Manual 1987

A statistical classification standard underlying all establishment-based federal economic statistics, classified by industry.

Standard Industrial Classification Manual 1987, Executive Office of the President, Office of Management and Budget (Springfield, VA: National Technical Information Service, 1987)

Managed Care: What It Is and How It Works

A concise introduction to the foundations of the American managed healthcare system, it covers the most recent trends and changes in the industry.

Managed Care: What It Is and How It Works, 3rd ed., by Peter R. Kongstvedt (Sudbury, MA: Jones and Bartlett Publishers, 2009)

A Guide to Consulting Services for Emerging Healthcare Organizations

A volume containing the essential information, analyses, and tools for professional consultants and their clients to understand and manage new emerging healthcare organizations.

A Guide to Consulting Services for Emerging Healthcare Organizations, by Robert James Cimasi (New York: John Wiley & Sons, 1999)

Essentials of Managed Health Care

An authoritative and comprehensive overview of the key strategic, tactical, and operational aspects of managed health care and health insurance.

Essentials of Managed Health Care, 6th ed., by Peter R. Kongstvedt (Sudbury, MA: Jones and Bartlett Publishers, 2013)

The Managed Health Care Handbook

A collection of works providing a strategic and operational resource for managers in the field of managed healthcare.

The Managed Health Care Handbook, edited by Peter R. Kongstvedt (Gaithersburg, MD: Aspen Publishers, 1996)

AHA Hospital Statistics

An annual survey and comprehensive reference for analysis and comparison of hospital trends.

AHA Hospital Statistics 2012, American Hospital Association, 2012

13.6 ACRONYMS

Acronym	Full Title
ACA	The Patient Protection and Affordable Care Act
ACO	Accountable Care Organization
ASO	Administrative Services Only
BCBSA	Blue Cross and Blue Shield Association
CMS	Centers for Medicare and Medicaid Services
DOJ	Department of Justice
EHR	Electronic Health Records
EPO	Exclusive Provider Organization
FDA	Food and Drug Administration
FFS	Fee-for-Service
FTC	Federal Trade Commission
GPO	Group Purchasing Organization
HDHP	High Deductible Health Plan

HMO	Health Maintenance Organization
HSA	Health Savings Account
IPA	Independent Practice Association
MA	Medicare Advantage
MCO	Managed Care Organization
MMC	Medicaid Managed Care
MSA	Medical Savings Account
MSO	Management Services Organization
MSSP	Medicare Shared Savings Program
NAICS	North American Industry Classification System
NCQA	National Committee for Quality Assurance
OEM	Original Equipment Manufacturer
PHO	Physician Hospital Organization
PMPM	Per Member Per Month
POS	Point of Service
PPMC	Physician Practices Management Company
PPO	Preferred Provider Organization
PSO	Provider Sponsored Organization
VBP	Value-Based Purchasing

CHAPTER 14

The Valuation of Tangible and Intangible Assets

Healthcare industry transactions often consist of not only the transfer of *going-concern enterprises*, but in many cases the transfer of ownership of *specific assets*, which are usually classified in two general categories: *tangible* and *intangible. Tangible assets* may be defined as "physical assets (such as . . . inventory, property, plant and equipment, and so on)," as well as *financial assets,* for example, *cash, accounts and notes receivables, prepaid expenses, and intercorporate investments.*[1] In contrast, an *intangible asset* may be defined as:

> *[a] nonphysical business asset that grants certain rights and privileges ([e.g.,] copyright, trade names, services marks, brand names,*

[1] Shannon Pratt, *Valuing a Business: The Analysis and Appraisal of Closely Held Companies*, 5th ed. (New York: McGraw-Hill, 2008), p. 1074. Note that the

> *etc.) that have business enterprise economic value for owners. It is an asset without physical form, such as a patent, trademark, physician goodwill, or copyright.*[2]

The main distinction between these definitions of *tangible* and *intangible* assets is the aspect of their *physicality*, although this is not an exclusive definitional barrier. *Physical* tangible assets also possess an *intangible* aspect in regard to the *legal rights of property ownership* attached to them. Furthermore, there is often some *physical* evidence or element of an *intangible asset* that provides some form of assurance as to its *economic existence*. For example, *real property* consists of *tangible* property, such as *land* and *land improvements*, but also consists of *intangible* property, such as *leasehold improvements* and *mineral rights*. Relationships between an employer and its employees, which form the basis of a "*trained and assembled workforce-in-place*," are *intangible*; however, they may be evidenced by a *physical document* such as employment agreements. Likewise, *intangible assets* related to *intellectual property rights*, for example, *trade names*, *trademarks*, *service marks*, *patents*, and *copyrights*, may be evidenced by *certificates*, *licenses*, *and other related documents*.

Tangible Assets

> Physical assets, including cash, accounts receivable, inventory, property, plant and equipment, and so on.
>
> Valuing a Business: The Analysis and Appraisal of Closely Held Companies, *5th ed., by Shannon Pratt (New York: McGraw-Hill, 2008(9), p. 1074.*

Footnote 1 (*Continued*)

typical definition of an intangible asset would include financial assets, for example, stocks and bonds; however, accountants usually classify financial assets as "tangibles." Clyde P. Stickney, et al., *Financial Accounting: An Introduction to Concepts, Methods, and Uses* (Mason, OH: South-Western Cengage Learning, 2010), p. 879. International Financial Reporting Standards (IFRS), IAS 32.11, defines financial assets as (1) *cash*, (2) an *equity instrument* of another entity, (3) a *contractual right to receive* cash or another financial asset from another entity, (4) a *contractual right to exchange* financial assets or financial liabilities with another entity under conditions that are favorable to the entity, or (5) a contract that will or may be settled in the entity's own equity instruments (under certain other circumstances).

[2]David Edward Marcinko, *Dictionary of Health Economics and Finance* (New York: Springer, 2007), p. 197.

THE FOUR CATEGORIES OF PROPERTY

(1) Personal property that is tangible, (2) personal property that is intangible, (3) real property that is tangible, and (4) real property that is intangible.

From an *economic perspective* it may be useful to consider assets, or *property*, within the context of four principal categories:

1. Personal property that is tangible, for example, furniture, fixtures, and equipment;
2. Personal property that is intangible, for example, a trained and assembled workforce;
3. Real property that is tangible, for example, a building; and
4. Real property that is intangible, for example, a use right.

This issue of *property as an economic physicality* involves other aspects of the definition of assets, including such attributes as whether the item:

1. Is able to be *touched and felt* (tangible);
2. Is able to be *seen or observed* (visible); and
3. Has a *physical, material body* (corporeal).

Exhibit 14.1 depicts a representative classification of tangible and intangible assets in the context of a professional practice.

PROPERTY AS AN ECONOMIC PHYSICALITY

"These perplexing questions as to the nature of the thing to be valued might seem to be of no concern to the student of valuation, however . . . [h]ow one shall define property in a given case is bound up with the question [of] how one shall find value in that same case. The two problems must be treated together by persons who understand their interrelationship."

The Valuation of Property: A Treatise on the Appraisal of Property for Different Legal Purposes, Volume I, *by James C. Bonbright (New York: McGraw-Hill, 1937), p. 99.*

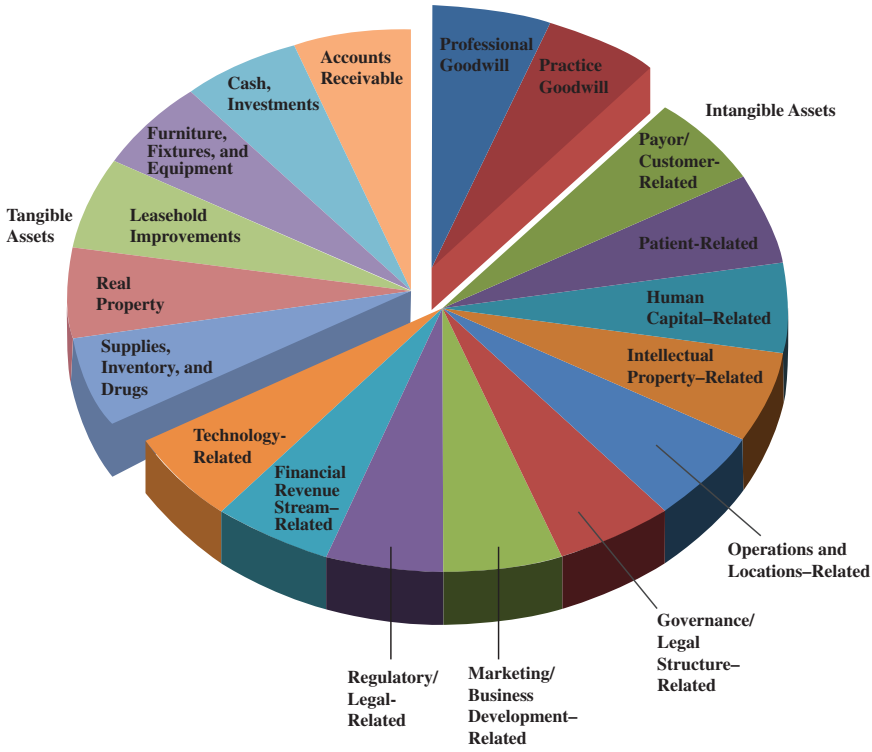


EXHIBIT 14.1 Classification of Intangible and Tangible Assets

A *representative* sample listing of specific types of *tangible* and *intangible* assets, which in this instance is for *illustrative* purposes only, that are most likely to be found in a professional practice/physician-related organization is set forth in Table 14.1 and Table 14.2.

TABLE 14.1 Specific Tangible Assets of Physician Organizations

Classifications of Tangible Assets
Accounts Receivable
Cash, Investments
Furniture, Fixtures, and Equipment
Leasehold Improvements
Real Property
Litigation Awards and Liquidated Damages
Supplies, Inventories, and Drugs

TABLE 14.2 Specific Intangible Assets of Physician Organizations

Classifications of Intangible Assets	
Payor/Customer-Related	**Governance/Legal Structure–Related**
Managed-Care Agreements	Organizational Documents
Provider Service Agreements/Medical Directorships	Noncompete Covenants
Direct Contracting Customer Lists	Income Distribution Plans
HMO Enrollment Lists	**Locations and Operations–Related**
Goodwill	Management Information/Executive Decision Systems
Personal/Professional Goodwill	Favorable Location/Leases/Lease Hold Interests
Practice/Commercial Goodwill	Going Concern Value
Patient-Related	Asset Assemblage Factors
Custody of Medical Charts and Records	Historical Documents/Charts/RVU Studies
Patient Lists/Recall Lists	Supplier Contracts, for example, Group Purchasing Orgs.
Human Capital–Related	**Regulatory/Legal-Related**
Employment/Provider Contracts	Facility Licenses
Trained and Assembled Workforce	Permits—Real Estate Special Use
Policies and Procedures	Medical Licenses
Depth of Management	Certificates of Need
Intellectual Property–Related	Medicare Certification/UPIN
Clinical Practice Protocols and Treatment Plans	Certifications—for example, NCQA, AAAHC, JCAHO
Procedural Manuals/Laboratory Notebooks	**Financial/Revenue Stream–Related**
Technical and Specialty Research	Office Share
Patents and Patent Applications	Management Services Contracts
Copyrights, Trade Names, Trade Secrets	Financing Agreements/Underwriting/ Private Placement
Royalty Agreements	Derivatives, for example, Options, Forwards, Futures
Marketing and Business Development–Related	Budgets/Forecasts/Projections
Print Ads, Telephone Numbers, Billboards, and so on	

(*continued*)

TABLE 14.2 Specific Intangible Assets of Physician Organizations (*continued*)

Classifications of Intangible Assets	
Payor/Customer-Related	**Governance/Legal Structure–Related**
Marketing and Business Development–Related (cont.)	**Technology-Related**
Franchise/License Agreements	Computer Software/Network Integration
Joint Ventures/Alliances	Technical/Software Documentation
Accountable Care Organization Participation	Electronic Medical Records
Brand Management Services	Computer Management Information Systems
Market Entrance Barriers/Factors	Maintenance/Support Relationships

Intangible Assets

Nonphysical business assets that grant certain rights and privileges, including copyrights, trade names, services marks, brand names, and so on.

Dictionary of Health Economics and Finance, *edited by David Edward Marcinko and Hope Rachel Hetico (New York: Springer, 2007), p. 197.*

Over the years, with the growing complexities arising from the *corporatization of medicine*, a significant majority of healthcare transactions *do not* encompass the simple acquisition of the *entirety* of a business enterprise as a going concern.[3] Most often, these transactions are more *complex* in nature, encompassing a *series* of *distinct*, yet *related*, *transactions* and *contractual relationships* for the *acquisition, lease, or co-venture* of specified *assets* (both tangible and intangible), as well as specified *services* (both clinical and nonclinical), with perhaps only some portion of the target enterprise (e.g., *ancillaries service line*) being considered as a *going-concern enterprise*. Consequently, these transactions often present *multiple*, *interrelated elements* and a higher degree of complexity than is typically addressed within the scope of a more straightforward *business enterprise value* (BEV) assignment of determining *Fair Market Value* for a

[3]See Section 3.7, "Corporate Practice of Medicine and Related Provisions," in Chapter 3, "Regulatory Environment."

Fair Market Value

The value in arm's-length transactions, consistent with general market value, without taking into account any ability between parties to refer business to each other.

"Medicare and Medicaid Programs; Physicians' Referrals to Health Care Entities with Which They Have Financial Relationships," 42 CFR § 411 and 424 (Jan. 4, 2001); "Medicare Program; Physicians' Referrals to Health Care Entities with Which They Have Financial Relationships (Phase II)," 42 CFR § 411 and 424 (March 26, 2004).

going-concern enterprise considered in its *entirety*, as briefly alluded to in the introduction to this chapter.

An illustrative example of a potential hospital-physician practice integration transaction, which encompasses professional medical services, medical directorship services, an intangible asset transaction (Trained and Assembled Physician Workforce), a business entity transaction (Ancillary Services and Technical Component Service Line), and a lease for services and assets, is presented in Exhibit 14.2.

Several representative elements of the illustrative transaction depicted earlier are defined next:

1. **Box E—ACME Medical Center (AMC).** Hospital/Health System, acquiring party of hospital/physician practice transaction;
2. **Box D—Physician Practice (LEGACY PRACTICE).** Selling, leasing, or service provider party to exempt hospital/physician practice transaction;
3. **Box I—ASTC Service Line.** Illustrates which assets and/or going-concern elements would be included in the transaction. Components in sub-boxes J through N represent those assets making up the LEGACY PRACTICE ASTC service line, to be acquired by AMC at *Fair Market Value in Use as a Going Concern*, as would be detailed in a *Service Line Purchase Agreement* for a given transaction;
4. **Box O—Premises, Equipment and Employee Lease Agreement.** Illustrates those elements of the LEGACY PRACTICE that would be leased to AMC under a *Premises, Equipment, and Employment Lease Agreement*;
5. **Box W—Trained and Assembled Physician Workforce in Place (TAWF).** Represents the intangible asset related to those LEGACY PRACTICE

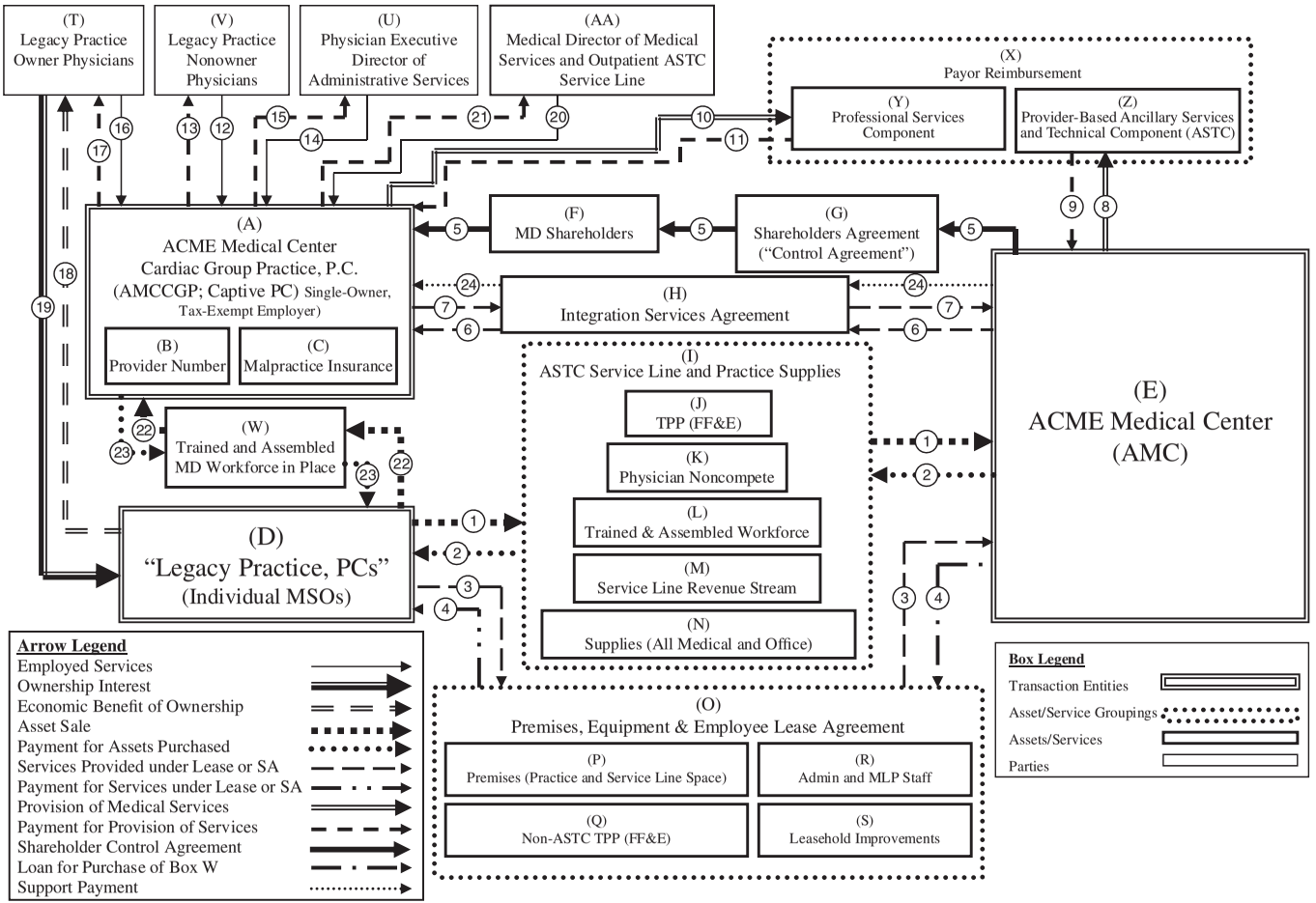


EXHIBIT 14.2 Illustrative Integration Transaction

physicians who will be employed by AMC, following the closing of the transaction in accordance with the *Physician Employment Agreement*; and

6. **Boxes T, V, U, AA.** Each represents compensation arrangements for various *physician services* (e.g., clinical productivity, coverage/call, medical directorship(s), and administrative/executive), each with its own specific *tasks, duties, responsibilities, and accountabilities* (TDRA), to be provided to AMC's CAPTIVE PC, by the *owner physician*(*s*) and *employed associate physicians* of the LEGACY PRACTICE.

Having set forth the distinctions between *tangible* and *intangible* assets, the following sections further discuss the *classification* and *valuation* of specific types of *tangible* and *intangible* assets.

14.1 CURRENT AND FUTURE TRENDS REGARDING TANGIBLE ASSETS

14.1.1 Regulatory Environment Related to a Tangible Asset Transaction

Healthcare transactions, including the *transfer of tangible assets* between healthcare enterprises, are *subject to regulatory scrutiny*, for example, provisions of the *Stark Law*, the *Anti-Kickback Statute*, *Antitrust laws*, and IRC 501(c)(3) provisions governing *tax-exempt organizations* related to *excess benefit* and *private inurement* (as further discussed in Chapter 3, "Regulatory Environment"). Accordingly, the *separate* and *distinct* regulatory thresholds of *Fair Market Value* (FMV) and *Commercial Reasonableness* must both be addressed within the context of the *unique regulatory structure* of the *healthcare industry*. For example, inherent in the definition of *Fair Market Value* for healthcare valuation assignments is the *assumption* that the transaction would occur between a *hypothetical willing buyer* and a *hypothetical willing seller*, neither of whom is in a position to make *referrals* to the other.[4] The threshold of *Commercial Reasonableness* also requires

[4] "Program Integrity; Medicare and State Health Care Programs; Permissive Exclusions," 42 CFR §1001.952(b)(5), (2009), p. 735; "Exceptions to the Referral Prohibition Related to Compensation Arrangements," 42 CFR §411.357(d); "Limitation on Certain Physician Referrals," 42 U.S.C.A. §1395nn(a) (2010); Social Security Act § 1877(a). See Section 7.2.1.1.1, "Requirement for Fair Market Value in the Healthcare Industry," in Chapter 7, "Basic Valuation Tenets," for further discussion of this standard of value.

Commercial Reasonableness

The Department of Health and Human Services has interpreted *commercially reasonable* to mean that an arrangement appears to be "a sensible, prudent business agreement, from the perspective of the particular parties involved, even in the absence of any potential referrals." The Stark II, Phase II, commentary also suggests that "an arrangement will be considered 'commercially reasonable' in the absence of referrals if the arrangement would make commercial sense if entered into by a reasonable entity of similar type and size and a reasonable physician of similar scope and specialty, even if there were no potential DHS referrals."

"Medicare and Medicaid Programs; Physicians' Referrals to Health Care Entities with Which They Have Financial Relationships," 42 CFR § 411, 42463 Federal Register *1700 (January 9, 1998); "Medicare Program; Physicians' Referrals to Health Care Entities with Which They Have Financial Relationships (Phase II)," 42 CFR § 411 and 424 (March 26, 2004).*

that a transaction make *prudent business sense*, even in the absence of *referrals*.[5] Note that these two separate and distinct thresholds are related and not mutually exclusive.

Additional restrictions may apply to the *transfer* of ownership of certain assets, for example, *potentially harmful medical equipment*, as well as certain *drugs* and *narcotics,* which can only be sold to *specific licensed healthcare professionals,* within regulatory guidelines. Similarly, certain tangible assets consisting of some types of *healthcare facilities* and certain categories of *medical technology* and *equipment* may require government approval for transfer, for example, a *Certificate of Need*. In addition, certain *environmental laws and regulations* may play a role in the *transfer of certain tangible healthcare assets*, for example, seemingly innocuous assets such as lead shielding for a diagnostic facility leasehold improvement may be classified as a *hazardous* item and be subject to federal and state laws regarding its disposal.

14.1.2 Reimbursement for Tangible Assets

Healthcare entities are directly reimbursed not only for *services* rendered, but also for tangible assets such as *durable medical equipment*, *medical*

[5] 69 *Federal Register* (March 26, 2004): 16107. See Chapter 16, "The Threshold of Commercial Reasonableness," for further discussion of this threshold.

devices, and *supplies* used during the provision of healthcare services (e.g., stents). Tangible assets are directly reimbursed under the *prospective payment systems* used for *Medicare* and *Medicaid* under the *Resource-Based Relative Value System* through the inclusion of the *Practice Expense Relative Value Unit*.[6] The *Practice Expense Relative Value Unit* (PE RVU) reflects the *costs* of a physician practice, including the operating expenses and capital expenses, for example, costs of *acquiring equipment and office space* requisite to support the medical procedures being performed. Similarly, for *inpatient* services, a payment by Medicare for a particular *Diagnosis-Related Group* (DRG) encompasses both *operating expenses* related to the treatment of the diagnosis, as well as *capital expenses* necessary for the treatment of the diagnosis.[7]

14.1.3 Competition in the Tangible Asset Market

Competition related to *regulatory* and *economic* factors, discussed in depth in Chapter 3 "Regulatory Environment," has, more than ever, driven the focus on the importance of *ownership* of the tangible assets of healthcare entities. *Healthcare enterprises* compete with one another to offer the *latest services* at the *highest quality.* Often, these new services and service lines are *dependent* on the purchase of new *equipment*, for example, the *da Vinci System*.[8] Similarly, increases in *quality* and *profitability* may be related to the acquisition and implementation of new technologies and equipment, such as the *quality* increase in image clarity and patient throughput derived

[6] See Section 2.4.1.3.2, "Physician Reimbursement and Billing: The Resource-Based Relative Value Scale (RBVRS)," in Chapter 2, "Reimbursement Environment"; Centers for Medicare and Medicaid Services, "Medicare Physician Fee Schedule—Payment System Fact Sheet Series," December 2011, Department of Health and Human Services.

[7] Centers for Medicare and Medicaid Services, "Acute Care Hospital Inpatient Prospective Payment System," Payment System Fact Sheet Series, February 2012.

[8] The *da Vinci System*, developed by *Intuitive Surgical, Inc*. in 1998 and approved by the FDA in 2000, revolutionized minimally invasive surgery by overcoming the limitations of both traditional surgical procedures and conventionally implemented noninvasive laparoscopic technology. While originally limited to *cardiac endoscopy*, the use of the *da Vinci system* has expanded to include *gastrointestinal*, *cardiothoracic*, *gynecologic*, *urologic*, and *other specialty surgical* procedures. Anne Staylor, "Trends in MIS, Part II," *Medtech Insight* 14, no. 6 (June/July 2012): 18; M. J. Mack, "Minimally Invasive and Robotic Surgery," *Journal of the American Medical Association* 285, no. 5 (2001): pp. 569–570.

from a 64-slice CT machine, in contrast to that of a 16-slice CT machine.[9] A healthcare enterprise capable of offering minimally invasive robotic surgery and high-quality diagnostic imaging may *derive not only the revenue* (and the net economic benefit) from providing these services, but may also *gain market share* in other services through the *public relations benefit* associated with being perceived as being a "*cutting edge*" provider offering patients *new, high quality, technologically advanced services*.

14.1.4 Technology in the Tangible Asset Market

In almost all instances, the *rapidly changing* healthcare industry technologies require, at least in part, a *tangible asset* component. However, as healthcare entities move toward the new revenue paradigm of value-based reimbursement and the concept of *Accountable Care Organizations* (*ACOs*), the purchasers and payors of healthcare services, in contrast to providers, are not focused primarily on the *competitive benefit* of the acquisition of new technologies and new services; they are instead requiring a clear demonstration of how these new technologies exhibit value, that is, *enhance quality with measurable patient outcomes and control costs*.[10]

Technological developments in the healthcare industry can result not only in *enhanced value* from the new and higher quality services, but can also *adversely affect the value* of existing *tangible personal property* already in place. This loss of value derives from the relative *functional obsolescence* and *technological obsolescence* of the existing technology in comparison to the new technology. *Functional obsolescence* can be defined as the *loss of utility* resulting from the *inefficiencies* of the asset, as compared to a more efficient or less costly replacement asset. *Technological obsolescence* can be

---

[9] A computed tomography (CT machine) uses multiple X-ray images to produce tomographic images, commonly referred to as slices, which together generate a three-dimensional image. These cross-sectional images have evolved since the first commercial scanner became available in 1967, from the 4-slice CT scanner to the 16-slice CT scanner, and finally, the 64-slice CT scanner, with each version raising the standard for image quality and accuracy, allowing for the improved production of three-dimensional images. Sal Martino, Jerry Reid, and Teresa G. Odle, *Computed Tomography in the 21st Century: Changing Practice for Medical Imaging and Radiation Therapy Professionals* (Albuquerque, NM: American Society of Radiologic Technologists, 2008), p. 2, 8; Lee W. Goldman, "Principals of CT: Multislice CT," *Journal of Nuclear Medicine Technology* 36, no. 2 (June 2008): 58, 60.

[10] "Hospital Budgets on the Rise as Purchasing Patterns Shift, Survey Finds," *Medtech Insight* (March 2012): 48–49. See Section 6.4.4.1, "ACA's Establishment of Accountable Care Organizations," in Chapter 6, "Healthcare Reform," for a more in-depth discussion of ACOs.

defined as the *loss of utility* resulting from the *differences* in *capabilities* between the old asset and the replacement asset.[11]

14.2 CLASSIFICATION AND VALUATION OF TANGIBLE ASSETS

The American Society of Appraisers (ASA) defines tangible assets as "land, land improvements, buildings, machinery and equipment, office furniture and equipment, and other tangible assets."[12]

In addition, as briefly noted in the introduction to this chapter, most accountants classify financial assets, for example, cash, accounts and notes receivables, prepaid expenses, intercorporate investments, as tangible assets as well.[13]

With regard to the importance of identification of property, which would include defining the concept of property as an economic physicality, James C. Bonbright stated,

> *These perplexing questions as to the nature of the thing to be valued might seem to be of no concern to the student of valuation, however . . . [h]ow one shall define property in a given case is bound up with the question [of] how one shall find value in that same case. The two problems must be treated together by persons who understand their interrelationship.*[14]

---

[11] *Valuing Machinery and Equipment: The Fundamentals of Appraising Machinery and Technical Assets*, 3rd ed. (e-book) (Washington, DC: The American Society of Appraisers, 2000), p. 72. For further discussion of the technological environment of the healthcare field, see Chapter 5, "Technology."

[12] *Valuing Machinery and Equipment: The Fundamentals of Appraising Machinery and Technical Assets*, 3rd ed. (e-book) (Washington, DC: The American Society of Appraisers, 2011), p. 125.

[13] International Financial Reporting Standards (IFRS), IAS 32.11, defines *financial assets* as (1) *cash*, (2) an *equity instrument* of another entity, (3) a *contractual right to receive* cash or another financial asset from another entity, (4) a *contractual right to exchange* financial assets or financial liabilities with another entity under conditions that are favorable to the entity, or (5) a contract that will or may be settled in the entity's own equity instruments (under certain other circumstances). The typical definition of an *intangible asset* would include financial assets such as stocks and bonds; however, accountants usually classify financial assets as "tangibles." Clyde P. Stickney, et al., *Financial Accounting: An Introduction to Concepts, Methods, and Uses* (Mason, OH: South-Western Cengage Learning, 2010), p. 879.

[14] James C. Bonbright, *The Valuation of Property: A Treatise on the Appraisal of Property for Different Legal Purposes, Volume I* (New York: McGraw-Hill, 1937), p. 99.

PRINCIPLE OF SUBSTITUTION

A prudent investor would pay no more for a property than the cost of acquiring an equally desirable substitute or one of equal utility.

Handbook of Business Valuation, *2nd ed., by Thomas L. West and Jeffrey D. Jones (New York: John Wiley & Sons, 1999), p. 165.*

Under the *Principle of Utility,* which is derived from the economic *Principle of Scarcity*, tangible assets may generate a *net economic benefit* for a healthcare enterprise by either (1) *directly generating revenue* for the healthcare enterprise or (2) allowing the healthcare enterprise to *avoid* an *economic operating expense* or *economic capital expense* that would be required to *replace* or *reproduce* the tangible assets.[15] It should be noted that the utility to be derived from tangible assets, which serves as a guide in determining their value, is the *expected utility* to be derived from those assets in the future, based on the economic *Principle of Anticipation*, bounded by the cost of obtaining a *substitute tangible asset* that provides a *similar level of utility* as the *subject tangible asset*, as set forth by the economic *Principle of Substitution.*[16]

Each valuation engagement should include *proper* consideration given to each of the three general approaches to value, that is, the *Income*, *Market*, and *Asset/Cost Approaches.*[17] The choice among the numerous generally accepted healthcare valuation *approaches*, *methods*, and *techniques* for the appraisal of tangible assets depends primarily on the:

1. Purpose of the valuation report;
2. Objective and purpose of the valuation engagement;
3. Standard of Value;

[15] See Section 7.1.1, "Scarcity," in Chapter 7, "Basic Valuation Tenets," for further information regarding the interplay between scarcity and utility. See Section 7.1.2, "Utility Theory," in Chapter 7, for additional information regarding the *Principle of Utility*.

[16] See Section 7.1.3.1, "Principle of Anticipation," in Chapter 7, "Basic Valuation Tenets," for additional information regarding the *Principle of Anticipation*. See Section 7.1.2.1, "The Principle of Substitution," in Chapter 7, for additional information regarding the *Principle of Substitution*.

[17] Ian Ratner, Grant Stein, and John Weitnauer, *Business Valuation and Bankruptcy* (Hoboken, NJ: John Wiley & Sons, 2009), p. 26.

STANDARDS OF VALUE

Various methods used to answer the question "*Value to whom?*" and outline the type of value to be determined, including Fair Market Value, Fair Value, Market Value, Investment (Strategic) Value, or Book Value.

4. Premise of Value;
5. Specific characteristics of the subject asset; and
6. Availability of reliable data.

A more detailed discussion of the selection of appropriate valuation approaches and methodologies may be found in Chapter 8, "Valuation Approaches and Method."

At the outset of each valuation engagement, it is critical to appropriately define (and have all parties agree to) the *Standard of Value*, which outlines the type of value to be determined. The *Standard of Value* is often described as answering the question "*Value to whom?"* There are various commonly referred to *Standards of Value*, including *Fair Market Value*, *Fair Value*, *Investment (Strategic) Value*, and *Fundamental Value*, and further information on the various *Standards of Value* can be found in Section 7.2.1, "Standards of Value," in Chapter 7, "Basic Valuation Tenets." In addition, the standard of *Fair Market Value* is most often the valuation standard sought in the valuation of healthcare related enterprises, assets, and services.[18]

Recall that the standard of *Fair Market Value* is defined as the most *probable price* that the subject asset should bring if exposed for sale on the open market, as of the valuation date, but *exclusive* of any element of value *arising* from the *accomplishment* or *expectation* of the sale. This *Standard of Value* assumes an anticipated *hypothetical transaction*, in which the buyer and the seller are each *acting prudently* with a *reasonable equivalence of knowledge*, and where the *price* is *not affected* by any *undue stimulus or coercion*. Implicit in the definition of *Fair Market Value* for those transactions taking place in the healthcare industry is the assumption that the anticipated hypothetical transaction would be conducted in compliance with Stark legislation prohibiting physicians from making referrals for "*designated health services*" reimbursable under Medicare or Medicaid to an entity with which

[18] As set forth in Section 7.2.1.1.1, "Requirement for Fair Market Value in the Healthcare Industry," in Chapter 7, "Basic Valuation Tenets."

Factoid

Fair value is the price that would be received to sell an asset or paid to transfer a liability (an exit price) in an orderly transaction between market participants at the measurement date.

"Statement of Financial Accounting No, 157: Fair Value Measurements," Financial Accounting Standards Board, September 2006, p. 2.

the referring physician has a *financial relationship*, as well as with the *Anti-Kickback Statute*, which makes it legally impermissible to knowingly pay or receive any remuneration related to the volume or value of referrals.[19]

In addition to identifying the *Standard of Value* to be used in the valuation engagement, it is imperative that the *Premise of Value*, that is, an assumption further defining the *Standard of Value* to be used and under which a valuation is conducted, is determined at the outset of the valuation engagement. As discussed in Chapter 7, "Basic Valuation Tenets," the *Premise of Value* defines the hypothetical terms of the sale, that is, "*the most likely set of transactional circumstances that may be applicable to the subject valuation; e.g., going concern, liquidation, [etc.]*"[20] and answers the question "Value under what further defining circumstances?"

Factoid

The Bradford Case examined the permissibility of arrangements between physicians and hospitals under the Stark Act and the Anti-Kickback Act. Specifically, it was related to the valuation of a noncompete clause found to be in violation of the Stark Law.

U.S. ex rel., Singh v. Bradford Regional Medical Center, *752 F.Supp. 2d 602 (November 10, 2010).*

[19] 42 U.S.C.A. § 1395nn(a); Social Security Act § 1877(a). *U.S. ex rel v. Bradford Medical Center et al*. See Section 7.2.1.1, "Fair Market Value," in Chapter 7, "Basic Valuation Tenets," for further discussion of the standard of *Fair Market Value*.

[20] Richard Rickert, "The Principles and Concepts of Valuation: Theory of Utility and Value, Value Influences, and Value Concepts," in *Appraisal and Valuation: An Interdisciplinary Approach, Volume I* (Washington, DC: American Society of Appraisers, 1987), pp. 6–7.

PREMISE OF VALUE

The Premise of Value defines the hypothetical terms of the sale, that is, "the most likely set of transactional circumstances that may be applicable to the subject valuation; e.g., going concern, liquidation," and answers the question "Value under what further defining circumstances?"

Appraisal and Valuation: An Interdisciplinary Approach, Volume I, *by Richard Rickert (Washington, DC: American Society of Appraisers, 1987), pp. 6–7.*

Value in Use as a Going Concern is the *Premise of Value* that *assumes that the assets will continue to be used as part of an ongoing business enterprise, producing an economic benefit of ownership of a going concern.* Supporting a valuation premise of *Value in Use as a Going Concern* requires a reasonable likelihood that the subject enterprise would generate, in the reasonably foreseeable future, *sufficient net margin* to generate the requisite economic cash flow to *support the value of the capital investment* required to generate the revenue stream of the provider enterprise.[21]

In the event that a business enterprise fails to produce *sufficient evidence* to indicate a *reasonable likelihood* that it would, as a *going-concern enterprise*, meet this threshold, then the valuation premise of *Value in Use as a Going Concern* cannot be supported, and the adoption of the *Value in Exchange* premise of value may be indicated as the *highest and best use* of the component assets of the enterprise.[22] While *tangible assets* may be valued as part of a going-concern enterprise, the valuation of an individual tangible asset may be achieved under the *Value in Exchange* premise of value.

Value in Use

The premise of value that assumes that the assets will continue to be used as part of an ongoing business enterprise, producing an economic benefit of ownership of a going concern.

[21] Jay Fishman, "Valuation Terminology and Methodology," in *Financial Valuation: Businesses and Business Interests*, ed. James Zukin (New York: Maxwell MacMillan, 1990), pp. 2-43–2-44.

[22] See Section 7.2.2.2, "Highest and Best Use," in Chapter 7, "Basic Valuation Tenets," for further discussion of this concept.

THE THREE LEVELS TO THE PREMISE OF VALUE IN EXCHANGE

(1) Value in Place, as part of a mass assemblage of assets; (2) Value in Exchange, as part of orderly disposition; and (3) Value in Exchange, as part of a forced liquidation.

Valuing a Business: The Analysis and Appraisal of Closely Held Companies, *5th ed., by Shannon Pratt (New York: McGraw-Hill, 2008), pp. 48–49.*

Under the valuation premise of *Value in Exchange*, there are three distinct categories, defined by the means and circumstances by which the asset is converted into cash:

1. ***Value in place**, as part of a mass assemblage of assets*, but not in current use in the production of income, and not as a going-concern business enterprise.[23]
2. ***Value in exchange**, as part of an orderly disposition*, but not part of a mass assemblage of assets; the assets will be sold individually, and they will receive normal exposure on an appropriate secondary market.[24]
3. ***Value in exchange**, as part of a forced liquidation*, but not part of a mass assemblage of assets; the assets will be sold individually, but they will receive less than normal exposure on an appropriate secondary market.[25]

With respect to tangible personal property appraised under either Value in Exchange, as part of an orderly disposition, or Value in Exchange, as part of a forced liquidation, additional defining aspects of the premises of value may be used, including: (1) Fair Market Value—Removed and (2) Fair Market Value—Installed.[26] These valuation aspects further define the condition of the asset to be transacted, related to whether the asset will

[23] Shannon Pratt, *Valuing a Business: The Analysis and Appraisal of Closely Held Companies*, 5th ed. (New York: McGraw-Hill, 2008), p. 48.

[24] Ibid., pp. 48–49

[25] Ibid., p. 49.

[26] *Valuing Machinery and Equipment: The Fundamentals of Appraising Machinery and Technical Assets*, 3rd ed. (e-book) (Washington, DC: The American Society of Appraisers, 2000), pp. 12–13.

be considered to be used in its present location (installed) or not in its present location (removed).

14.2.1 Classification and Valuation of Tangible Real Property

Based on the definition of real property as "the bundle of legal rights which people have in . . . the very objects, particularly the tangible objects to which these rights attach," and with the premise that any given legal right is intangible, so it is a logical deduction that real property is an intangible asset.[27] However, while real estate encompasses the land, the buildings, and any permanent fixture related to the land and the buildings, real property encompasses all of the rights of ownership that define real estate. These rights of ownership, when combined, may represent the real estate itself or, when separated, may represent a right or access to the real estate that does not have a physical nature. Real property, therefore, may include both tangible real property and intangible real property.[28]

The subject of an appraisal related to the ownership of *real estate* is *always*, in actuality, *real property* (i.e., the *rights* related to the real estate) and, therefore, when appraising *real estate*, the *rights* and *benefits* related to the *real estate* should be clearly defined.[29] Note that when the *real property* encompasses *all rights* and *benefits* related to the *real estate*, the property interest is referred to as a *fee simple interest*.[30]

Real Estate

The physical land and all appurtenances affixed to the land, such as structures.

The Appraisal of Real Estate, *11th ed. (Chicago: Appraisal Institute, 1996), p. 7.*

[27] James C. Bonbright, *The Valuation of Property: A Treatise on the Appraisal of Property for Different Legal Purposes, Volume I* (New York: McGraw-Hill, 1937), pp. 76–77.

[28] *The Appraisal of Real Estate*, 12th ed. (Chicago: Appraisal Institute, 2001), pp. 7–8.

[29] Jeffrey D. Fisher and Robert S. Martin, *Income Property Valuation* (Chicago: Dearborn Financial Publishing, 1994), p. 3.

[30] Ibid.

Recent economic trends, that is, *relatively low borrowing costs* and *relatively higher asset prices*, coupled with the *uncertainty* surrounding the *impact of certain provisions* of the *Patient Protection and Affordable Care Act* (ACA) on the ability of an organization *to fulfill its goals and mission* (i.e., either *for-profit* or *not-for-profit*), have led to a renewed interest by some healthcare enterprises in "*monetizing*" the value of their real property in order *to fund certain strategic and operational objectives*, for example, *implementing electronic health records systems* and *closer alignment with physicians*. Other motivations for healthcare enterprises to divest their ownership in *real property* include the *increased regulatory scrutiny* of transactions that may be subject to *federal and state fraud and abuse laws* or the *IRS regulations* pertaining to *excess benefit* and *inurement of private benefit*.[31]

14.2.1.1 Tangible Real Property Valuation Methods In many healthcare transactions, the *real property* used by the subject enterprise being acquired is *not owned by the subject enterprise*; rather, it is *leased*. In some instances, the subject enterprise may lease the real property used for its business operations from a *related party*, that is, one in which the owner of the real property holding company is also an owner of the subject enterprise, in which case a *separate appraisal* of the *lease rate* being paid by the subject enterprise may be warranted in order *to ensure that the payment is at FMV*. Accordingly, should the *real property* be owned by the subject enterprise (and is to be included in the transaction), a *separate* appraisal of the *real property interest* is often warranted to ensure that the *capital structure* of the entity

Real Property

Land and anything growing on, attached to, or erected on it, excluding anything that may be severed without injury to the land. Can be either corporeal or incorporeal, including all interests, benefits, and rights inherent in the ownership of real estate.

Black's Law Dictionary, *9th ed., edited by Bryan A. Garner (St. Paul, MN: Thomson Reuters, 2009), p. 1337;* The Appraisal of Real Estate, *11th ed. (Chicago: Appraisal Institute, 1996), p. 7.*

[31] Greg Gheen and Scott Evans, "Monetization Trends in Health System and Physician-Owned Real Estate," Realty Trust Group, January 18, 2013, http://www.realtytrustgroup.com/RTG_011813_Monetization.pdf (accessed February 6, 2013).

reflects the asset being stated at FMV. As real property valuation requires *specific knowledge and skill sets*, a licensed, certified real estate appraiser may be engaged to complete the real property valuation.

14.2.1.1.1 Income Approach for Valuing Tangible Real Property The application of an *Income Approach–based valuation method* in assessing the value of *tangible real property* involves the analysis of the *income-producing capabilities* of the subject property, including the projection of the related *revenue streams* and the *economic cost burdens* (in operating or capital costs) necessary to support those *revenue streams*. The *net economic benefit* derived from these revenue streams and expenses is then *capitalized* to derive an indication of value. Note that the *Single Period Capitalization Method* converts a *single year* of *net economic benefit* into an indication of value, while the *Discounted Net Cash Flow Method* converts a *projected stream of net economic benefits* into an indication of value (see Chapter 8, "Valuation Approaches and Methods," for a further discussion of these methods, as well as other *Income Approach–based valuation methods*).

14.2.1.1.2 Market Approach for Valuing Tangible Real Property Using the *Guideline Transactions Method* under the *Market Approach*, an indication of value can be derived from *valuation metrics* reported in *transactions* of *properties* deemed to be *comparable* to the subject property.[32] The application of this methodology begins with the definition of the subject asset's *market*, which may be defined as making up one of the four *categories of productivity attributes*: (1) *locational*, (2) *physical*, (3) *legal*, and (4) *design*.[33] It is from this identified market segment that *guideline transactions* with *homogenous badges of comparability* to the subject property are derived. In addition to transactions, *comparable* may also be derived from *real estate listings* and *purchase offers*. However, regardless of the foundation for the comparable property, it is important that each source be verified to ensure they are "factually accurate and that the [elements of the] transactions reflect arm's-length, market considerations."[34]

---

[32] Jeffrey D. Fisher and Robert S. Martin, *Income Property Valuation* (Chicago: Dearborn Financial Publishing, 1994), p. 183. See Section 8.1.2, "Market Approaches," in Chapter 8, "Valuation Approaches and Methods," for further discussion of this method.

[33] Stephen F. Fanning, Terry V. Grissom, and Thomas D. Pearson, *Market Analysis for Valuation Appraisals* (Chicago: Appraisal Institute, 1994), p. 119.

[34] *The Appraisal of Real Estate*, 12th ed. (Chicago: Appraisal Institute, 2001), p. 422.

CAPITAL SOURCES USED FOR THE PURCHASE OF TANGIBLE ASSETS

(1) Equity, (2) bank debt, (3) seller financing, and (4) capital leasing.

Once comparable properties have been identified, *units of comparability*, for example, *price per square foot*, are selected, and a comparison is made between the *guideline transactions* and the *subject asset* being valued. *Adjustments* may be required to reflect *differences* in the *guideline transactions* and the *subject property.* Finally, the *adjusted guideline transactions* are aggregated and *weighted* based on the *similarity* of the transaction to the subject property.

Healthcare facilities are often *special-use buildings*, which may *limit the market* of comparable buildings from which to derive an *indication of value*. If the current or prospective use of the property is *functionally* or *technologically obsolete*, due to its *purpose-specific design*, the *highest and best use* of the property may be as *undeveloped land*, in other words, the structure is demolished and sold for scrap.[35] An example of this would be the case of an *aging hospital facility* that exhibits the following value considerations:

1. *Presence of toxic, radioactive medical waste* on the facility grounds that was disposed of prior to the enactment of applicable environmental regulations;
2. *Use of hazardous building materials*, for example, asbestos and/or lead-based paint, prior to the enactment of applicable building regulations;
3. *Architectural designs* that are *inefficient for use* in contemporary healthcare service delivery models; and
4. *Engineering specifications* that are *costly to retro-fit* with new technologies.

In this circumstance, the *market-derived value estimate* must be adjusted for all *expenses necessary* to deliver the property in an *undeveloped state*, including *demolition* and any *remediation* that may be necessary.

14.2.1.1.3 Asset/Cost Approach for Valuing Tangible Real Property The application of *Asset/Cost Approach–based valuation methods* in valuing

[35] Ibid. pp. 25–26, 262–263.

real estate involves *two distinct property interests*: (1) the *land* and (2) any and all *land improvements* (including the buildings). The *combination* of the valuation of these *two property interests* results in the aggregate value of the property interest referred to as *real estate*.[36] Typically, *Asset/Cost Approach–based valuation methods* have limited application to the valuation of *land*, since it was not created, it exists. However, *Market Approach–based valuation methods*, for example, the *guideline transactions method*, considering the *land* as though it were *vacant* and *ready for improvement*, can be used to determine the value of the *land portion* of the real estate.

The *separate* valuation of the *buildings* and other *land improvements* may be performed under either the *Replacement Cost Method*, which is the quantification of the current costs required to re-create an asset with *equal utility* to the subject asset, or the *Reproduction Cost Method*, which is the quantification of the costs needed to create an *exact duplicate* of the subject asset. Utilization of the *Replacement Cost Method* includes the *estimation of all costs* (i.e., *direct costs, indirect costs, and an appropriate entrepreneurial profit/incentive*) related to the replacement of the land improvements as of the date of valuation, less all *depreciation* including:

1. *Physical deterioration*: the decrease in value related to the *wear* and *tear* placed on the asset, in comparison to a replacement asset;
2. *Functional and technological obsolescence*: the decrease in value related to *inefficiencies* and *capabilities* of the asset, as compared to a replacement asset; and
3. *Economic (external) obsolescence*: the decrease in value *unrelated to* or *outside of* the asset, such as an economic recession.[37]

Depreciation

The continuous decline in value of an asset (including buildings, instruments, and equipment) in the course of its operations.

Dictionary of Health Economics and Finance, *edited by David Edward Marcinko and Hope Rachel Hetico (New York: Springer, 2007), p. 108.*

[36] J. D. Eaton, *Real Estate Valuation in Litigation*, 2nd ed. (Chicago: Appraisal Institute, 1995), chap. 8.

[37] *The Appraisal of Real Estate*, 12th ed. (Chicago: Appraisal Institute, 2001), p. 350. E. Nelson Bowes, *In Defense of the Cost Approach, a Journey into Commercial Depreciation* (Chicago: Appraisal Institute, 2011), p. 121.

14.2.1.2 Classification and Valuation of Land and Land Improvements Those *tangible real property assets* known as *land* can be regarded as one of the basic *agents of production*, along with *labor, capital, and entrepreneurial coordination*, and include a number of unique attributes:

1. Each plot of land is *unique*;
2. Each plot of land is *immobile*;
3. Each plot of land is *durable*; and
4. The *supply* of land is *finite*.[38]

Perhaps the most important factor related to land is its *location*. An analysis of the location of a plot of land can be examined on *three* levels:

1. The *internal structure* of the site;
2. The *location* and interaction of the site with the *immediate surroundings* (e.g., adjacent buildings and roadways); and
3. The *location* and *interaction* of the site within an *urban structure* (i.e., the city the site is located in, the city's economics, and the plot of land's interaction with the city).[39]

Each plot of land is *unique* and *is not* created *equal* and may, in fact, have been altered by *human interaction*. Regarding vacant land, a *greenfield*

THE THREE LEVELS OF AN ANALYSIS OF THE LOCATION OF A PLOT OF LAND

(1) The internal structure of the site, (2) the location and interaction of the site with the immediate surroundings (e.g., adjacent buildings and roadways), and (3) the location and interaction of the site within the urban structure (i.e., the city the site is located in, the city's economics, and the plot of land's interaction with the city).

Market Analysis for Valuation Appraisals, *by Stephen F. Fanning, Terry V. Grissom, and Thomas D. Pearson (Chicago: Appraisal Institute, 1994), pp. 51–52.*

[38] *The Appraisal of Real Estate*, 12th ed. (Chicago: Appraisal Institute, 2001), p. 3.

[39] Stephen F. Fanning, Terry V. Grissom, and Thomas D. Pearson, *Market Analysis for Valuation Appraisals* (Chicago, IL: Appraisal Institute, 1994), p. 119. pp. 51–52.

UNIQUE ATTRIBUTES OF A PLOT OF LAND

(1) Each plot of land is unique; (2) each plot of land is immobile; (3) each plot of land is durable; and (4) the supply of land is finite.

The Appraisal of Real Estate, *12th ed. (Chicago: Appraisal Institute, 2001), p. 3.*

site can be defined as an *untouched*, *undeveloped* plot of land. In contrast, a *brownfield site* is "real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant."[40] The development of a *brownfield site*, therefore, may include extra costs such as *remediation*, which could negatively affect the potential use and therefore the value of the land. Due to the nature of healthcare services and the environmental waste they may generate, many sites on which healthcare entities, such as hospitals, reside *may require remediation* in some form should the land be *sold* or *repurposed*. This requirement serves as a *negative reversion* to the value of that *real property interest*.

Those *tangible real property assets* known as *land improvements* include *all permanent structures* (i.e., buildings), as well as all *permanent changes* to *land* that act to increase the land's value, for example, levees, dams, or other drainage/watershed infrastructure.[41]

Special use buildings are buildings that have *unique architectural features* and *engineering designs*, used for a *specific* purpose, for example, a *cancer treatment center* or a *diagnostic imaging center*, which is constructed

Brownfield Site

An abandoned, idled, or underused industrial or commercial site that is difficult to expand or redevelop because of environmental contamination.

Black's Law Dictionary, *9th ed., edited by Bryan A. Garner (St. Paul, MN: Thomson Reuters, 2009), p. 221.*

[40] Small Business Liability Relief and Brownfields Revitalization Act, Section 211(a).

[41] *The Dictionary of Real Estate Appraisal*, 4th ed. (Chicago: Appraisal Institute, 2002), p. 157.

Land Improvements

Relatively permanent structures built on, or physical changes made to, a property to increase its utility and value.

The Dictionary of Real Estate Appraisal, *4th ed. (Chicago: Appraisal Institute, 2002), p. 157.*

to include lead shielding for the purpose of blocking radiographic exposure. These *technical build-outs, features,* and *amenities*, intended to facilitate the delivery of healthcare services, may tend to actually *limit the utility* or conversion of the building for other purposes, as those conversions will often include significant additional expenses in order to *repurpose the building*.[42] In addition, healthcare facilities are subject to extensive regulation, by federal, state, and local authorities, and include such building codes as the *International Building Code* and the *Life Safety Code*, which creates complication for repurposing.[43]

Each of the three methods previously discussed in Sections 14.2.1.1.1, "Income Approach for Valuing Tangible Real Property," 14.2.1.1.2, "Market Approach for Valuing Tangible Real Property," and 14.1.1.1.3, "Asset/Cost Approach for Valuing Tangible Real Property," may be appropriate to value land and land improvements.

14.2.2 Classification and Valuation of Tangible Personal Property

Tangible personal property has, for decades, been broadly defined as:

> *Tangible things capable of ownership not classed as realty, they being furniture, fixtures, equipment, machinery, inventories, vessels, precious metals, vehicles, gems, evidences of debt, and money.*[44]

This definition, while useful, includes some *ambiguity* in that there is *no bright line* distinguishing *real property* from that of *personal property.* In cases where the definitional line may be straddled for a given asset, the *use*

[42] *The Appraisal of Real Estate*, 12th ed. (Chicago: Appraisal Institute, 2001), pp. 262–263.

[43] "How Are Hospitals Regulated?" *ASHE 2012 Advocacy Report*, vol. 1, 2012, p. 6.

[44] *The Appraisal of Machinery and Equipment*, American Society of Appraisers, ASA Monograph #2, Washington, DC, 1969, p. 3.

Tangible Personal Property

Tangible things capable of ownership not classed as realty, they being furniture, fixtures, equipment, machinery, inventories, vessels, precious metals, vehicles, gems, evidences of debt, and money.

The Appraisal of Machinery and Equipment, *American Society of Appraisers, ASA Monograph #2, Washington, DC, 1969, p. 3.*

or *purpose* of the property may provide additional guidance as to its classification.[45] For example, ventilation for a *specific piece* of *equipment*, such as a fume exhaust for a chemotherapy center, may well be classified as *tangible personal property*, while ventilation for the office space that the equipment occupies would be classified as *tangible real property.*

14.2.2.1 Tangible Personal Property Valuation Methods When determining the value of *tangible personal property*, the three general valuation approaches, that is, the *Income*, the *Market*, and the *Asset/Cost*, should be considered before the appropriate method for the specific appraisal is selected for the assignment.[46] In addition, in regard to the valuation of *tangible personal property*, it is important to consider the applicable amount of *depreciation* related to the subject property.

Depreciation, in its *economic interpretation,* in contrast to its *tax accounting interpretation*, is the loss of value in an asset due to the *physical deterioration* in the *condition* of the asset resulting from its *use* over time, which can be calculated based on the *age* and *condition* of the asset, as well as *various forms of obsolescence. Obsolescence* is often expressed as *functional*, *technological*, or *economic* and is the loss of value due to deterioration in the *utility* of the asset. *Functional and technological obsolescence* occurs when *replacement assets* would have *greater utility*, for example, *improved production processes* or *lower operating costs*, than the original or existing equipment. *Economic obsolescence* occurs when some event or circumstance, *external* to the equipment itself, is responsible for a *decreased ability* of the equipment to *properly perform* its intended task.

[45] Ibid., p. 10.

[46] *Valuing Machinery and Equipment: The Fundamentals of Appraising Machinery and Technical Assets*, 3rd ed. (e-book) (Washington, DC: American Society of Appraisers, 2000), p. 15.

TABLE 14.3 Application of Physical Deterioration and Obsolescence

Current Cost of Replacement or Reproduction In-Place, In-Use	
< + / – >	Physical Deterioration
< + / – >	Functional Obsolescence
< + / – >	Technological Obsolescence
< + / – >	Economic Obsolescence
Results In:	**Fair Market Value In-Place, In-Use**

Examples of economic factors contributing to an impairment of an asset include *decreased demand for a product*, *limited production life*, and *environmental regulations* imposed on a type of asset that might limit or impede its operation.[47] Accordingly, the economic *Fair Market Value* of the asset being appraised should include the application of a devaluage factor to reflect both *physical deterioration* and the applicable types of *obsolescence,* as illustrated in Table 14.3.

14.2.2.1.1 Income Approach for Valuing Tangible Personal Property Income Approach–based valuation methods for tangible personal property—in particular, furniture, fixtures, and equipment—"[are] not usually applied to individual items of machinery and equipment unless they are leased," due to the difficulty in "determining income that can be directly related to a specific asset, the concern over reliability of income forecasts, and the multitude of variables involved in this valuation approach."[48] However, despite the limited applicability of Income Approach–based valuation methods to tangible personal property, they still should be understood and considered when appropriate.

Both the *Single Period Capitalization Method* and the *Discounted Net Cash Flow Method*, as applied to *tangible personal property*, are predicated on the *generation* of an *income stream* to be *capitalized* to derive value.[49] As indicated earlier, this may be accomplished by the assumption of a *lease* of the

[47] *The Appraisal of Machinery and Equipment*, American Society of Appraisers, ASA Monograph #2, Washington, DC, 1969, pp. 47–51.

[48] *Valuing Machinery and Equipment: The Fundamentals of Appraising Machinery and Technical Assets*, 3rd ed. (e-book) (Washington, DC: American Society of Appraisers, 2000), p. 157.

[49] See Chapter 8, "Valuation Approaches and Methods," for a general discussion of these methods.

tangible personal property and begins with the determination of an appropriate *lease payment*, as derived from market-based *transactional* lease data, for the subject asset. It is important to note the *terms* of the market leases used to develop the lease payment for the subject asset. In particular, *capital medical equipment*, for example, linear accelerators or CT machines, may include in the lease a *service/maintenance package*, *supplies*, and, in some instances, *technicians* to operate the machines. That portion of the lease payment *unrelated* to the subject asset, such as the *service and maintenance*, should be *identified*, *quantified*, and *removed* from the *lease payment*. This *pure lease payment* represents the *revenue* generated solely by the subject asset. From this revenue, all expenses to *process* and *maintain* the lease should be *deducted*, resulting in the *net economic benefit* to be capitalized into value. It should be noted that *physical deterioration* and applicable types of *obsolescence* (both of which make up *economic depreciation*) are *not* expenses required to maintain the lease payment and therefore should *not* be *deducted* from the revenue generated by the subject asset. Rather, *economic depreciation* represents the *deficiencies* in the *ability* of the subject asset to *generate revenue*, due to *impairment* in the *utility* of the subject asset, and would manifest in either a *shorter term* of the lease or a *decreased lease payment*.

Once the *net economic benefit* has been determined, an appropriate *capitalization rate* or *discount rate* (depending on the methodology employed) should be determined. Due to the *physical* nature of *tangible personal property assets*, the *discount rate* and the *capitalization rate* may be heavily influenced by the availability of *collateralized* debt used to fund a purchase of the subject asset. As such, the weight of *equity and debt* used to determine the *weighted average cost of capital* for the subject tangible personal property may be *more heavily balanced* toward *debt* than the capital structure of the *healthcare enterprise* that owns or is transacting the subject tangible personal property asset.

In using the *Income Approach*–based *Discounted Net Cash Flow Method*, certain elements of the lease agreement should be used as *guidance* in determining an appropriate *projection period*, including:

1. The *term* of the lease;
2. The *probability that the lease will be renewed*; and
3. The probability that a renewed lease agreement would *include the exact same asset* being leased under the current lease agreement.

In addition, should the lease agreement include a *one dollar buyout provision*, the terminal period tangible personal property asset price should be adjusted to represent *Fair Market Value* and discounted back to the present using an appropriate, *risk-adjusted required rate of return* related to the subject tangible personal property asset.

THE INCOME APPROACH AND TANGIBLE ASSETS

The Income Approach "*is not usually applied to individual items of machinery and equipment unless they are leased.*" This is due to the difficulty in "*determining income that can be directly related to a specific asset, the concern over reliability of income forecasts, and the multitude of variables involved in this*" approach.

Valuing Machinery and Equipment *(Washington, DC: American Society of Appraisers, 2000), pp. 157, 175.*

14.2.2.1.2 Market Approach for Valuing Tangible Personal Property As related to tangible personal property, the *Market Approach* can be briefly summarized as "that approach to value where recent sales and offering prices of similar property are analyzed to arrive at an indication of the most probable selling price of the property being appraised."[50] Similar to the application of the Market Approach–based Guideline Transaction Method to real property, transactional pricing data for comparable tangible personal property asset(s) with homogenous badges of comparability to the subject tangible personal property asset should be identified. This may be achieved by searching new and/or used medical and office equipment dealers, as well as the Internet, for sales or recently sold prices of tangible personal property asset(s) similar to the subject tangible personal property asset(s).[51]

The Market Approach

The approach to value where recent sales and offering prices of similar property are analyzed to arrive at an indication of the most probable selling price of the property being appraised.

Appraising Machinery and Equipment, *edited by John Alico (New York: American Society of Appraisers, 1989), pp. 110–119.*

[50] Robert Svoboda, "Fair Market Value Concepts," in *Appraising Machinery and Equipment* (Washington, DC: American Society of Appraisers, 1989), pp. 110–119.

[51] See Chapter 8, "Valuation Approaches and Methods," for a general discussion of the *Guideline Transaction Method*.

Depending on the characteristics of the comparable tangible personal property asset, for example, condition; date of manufacture; additional/deficient product features; type of sale; or the inclusion/exclusion of the costs of transportation, installation, and assemblage of the asset, an adjustment to the reported transactional price data derived from the market may be required to indicate an asset of similar utility to the subject tangible personal property asset. More consideration should be shown for the transactional pricing data related to those comparable tangible personal property assets with the most homogenous badges of comparability to the subject tangible personal property asset. This adjusted price provides an indication of the Fair Market Value of the tangible personal property asset.[52]

The prices of goods and services change over time, and the valuation date of the appraisal and the comparable market transaction date are most often not the same. Accordingly, the comparable market pricing data may need to be indexed to the valuation date in order to reflect a similar price that would have been paid for the comparable asset as of the valuation date. It is important to note that each type of tangible personal property may experience different levels of inflation, requiring the use of asset specific price indices, for example, medical equipment indices and office equipment indices. This adjustment may be calculated by using price index data compiled in various proprietary databases, such as Marshall & Swift's *Valuation Quarterly*.[53]

14.2.2.1.3 Asset/Cost Approach for Valuing Tangible Personal Property Similar to tangible real property, when valuing tangible personal property using the Asset/Cost Approach, two general metrics may be employed, that is, replacement cost new and reproduction cost new. Replacement cost new is the cost to replace the subject asset with an asset of equal utility, based on current prices as of the valuation date. The reproduction cost new is calculated by applying an appropriate index (or trending factor) to the historical cost of the tangible personal property. This "price indexing" reflects the movement of prices over time and requires price index data such as that provided by Marshall & Swift's *Valuation Quarterly*.[54] The calculation of the reproduction cost new for the subject asset would be calculated as:

$$\text{Re production Cost New} = \frac{\text{Valuation Date Index}}{\text{Acquisition Date Index}} \times \text{Cost of Acquisition}$$

[52] Robert Svoboda, "Fair Market Value Concepts," in *Appraising Machinery and Equipment* (Washington, DC: American Society of Appraisers, 1989), pp. 110–119.
[53] *Marshall Valuation Service* (Los Angeles: Marshall & Swift/Boeckh, LLC, 2013).
[54] Ibid.

As previously mentioned, each type of tangible personal property may experience different levels of inflation, requiring the use of asset-specific price indices, for example, medical equipment indices and office equipment indices, to adjust the historical costs to the present. It should be noted that the market-derived pricing used to determine the replacement cost new for a particular piece of tangible personal property most often includes the required profit margin of the developer of the asset, and the historical cost that is indexed to the valuation date to derive the reproduction cost new typically reflects this profit margin in the historical price paid to acquire the asset. Therefore, the addition of the developer's profit margin to the value derived from either the Replacement Cost Method or the Reproduction Cost Method is typically *not* appropriate when appraising tangible personal property, in contrast to the appraisal of intangible assets that are internally developed by the owner of the asset (as discussed later in this chapter). Also, there is typically no opportunity cost incurred to replace furniture, fixtures, and equipment (FF&E), since most of these assets have established liquid markets, and replacements can be made in a relatively short period of time; however, it should be noted that some specialty equipment may have to be custom made, which may warrant the addition of the lost income of the equipment to the identified direct and indirect costs when appraising the specialty equipment using an Asset/Cost Approach–based valuation method.

Following the determination of the *index price* for the subject tangible personal property, the *economic value* is determined by applying a *devalue percentage* to the *index price* (*reproduction cost new*) to account for *physical deterioration* and various elements of *obsolescence,* that is, *functional*, *technical*, and/or *economic*, based on the *economic useful life* of the subject tangible personal property, the *age* of the subject tangible personal property, the condition of the asset, and the current *capabilities* of similar assets in the market (see Table 14.3).[55] Exhibit 14.3 sets forth an example of the methodology for valuing tangible personal property described earlier.

14.2.2.2 Classification and Valuation of Cash and Investments The *tangible asset* known as *cash*, typically classified as a *financial asset*, is any *medium* of *exchange* that is accepted at *face value*, such as *currency*, *bank checks*, *bank deposits*, or *money orders*. *Cash* is classified on an organization's balance sheet as a current asset, which is an asset that is reasonably expected to be *sold*, *consumed*, *or realized* in cash within an annual period.[56]

[55] *Valuing Machinery and Equipment: The Fundamentals of Appraising Machinery and Technical Assets*, 3rd ed. (e-book) (Washington, DC: The American Society of Appraisers, 2000), chap. 3.

[56] C. Rollin Niswonger and Philip E. Fess, *Accounting Principles*, 12th ed. (Cincinnati: South-Western Publishing, 1977), p. 40.

	A	B	C	D	E	F	G	H	I	J	K	L	
	Type (1)	**Description (2)**	**Location (2)**	**Room (2)**	**Quantity (2)**	**Economic Life (3)**	**Acquisition Date (2)**	**Acquisition Price (2)**	**Reproduction Cost (4)**	**Condition Factor (5)**	**Devaluage Percentage (6)**	**Restated Value (7)**	
1	M	Nicolet Vascular' Vasguard" Arterial Study wl Cart & HP #6940 Printer	Office #1	Ultrasound Room	1	5	9/15/2008	$30,850	$33,574	100%	73.33%	$8,953	1
2	M	Siemens E.Cam #756 Nuclear Camera Signature Series	Office #1	Nuclear Camera Room	1	5	7/15/2009	$242,000	$258,537	100%	59.33%	$105,138	2
3	M	General ElectricCase" Stress System w/Marquette #2000 Treadmill	Office #1	Treadmill Room	1	8	6/26/2007	$13,395	$15,305	100%	62.40%	$5,755	3
4	M	General Electric Pro Speed Tomography	Office #1	Computer Tomography Room	1	7	9/8/2004	$115,000	$153,148	100%	85.00%	$22,972	4
5	M	Philips #IE 33 #100641 Ultrasound w/ Select Configuration	Office #1	Cardiovascular Testing	1	5	6/15/2009	$124,307	$131,771	100%	62.83%	$48,975	5
6	O	Panasonic DP-8060 Office Copier	Office #2	Mail Room	1	5	4/15/2008	$11,993	$13,067	100%	76.83%	$3,027	6
7	O	Panasonic #DP-C405 Office Copier	Office #2	Business Area	1	5	4/15/2008	$12,995	$14,159	100%	76.83%	$3,280	7
8	**Total**				**7**			**$550,540**	**$619,561**			**$198,101**	8
9	**Weighted Average Economic Useful Life (8)**											**5.24**	9

Notes:

1 Classified as Medical Equipment (M) or Office Equipment (O).

2 The acquisition cost and date were utilized to value these line items using the cost approach.

3 *Estimated Useful Lives of Depreciable Hospital Assets: Revised 2008 Edition*, by Health Data Management Group.

4 Equals the quotient of the current index price for type M or O (Column A) and the index at the Acquisition Date (Column G) times the Acquisition Price (Column H). Price index data from Marshall Valuation Service Quarterly Costs Indexes.

5 The Condition Factor accounts for the various elements of obsolescence, i.e., functional, technological, and economic, attributable to the subject tangible personal property asset, and is determined by the VALUATOR based on the following table:

Condition Factor Adjustment	Asset Condition
120%	Excellent
110%	Very Good
100%	Good
90%	Fair
80%	Usable
70%	Poor
5%	Scrap

6 Devaluation percentage represents the physical deterioration inherent in the subject tangible personal property asset and is calcluated based on the Economic Life (Column F) and the Acquisition Date (Column G) and the valuation date (9/30/2012).

7 The Restated Value equals the Indexed Price (Column I) multiplied by the Condition Factor (Column J) with that product then multiplied by the difference of 1 and the Devaluage Percentage (Column K).

8 Equals the weighted average Economic Life (Column F), which is weighted based on Restated Value (Column L) less the difference between the valuation date (9/30/2012) and the Acquisition Date (Column G).

EXHIBIT 14.3 Fair Market Value of Tangible Personal Property Using the Asset/Cost Approach

An entity may have *cash in excess* of the amount currently required by the operations of the business but that may be needed to fund *working capital requirements* in the near future—*usually within one year.* Furthermore, the business may choose to invest this *excess cash* in order to generate a small return, instead of letting it sit idle in the bank. This type of investment is commonly referred to as a *short-term* or *temporary* investment, and would also be classified as a *current asset* to be included in *working capital* calculations.[57] However, an enterprise may purchase *financial assets* with the intention of holding them as an investment for a period longer than one year and not as a ready source of cash. Under these circumstances, the *tangible asset* would be considered a *long-term investment* and should not be considered a *current asset* or part of *working capital.*[58]

Some business enterprises may have an *excessive* amount of *cash* and *short-term investments* than would reasonably be necessary to fund any future *working capital requirements* of the business operations. In this scenario, an analysis should be made to determine whether the *excess cash* should be classified as a *nonoperating* asset that should be excluded from *Income Approach–based valuation methods* selected to calculate the value of the *operating portion* of the subject enterprise. Any *cash* classified as a *nonoperating asset* (including any other tangible personal property classified as a nonoperating asset), having been adjusted out before the implementation of the specific *Income Approach–based valuation method* that was selected, would subsequently be added back to the calculated results of the *operating portion* of the subject enterprise, or, in the alternative, the *nonoperating asset* could be excluded from the analysis altogether.

In addition, should the *scope of the engagement* call for the *exclusion of certain working capital items*, for example, *cash* and *accounts receivable*, the valuation analyst could either remove their consideration from the calculation of *historical working capital* when performing a valuation analysis using an *Income Approach*–based valuation method, or the valuation analyst could subtract the *economic value* of the specified working capital items from the calculated value of the subject enterprise in its entirety, which would have been calculated based on the *historical working capital* without any exclusions, as previously discussed in Section 8.1.1.6.1, "Working Capital Requirements," in Chapter 8, "Valuation Approaches and Methods." It should be noted that *reducing* the *historical working capital* creates an *increase* in the amount of *working capital investment*

[57] Ibid., p. 471.

[58] Ibid., pp. 472–473.

needed to fund operations of the subject enterprise in the future, resulting in a *decrease in cash flow* in the period that the increased working capital investment is made. Also, in the event the *cash* and *accounts receivable* are to be deducted from the end result of the valuation analysis, an appropriate adjustment should be made to reflect the *required rate of return* an investor in the subject enterprise would demand for the *working capital investment*.

As *cash* can be defined as "any medium of exchange that is accepted at face value," the *Fair Market Value* of *cash* is, accordingly, the *face value* of that amount of *cash*. Similarly, *short-term investments* are financial assets that can quickly be exchanged for *cash*. Therefore, the calculation of the value of the short-term investment is the *amount of cash* that the short-term investment may be *exchanged* for, *less* any *fees or expenses* incurred in this conversion.

It should be noted that *long-term investments* may be valued using the *Market Approach–based Sales Comparison Method* or, if an *established, liquid market* does not exist for the *long-term investment*, the *Income Approach–based Discounted Net Cash Flow Method*. Similar to *cash* and *short-term investments*, it is important to determine whether the *long-term investments* carried by the subject entity are *operating assets* or *nonoperating assets* and subject to exclusion from consideration in a valuation of the *subject entity as a going concern*.

14.2.2.3 Classification and Valuation of Accounts Receivable When a subject enterprise bills for services but has *not yet collected payment*, a *tangible asset* known as *Accounts Receivable* is created.[59] Most often, entities that compile their financial statements on a *cash basis* (in contrast to an *accrual basis*) do not report accounts receivable on their balance sheet since this asset represents revenue that has not yet been collected as cash. The *economic value* of the *accounts receivable* will not (except in extraordinary circumstances) equal their face value, because:

1. The stated amount of accounts receivable may represent charges that the entity has contractually agreed to reduce through a series of discounts/allowances to the benefit of the payor and therefore does not reflect the actual amount expected to be received;
2. Revenue has yet to be collected;
3. There may be additional costs associated with collection in order to convert the receivable into cash;

[59] Ibid., p. 40.

4. The probability that 100 percent of the receivable may not be collected, resulting in a credit and collection loss; and
5. Since the time associated with collecting the funds may be several months into the future, an adjustment for the time value of money may be required.

It should be noted that since *accounts receivable* are expected to be collected within one year, they are classified as *current assets* and would be included in *working capital* calculations for determining the value of an entity using an *Income Approach–based valuation method*. However, some engagements may specify that the *accounts receivable be excluded* from the analysis. In these cases, *future working capital projections* would need to take into account the *deficiency* in requisite cash and/or accounts receivable, when performing the analysis using an *Income Approach–based valuation method,* as mentioned in Section 14.2.2.2, "Classification and Valuation of Cash and Investments," and in Section 8.1.1.6.1, "Working Capital Requirements," in Chapter 8, "Valuation Approaches and Methods."

Accounts Receivable may be valued using elements of both the *Income Approach* and the *Market Approach*. For healthcare enterprises, the *Schedule of Aged Accounts Receivable*, which details payment amounts outstanding, as well as the number of days they have been outstanding, most often reports the *gross charges* before *contractual based adjustments* in accordance with certain payor contracts. Accordingly, an *adjustment* is often made to reflect the expected amount of *collectable accounts receivable*.

In addition to the adjustment for contractual allowances, a deduction should be applied to the *collectable accounts receivable* to reflect the *cost of collection*, which can range from 5 percent for receivables less than 90 days old up to 30 percent paid for commissions to collection agencies. The *collectible accounts receivable*, adjusted for the *cost of collection*, should further be discounted for the *time value of money* to reflect the *anticipated* number of days it will take to collect the receivable, based on the *average age* of the accounts receivable. The discount rate applied to the future adjusted receivable amount should be an appropriate *risk-adjusted required rate of return* related to an *investment* in the accounts receivable, typically slightly above the *bank prime rate*. Also, it should be noted that the *accounts receivable* are expected to be collected *evenly* throughout each "*age bucket*," and therefore the *mid-period* of each bucket should be used when discounting the *future collectable receivables* to the *valuation date*. Exhibit 14.4 sets forth the methodology for valuing accounts receivable discussed earlier.

			A	B	C	D	E	F	G	H	I	J	K	L	M	N	
		Notes	0 - 30 Days		31–60 Days		61–90 Days		91–120 Days		121–150 Days		> 150 Days		Total		
1	**Gross Accounts Receivable**	(1)	$1,000,000	57.47%	$350,000	20.11%	$75,000	4.31%	$30,000	1.72%	$35,000	2.01%	$250,000	14.37%	**$1,740,000**	100.00%	1
2	Less: Collectable Amount Adjustment	(2)	($650,000)		($227,500)		($48,750)		($19,500)		($22,750)		($162,500)		**($1,131,000)**		2
3	**Collectible Accounts Receivable**	(3)	$350,000		$122,500		$26,250		$10,500		$12,250		$87,500		**$609,000**		3
4	Less: Cost of Collection	(4)	($17,500)		($6,125)		($1,313)		($3,150)		($3,675)		($26,250)		**($58,013)**		4
5	**Net Subtotal**	(5)	$332,500	60.35%	$116,375	21.12%	$24,938	4.53%	$7,350	1.33%	$8,575	1.56%	$61,250	11.12%	**$550,988**	100.00%	5
6	Percent of Total	(6)	60.35%		21.12%		4.53%		1.33%		1.56%		11.12%		100.00%		6
7	Days Outstanding	(7)	9.05		39.50		63.39		91.40		122.10		166.67		42.13		7
8	**Present Value Adjustment**	(8)	($309)		($471)		($162)		($69)		($107)		($1,040)		($2,158)		8
9	**Indicated Value of Accounts Receivable, Net**	(9)	$332,191		$115,904		$24,776		$7,281		$8,468		$60,210		**$548,830**		9
10	**Indicated Value of Accounts Receivable, Net (Rounded to)**														**$549,000**		10

Notes:

1 Source: Aged Accounts Receivables as of VALUATION DATE.

2 CONSULTANT calcuated a collection rate for the SUBJECT ENTITY utilizing the trailing tweleve months collections to gross charges of 35%, which is in line with industry rates.

3 Equals Line 1 plus Line 2.

4 Adjustment made for projected claims resolution costs of receivables (0-90 days = 5%, 91+ days = 30%; average collection agency cost. Source: American Collectors Association).

5 Equals Line 3 plus Line 4.

6 Equals the percentage of the Net Subtotal (Column M, Line 5).

7 Equals the weighted average days outstanding based on the midpoint of the Age Category and the Percent of Total (Line 6) (Accounts receivable greater than 150 days were considered to be 150 days old).

8 Adjustment made for the Time Value of Money utilizing the number of days outstanding (42.13) and a 3.75% discount rate.
3.75% equals the prime rate of 3.25% as of the VALUATION DATE, plus a premium over the prime rate equal to 50 basis points.
Sources: Federal Reserve Statistical Release as of the VALUATION DATE and American Capital (probable premium over prime rate: http://www.americancapital.com).

9 Equals Line 5 plus Line 8.

EXHIBIT 14.4 Fair Market Value of Accounts Receivable

Factoid

Accrual accounting methods match revenues and expenses to the time period in which they occurred, while cash-based accounting methods record revenues and expenses when they are received or paid.

Understanding Business Valuation: Practical Guide to Valuing Small to Medium Sized Businesses, *by Gary R. Trugman (New York: American Institute of Certified Public Accountants, 2008), p. 633.*

Note that some entities that use *accrual-based accounting methods* compile their financial statements in accordance with *accounting rules* that call for *allowances for uncollectable receivables* (also referred to as *bad debt*). In the case where *allowances* are reported, the valuation analyst may review the *reported allowance amounts* against *actual amounts* written off as bad debt expense in prior periods to assess the reliability of the allowance assumption before applying costs to collect and *time value of money* adjustments.

14.2.2.4 Classification and Valuation of Supplies and Drugs: Consumables and Inventory Held for Sale *Supplies and drugs* that are *consumed* in their use by the subject enterprise (also known as *consumables*) and therefore *do not directly generate revenue* can be classified as *tangible personal property.* While they are not separately sold, these consumables are a *necessary asset* to support the *revenue stream of the subject enterprise*. *Supplies and drugs* that are consumable include *office supplies*, for example, paper, pens, and pencils, as well as certain *medical supplies*, such as localized analgesics for facilitating certain examinations, latex gloves, and cotton swabs.

In contrast to *supplies and drugs* that are *consumables*, those s*upplies and drugs* that are *inventory held for sale* compose a *tangible personal property asset* that directly generates revenue for the subject enterprise.[60] This *held for sale inventory* may include:

1. *Pharmaceuticals*, for example, cancer treatment and infusion therapy drugs;
2. *Marker and identification isotopes* for certain diagnostic procedures;
3. *Antigens and serums*;
4. *Patient prescription drugs*;

[60] Ibid., p. 187.

5. *Prosthetics*, *braces*, and other related *durable medical equipment* (DME);
6. *Medical devices*, which may range from implantable cardiac devices or orthopedic joint replacement to hearing aids;
7. *Eyeglasses and frames*; and
8. *Dental appliances*.

It should be noted that some entities do not state *supplies* and/or *inventories* on their historical balance sheet. With the movement to just-in-time (JIT) inventory supply side policies in healthcare, the conversion of *supplies and drugs* into *cash* is expected to occur *within one year*—either by generating revenue through consumption in the operations or by their direct sale. Accordingly, these *tangible personal property assets* are classified as *current assets* and should be included as part of *working capital*. However, similar to *cash* and *accounts receivable*, an engagement may call for the *exclusion* of *supplies* and/or *inventory*, which would then require the valuation analyst to take into account the deficiency in requisite *supplies* and/or *inventory* needed to support the operations of the enterprise, in forecasting *future working capital projections* when using an *Income Approach–based valuation method*.

Supplies and drugs that are considered *consumables* are often not accurately accounted for on the balance sheet of a healthcare enterprise. As a *proxy* for a *physical count* of the consumables, which may not be easily ascertainable, due to their daily use and reorder, an estimate based on the reported amount of *consumables expense* from the income statement, for example, *Supplies and Drugs Expense*, *Medical Supplies Expense*, may be used to determine the *Fair Market Value* of supplies and drugs. The reported amount, which is typically for an *annual* or *quarterly* period, should be converted into an *expense per day*. This *per day expense* for the supplies and the drugs can be converted into an indication of the *Fair Market Value* of

Factoid

In 2010, the U.S. DME market was approximately $26 billion. With an estimated annual growth rate of 6 percent, it is expected to reach $31 billion by 2013.

"Durable Medical Equipment: U.S. Market Size, Segments, Growth and Trends," Research and Market, *2nd ed., http://www.researchandmarkets.com/reports/1598428/durable_medical_equipment_u_s_market_size (accessed September 7, 2012).*

the supplies and drugs using the *number of days of supplies and drugs* the subject entity maintains for operations, as follows:

$$\text{FMV Supplies} = \frac{\text{Yearly Supply Expense}}{365 \text{ days}} \times (\text{Number of Days of Supplies})$$

As the *age* of the supplies and/or drugs increases, the risk of incurring various elements of *obsolescence* increases, for example, a new and/or higher-quality supply or drug becoming available, and any supply or drug determined to be completely obsolete should be excluded from the analysis. In addition, for certain types of supplies and/or drugs, such as *radioisotopes* used for nuclear imaging or *blood supplies* used for transfusions, it is important that the *number of days of supplies on hand*, used in the *Fair Market Value* calculation, should not exceed the short *shelf life* for these assets.

The *transferability* of these supplies and drugs should also be determined in an analysis of *Fair Market Value*. Certain medicines and drugs may only be legally used by healthcare professionals who are registered with the *Drug Enforcement Agency*. Under *Fair Market Value*, the hypothetical willing buyer must also be registered with the Drug Enforcement Agency in order for those medicines and drugs to hold value.

Supplies and drugs that are *held for sale*, such as *durable medical equipment*, usually have a *longer turnover cycle* than *consumables* and, therefore, the *Replacement Cost Method* used for *consumables* may *not* apply to *inventory held for sale*. Typically, a *Market Approach-based valuation method*, such as the *Sales Comparison Method*, may be more appropriate for these assets, since they may have a more *robust secondary market*.

Similar to other types of *tangible personal property*, the inventory amounts reported on a balance sheet are most often based on the *accounting methods and tax rules*, for example, *LIFO* (last in first out) or *FIFO* (first in first out), in contrast to *financial economic concepts*, and may vary *significantly* from *Fair Market Value*.

14.2.2.5 Classification and Valuation of Furniture, Fixtures, and Equipment (FF&E) Those *tangible personal property assets* known as furniture, fixtures, and equipment (FF&E) include *medical technology and equipment*, as well as *office equipment* and *furniture*. *Trade Fixtures*, for example, articles *fixed* or *attached to the real estate* to conduct the subject entity's business, may also be considered FF&E, so long as the *removal* inflicts *no material damage* to the real estate, which circumstance is defined and enforced either by contract terms or with some statutory variability by state law.[61] As mentioned

[61] Larry L. Perdue, "Fixtures: Realty or Personality?" *The M&E Appraiser* (Spring 1989). Reprinted in *Selected Articles from the Machinery and Equipment Appraiser Journal 1984–1996*, American Society of Appraisers.

earlier, the *use* or purpose of the trade fixture is a determinant in its classification as *personal* property, in contrast to *real* property.

FF&E has been traditionally stated on balance sheets at *historical cost* subject to *accounting depreciation*, in accordance with accounting methods and tax rules, for example, *straight line, double declining balance*, which are most often based on age alone. In contrast to *accounting depreciation*, *economic depreciation* consists of *physical deterioration* and various measures of *obsolescence*. This *variance in depreciation* (between accounting and economic) may cause the *Fair Market Value* of the FF&E to be *substantially different* from the amount reported in the historical financial statements.

In addition, should the *scope of the engagement* call for the *exclusion* of certain FF&E that are necessary to produce the revenue stream of the subject enterprise, the forecast of *future net economic benefit*, used in an *Income Approach–based valuation method*, would need to take into account the *requisite additional capital expenditures* required to *replace* the FF&E being excluded.

As previously discussed, *tangible personal property*, known as *furniture, fixtures, and equipment*, may be appraised using any one of the three basic valuation approaches, that is, the *Income, Market, or Asset/Cost*. However, before an appraisal of FF&E can be developed, an accurate schedule of the FF&E should be created. While many healthcare enterprises maintain *depreciation schedules* for *tax accounting purposes*, the level of detail included in these schedules *may not be sufficient* to perform an appraisal. At a minimum, the following information should be gathered:

1. Description of the asset;
2. Manufacturer and model;
3. Serial number and asset tag;
4. Date of acquisition;
5. Cost of acquisition;
6. Maintenance records;
7. Utilization logs;
8. Lease agreements; and
9. Item location.

A *site visit* of the location where the tangible personal property is stored is warranted to observe the *condition of each item*. During the site visit, it may be useful to photograph each piece of tangible personal property in order to obtain a *visual record* of the items to be appraised.

When using the *Reproduction Cost Method*, as set forth in Section 14.2.2.1.3, "Asset/Cost Approach for Valuing Tangible Personal Property," it may be useful to determine the *date* and *cost of acquisition* for each piece of tangible personal property. This information may be included

in the *general ledger* and/or *depreciation schedule*, as well as in the *original invoices* or *purchase orders*, and may be useful in determining the *date* and *cost of acquisition* for each piece of FF&E. Usually, the *tax preparer*, who also puts together the *depreciation schedule* for *tax accounting purposes*, would be in possession of the original invoices and/or purchase order records. Also, information pertaining to the *condition of the asset* is often found in *applicable maintenance records*, which may be maintained on the premises or should be available from any *third-party maintenance contractor*, if the subject asset is covered by a service agreement. Similarly, *utilization logs* are maintained for certain equipment, for example, CT imagers, which measure their *useful economic life* in hours or number of uses. This data is useful in the determination of depreciation, that is, *physical deterioration*, *functional/technological obsolescence*, *and economic obsolescence*, applicable to the *Reproduction Cost New* calculated for the subject FF&E.

In addition to the *Reproduction Cost Method,* the appraisal of FF&E can be performed using the *Replacement Cost Method*. Under this method, the valuation analyst would determine the value of the subject asset by researching the *current costs* to acquire an asset that provides the same or similar level of utility as that of the subject asset (as previously discussed in Section 14.2.2.1.3, "Asset/Cost Approach for Valuing Tangible Personal Property"). Then applicable *depreciation*, that is, *physical deterioration, functional/technological obsolescence, and economic obsolescence*, based on the variance between the utility of the *replacement proxy* and the utility of the subject asset, would be deducted to derive an indication of value for the subject asset. It should be noted that in the event that the *replacement proxy* is based on *used* prices for comparable FF&E, the depreciation deduction should be less than what the deduction would be if the *replacement proxy* was based on *new* prices for comparable FF&E, all else being equal.

14.2.2.6 Classification and Valuation of Leasehold Improvements The *tangible personal property assets* known as *leasehold improvements* consist of *improvements* made to real estate by a *lessee* and are therefore "*owned*" by the lessee. Note that as to the definition of ownership, the lessee *maintains all economic rights* (including depreciation) related to the *leasehold improvements* only *for the term of the lease*.[62] However, as *leasehold improvements* are *permanently fixed improvements* to the real property, they *revert* to the *lessor's real property interest* at the end of the lease term.[63] Similar to FF&E, the financial reporting

[62] Internal Revenue Service, "Publication 946: How to Depreciate Property," Department of the Treasury, 2011, p. 4.

[63] "2012 US Master Tax Guide," CCH (Chicago: Walters Kluwer Business, 2011), para. 1234.

for *leasehold improvements* traditionally requires the asset to be stated on the balance sheet at *historical cost* and, furthermore, relies on *accounting depreciation* methods to record any devaluage that would occur in the asset over time. Accordingly, the *economic FMV* of the *leasehold improvement* may be substantially different than the amount reported on the balance sheet.

As *leasehold improvements* are not typically *leased* or *sold*, the *Income Approach* and the *Market Approach*, as previously discussed in Sections 14.2.2.1.1, "Income Approach for Valuing Tangible Personal Property," and 14.2.2.1.2, "Market Approach for Valuing Tangible Personal Property," may have limited applicability to a *Fair Market Value* appraisal of these assets. However, the *construction costs* and *date of construction* for the *leasehold improvements* should be readily available and may serve as the *date* and *cost of acquisition* for these *tangible personal property assets* to be used in an *Asset/Cost Approach–based valuation method*, for example, the *Trending Method*. The application of the *Trending Method* to value *leasehold improvements* should use *asset-specific indices* to derive the *reproduction cost new* (*index price*) based on changes in *applicable real property* related indices, for example, *medical office buildings* or *hospitals*, in contrast to the indices used for tangible personal property, which are usually either *medical* or *office equipment* related.

Leasehold improvements created for healthcare properties may be *task specific*, more so than other *tangible personal property*, and may be subject to *functional obsolescence*, due to their specific purpose, and *technological obsolescence* when new technology renders the old technology defunct.[64] The *resale value* (*reversion value*) of a property may be *negatively affected* by the costs associated with *preparing the real property for another use*.[65] For example, a physician's office with leasehold improvements, designed so that the facility is equipped to provide *diagnostic radiology services*, may present a *negative reversion* to the value of the property, due to factors as follows:

1. The exam rooms are *small* and have *ubiquitous plumbing fixtures*, which may not meet applicable building standards for other types of real property dwellings, for example, apartments;
2. The radiology room will have walls, doors, and a ceiling that are *lined with lead*, which local laws may classify as *hazardous waste*, resulting in a far greater cost to remove than would otherwise be the case; and
3. While the enterprise's radiology equipment may be donated and claimed as a tax credit, the *cost of removal* may greater than any potential tax credit that is received.

---

[64] Jeffrey D. Fisher and Robert S. Martin, *Income Property Valuation* (Chicago: Dearborn Financial Publishing, 1994), p. 209.

[65] Maruice A. Unger and Ronald W. Melicher, *Real Estate Finance*, 2nd ed. (Cincinnati, OH: South-Western Publishing, 1984), p. 99.

Functional Obsolescence

The loss of utility resulting from the inefficiencies of the asset, as compared to a more efficient or less costly replacement asset.

Valuing Machinery and Equipment: The Fundamentals of Appraising Machinery and Technical Assets, *3rd ed. (Washington DC: American Society of Appraisers, 2000), p. 72.*

Technological Obsolescence

The loss of utility resulting from the differences in capabilities between the old asset and the replacement asset.

Valuing Machinery and Equipment: The Fundamentals of Appraising Machinery and Technical Assets, *3rd ed. (Washington DC: American Society of Appraisers, 2000), p. 72.*

14.2.2.7 Classification and Valuation of Litigation Awards and Liquidated Damages *Litigation awards*, which are for cases that have already settled, can be in the form of a *tangible economic benefit*, such as *cash*, or an *intangible economic benefit*, for example, *upholding a noncompete dispute. Unsettled legal claims* that present the *potential* for future litigation awards are considered a contingent asset. It should be noted that *litigation awards* and *contingent claims* may be an asset or a liability to the subject enterprise, depending on whether the net economic benefit *accrues to* or is *incurred by* the organization.

The valuation of *litigation awards* and *liquidated damages* most often would entail developing the amounts and timing of the known future *net economic benefits* and discounting them back to the present at an *appropriate risk-adjusted required rate of return*, typically a short-term risk-free rate that encompasses the *time value of money* and maybe a small risk spread to account for any counterparty risk, since the amount of a litigation award is set by legal proceedings. This methodology would be similar to that of valuing *accounts receivable*, discussed in Section 14.2.2.3, "Classification and Valuation of Accounts Receivable."

In addition to the classification and valuation of healthcare-related *tangible* assets, this chapter also sets forth the classification and valuation of healthcare-related *intangible* assets.

14.3 CURRENT AND FUTURE TRENDS REGARDING INTANGIBLE ASSETS UNDER THE FOUR PILLARS: REGULATORY, REIMBURSEMENT, COMPETITION, AND TECHNOLOGY

The increase in *hospital-physician integration* and *transactional activity* during the last decade has led to *enhanced regulatory scrutiny* from the *Office of Inspector General* (OIG), the *Internal Revenue Service* (IRS), and the *Department of Justice* (DOJ), through such initiatives as the *Fraud Enforcement and Recovery Act* (FERA), the *Healthcare Fraud Prevention and Enforcement Action Team* (HEAT) and in certain provisions of the *Patient Protection and Affordable Care Act* (ACA) related to the *legal permissibility* of acquiring *healthcare enterprises, assets, and services*. Significant valuation issues have arisen from these regulatory concerns, including:

1. Establishing the very *existence* of certain *tangible* and *intangible* assets;
2. Whether (and under what circumstances) it is *legally permissible* for hospitals to *acquire* those assets;
3. The selection of the applicable *premise of value*; and
4. The appropriateness of certain *valuation approaches and methods*, within the selected *premise of value*, in appraising the *Fair Market Value* of these property interests.[66]

The *quality of reimbursement yield* that the subject enterprise *receives* for the provision of certain clinical services is often related to those *intangible assets* that the enterprise has in place. For example, those enterprises that use *electronic medical records* may qualify for certain *meaningful use payments* if they meet the applicable requirements.[67] In addition, an enterprise may receive different reimbursement rates for those services provided by various members of its *trained and assembled workforce*, that is, *mid-level providers,* which perform a service *in-lieu* of a physician and usually receive less reimbursement for providing the same service that is performed *incident-to* a *supervising physician*.[68]

---

[66] For more information on these topics, including those elements that the valuation analyst should consider in order to determine that the *intangible asset* being valued *does not reflect* a disguised payment for *referrals,* see Chapter 3, "Regulatory Environment."

[67] See Section 5.2.2, "Electronic Health Records," in Chapter 5 "Technology," for further discussion of this topic.

[68] See Chapter 2, "Reimbursement Environment," for a further discussion of this topic.

Taking the two examples provided earlier, whether the subject enterprise uses *electronic medical records* and consists of a *diverse workforce* will likely significantly affect the enterprise's competitive position in the current shift toward episodes of care and value-based reimbursement initiatives leading to *Accountable Care Organizations* and other integrated models of provider relationships and affiliations. As discussed in Chapter 4, "Competition," Chapter 6, "Healthcare Reform," and Chapter 13, "The Valuation of Other Healthcare-Related Enterprises," those enterprises that are composed of a *large workforce base* and that have an *electronic medical record* system already in place may be in a positive position to participate in these emerging provider organization models, which may allow them to expand their *geographic reach* and *types of services* offered.

In addition to technological advancements related to *electronic medical records* and other *process technologies,* as discussed in Chapter 5, "Technology," advancements in *clinical technology* are important *drivers* of economic value that may be attributed to certain intangible assets of an enterprise. As new technological *innovations* provide new *medical equipment* and *services*, those individuals and enterprises that hold the *market entrance barrier* that provide *access* to the *new technologies* (e.g., Certificates of Need) and the *appropriate skilled personnel* (e.g., a trained and assembled workforce) with the *expertise* and *credentials* (e.g., professional licenses and certifications) to operate the new technologies will likely have a *competitive advantage* over providers and enterprises unfamiliar with, or unprepared for, the technological developments. In addition, new technologies developed by healthcare enterprises and individuals *directly create new intangible assets* in the form of *intellectual property*, which can then be used to *generate* a net economic benefit *directly, through licensing*, or *indirectly*, through growth resulting from the *use of new or higher quality services*.

14.4 CLASSIFICATION AND VALUATION OF INTANGIBLE ASSETS

While there are many definitions describing specifically what an "*intangible asset*" is and is not, many of these definitions are *narrow* in *scope* and were created for a *specific purpose*. For example, past *Generally Accepted Accounting Principles* (*GAAP*) pronouncements, which provide guidance in valuing assets for financial reporting purposes, define *all residual value* of a business enterprise *in excess of* the value of the tangible assets of the business enterprise as *goodwill*, with no distinction between goodwill and

Goodwill

An intangible asset arising as a result of name, reputation, customer loyalty, location, products, and similar factors not separately identified.

Understanding Business Valuation: Practical Guide to Valuing Small to Medium Sized Businesses, *by Gary R. Trugman (New York: American Institute of Certified Public Accountants, 2008), p. 865.*

other intangible assets.[69] In contrast to an *accounting perspective*, intangible assets, from an *economic* and *valuation* perspective, should exhibit certain qualifications. Robert Reilly and Robert Schweihs suggest that intangible assets:

1. *Should be subject to specific identification and should have a recognizable description;*
2. *Should be subject to legal existence and legal protection;*
3. *Should be subject to the right of private ownership, and the private ownership should be legally transferable;*
4. *Should have some tangible evidence or manifestation of [their] existence;*
5. *Should have been created or have come into existence at an identifiable time or as the result of an identifiable event; and*
6. *Should be subject to being destroyed or to a termination of existence at an identifiable time or as the result of an identifiable event.*[70]

In exhibiting the earlier qualifications, an intangible asset represents a *legal bundle of rights* that conveys an *economic benefit* to its *owner* and can be classified into two broad categories: (1) *intangible real property* and (2) *intangible personal property.*

In a manner similar to that of *tangible assets*, the valuation of *intangible* assets is predicated on the economic *Principle of Utility*, derived from the

[69] Patrick R. Delaney, Barry J. Epstein, Ralph Nach, and Susan Weiss Budak, *Interpretation and Application of Generally Accepted Accounting Principles—2003* (Hoboken, NJ: John Wiley & Sons, 2003), p. 389.

[70] Robert Reilly and Robert Schweihs, *Valuing Intangible Assets* (New York: McGraw-Hill, 1999), p. 5.

economic *Principle of Scarcity* and bounded by the economic *Principle of Substitution.*[71]

As previously discussed, a significant majority of healthcare transactions *do not* encompass the *simple acquisition* of a business enterprise, in its entirety, *as a going concern.* Rather, many healthcare transactions present *multiple*, *interrelated*, *transactional* elements and a higher degree of *complexity* than are typically addressed within the scope of a more straightforward *business enterprise in use as a going-concern* valuation assignment. It is within these more complex transactions that the specific *identification*, *classification*, and *valuation* of separately identifiable and distinguishable intangible assets have become a more significant focus of an appraisal assignment.

Methods within each of the three general approaches to valuation, that is, *Income, Market, and Asset/Cost,* should be *considered* when the engagement calls for the valuation of *intangible assets.*[72] Regardless of the *valuation method* chosen for a particular engagement, the valuation of *intangible assets* requires that the valuation analyst perform a sufficient level of *due diligence* to appropriately *identify* the *existence of the intangible*, as well as to *project* the *future net economic benefit* to be derived from ownership of the subject intangible asset(s). Typically, this would entail gathering related information, including the following considerations:

1. The *historical costs* expended in creating the subject intangible asset, for example, *legal, operational, opportunity*;
2. The level of *net economic benefit* accruing to the existing owners; and
3. The *highest and best use* of the subject intangible asset based on the *current use* of the subject intangible asset and the *market potential* for other uses of the subject intangible asset.[73]

Recall that the *Standard of Value* defines the type of value to be determined and is often described as answering the question "*Value to whom?*" Analogous to valuation assignments related to tangible assets, it is also

[71] See Section 14.2, "Classification and Valuation of Tangible Assets," for a discussion of the economic principles guiding the valuation of tangible assets, and see Section 7.1.2, "Utility Theory," Section 7.1.1, "Scarcity," and Section 7.1.2.1, "The Principle of Substitution," in Chapter 7, "Basic Valuation Tenets," for further discussion of each applicable economic principle.

[72] See Chapter 8, "Valuation Approaches and Methods," for further discussion of the three general approaches to valuation.

[73] Robert F. Reilly, "Cost Approach of Health Care Entity Intangible Asset Valuation," *Journal of Health Care Finance* 39, no. 2 (Winter 2012): 7–10.

imperative to *appropriately define* (and have all parties agree to) the *Standard of Value* for assignments regarding the valuation of intangible assets.[74] Typically, for the valuation of healthcare-related enterprises, assets, and services, the standard of *Fair Market Value* is used.[75]

As set forth in the *International Glossary of Business Valuation Terms*, promulgated by the American Society of Appraisers (ASA), the standard of *Fair Market Value* is defined as:

> *The price, expressed in terms of cash equivalents, at which property would change hands between a hypothetical willing and able buyer and a hypothetical willing and able seller, acting at arm['s] length in an open and unrestricted market, when neither is under compulsion to buy or sell and when both have reasonable knowledge of relevant facts.*[76]

As it is used in the healthcare industry, the definition of *Fair Market Value* has been further established through several channels, including:

1. Federal and state legislation;
2. Pronouncements of regulatory and administrative agencies that monitor the compliance of various financial arrangements between healthcare entities; and
3. Relevant case law.

Specifically, the general definition of *Fair Market Value*, as it is used within the healthcare industry, requires that the determination of FMV must not take into account the *volume* or *value* of any *referrals* or other business that the parties may otherwise be in position to generate for the other, either *directly* or *indirectly.* This prohibition on the payment of consideration for referrals is often referred to as the *Volume or Value Standard*, and it governs the vast majority of healthcare-related transactions, including those involving intangible assets.[77]

---

[74] See Section 14.2, "Classification and Valuation of Tangible Assets," or Section 7.2.1, "Standard of Value," in Chapter 7, "Basic Valuation Tenets," for further discussion of *Standards of Value*.

[75] As set forth in Section 7.2.1.1.1, "Requirement for Fair Market Value in the Healthcare Industry," in Chapter 7, "Basic Valuation Tenets."

[76] American Society of Appraisers, "ASA Business Valuation Standards," November 2009, http://www.appraisers.org/Libraries/BV_Discipline/2009_BV_Standards.sflb.ashx (accessed February 25, 2013).

[77] See Section 7.2.1.1, "Fair Market Value," in Chapter 7, "Basic Valuation Tenets," for further discussion of the standard of *Fair Market Value*.

The Premise of Value, which further defines the Standard of Value, within the "the most likely set of transactional circumstances that may be applicable to the subject valuation; e.g., going concern, liquidation," and answers the question "Value under what further defining circumstances?" should be determined at the outset of the engagement.[78]

Due to the various types of *distinct*, *intangible assets*, the future *net economic benefit* to be derived from each one is *not homogenous*. For example, for some intangible assets a *revenue stream* that is *directly* related to that specific intangible asset can be *quantified* and will form the basis for the *economic value* attributable to the *net economic benefit* to be derived from ownership of the intangible asset, for example, a *leasehold interest*. However, many intangible assets will not *directly* produce a *revenue stream* but instead will allow their owner the ability to *reduce or avoid* an *economic operating expense* and/or *economic capital expense*, for example, *development of a trained and assembled workforce*. These *avoided costs*, quantified and projected in a similar manner to a *projected revenue stream*, form the basis for determining the *expected utility* to be derived from the ownership of the subject intangible asset.

Certain intangible assets may not possess the *level of detail and information* necessary to *directly* measure a *revenue stream* or an *avoided cost*. These may require the use of *market comparable* transactional data, with *homogenous badges of comparability* to the subject intangible asset, in order to derive an indication of their value. In addition, *Asset/Cost Approach–based valuation methods* can be used to determine the value of a subject intangible asset, assuming the availability of relevant data to quantify the amount of expenditure incurred historically to develop the subject intangible asset or the cost to replace it with one that provides a similar level of

Avoided Costs

A quantifiable amount of a future necessary economic operating expense that a purchaser will not have to pay on purchasing certain intangible assets, that is, a trained and assembled workforce.

[78] Richard Rickert, "The Principles and Concepts of Valuation: Theory of Utility and Value, Value Influences, and Value Concepts," in *Appraisal and Valuation: An Interdisciplinary Approach, Volume I* (Washington, DC: American Society of Appraisers, 1987), pp. 6–7. See Section 14.2, "Classification and Valuation of Tangible Assets," as well as Section 7.2.2, "Premise of Value," in Chapter 7, "Basic Valuation Tenets," for a further discussion of the impact that the *premise of value* may have on a valuation assignment.

utility. However, the valuation analyst should remember "that cost, price, and value are three separate and distinct valuation concepts[,]" so cost does not necessarily provide an indication of value.[79] This requires that a thorough examination of the specific facts and circumstances related to the subject intangible asset be considered before using an *Asset/Cost Approach–based valuation method* to derive an indication of value. It should be noted that in the event that an intangible assets is *produced internally*, *Asset/Cost Approach–based valuation methods* should consider the *profit incentive* required by an investor in the subject intangible asset for its *development*, as well as the *opportunity cost*, represented by foregone alternative investments, incurred during the period of development, also referred to as an *entrepreneurial incentive*. The *developer's profit margin* and the *opportunity cost* should be added to the *direct and indirect costs* to derive an indication of value when using an *Asset/Cost Approach–based valuation method*.[80] It should be noted that when using a *Replacement Cost Method* based on *market-derived data*, the *developer's profit margin* may already be included in the market-determined *Replacement Cost New*.[81]

In addition to the more commonly recognized valuation methods discussed in Chapter 8, "Valuation Approaches and Methods," there are several less common valuation methods and techniques that may be appropriate to use in valuing certain *intangible assets*.

The *Profit Split Method* is an *Income Approach–based valuation method* that first requires the calculation of the *net economic benefit generated* by the subject intangible asset.[82] This is achieved by arriving at a determination of the *economic operating expenses* associated with generating the *revenue*, as well as the applicable *economic capital expenses* associated with the use of fixed assets requisite for the generation of the *revenue*, which are both subtracted from the revenue to determine the *net economic benefit*. Once the *net economic benefit* attributable to the subject intangible asset has been established, the valuation analyst determines an appropriate

---

[79] Robert Reilly and Robert Schweihs, *Valuing Intangible Assets* (New York: McGraw-Hill, 1999), p.120.

[80] Charles A. Wilhoite, "Health Care Entity Valuation," in Robert F. Reilly and Robert P. Schweis, *The Handbook of Business Valuation and Intellectual Property Analysis* (New York: McGraw-Hill, 2004), p. 284.

[81] See Section 14.4.2.2.2, "Trained and Assembled Workforce in Place," for an example of appraising a *trained and assembled workforce* where the market data source is assumed to include the *developer's profit margin*.

[82] Robert Reilly and Robert Schweihs, *Valuing Intangible Assets* (New York: McGraw-Hill, 1999), p. 427.

"*profit split*," under the assumption that a third-party owner of the subject intangible asset property *licenses* the *use* of that property for a *percentage* or *split* of the profits. The split is based on the concepts of *risk* and *investment return characteristics*, including an analysis of the *market conditions*, *financial profitability*, and *responsibility of each party.*

The last step in this method is to use an *Income Approach–based valuation method*, for example, a *discounted net cash flow method* or *single period capitalization method*, to calculate the present value of the "*split*" profits allocated to the subject intangible asset to be received in the *future*, that is, the *net economic benefit*, in order to arrive at the indicated value for the subject intangible asset. Note that the *risk-adjusted required rate of return,* used to discount the *future net economic benefit* to the present, should incorporate the *opportunity cost of funds,* as well as *the risk associated with the generation of the revenue by the subject intangible asset.*[83]

It should be noted that in the past, some valuation analysts have relied on the use of the *25 Percent Rule*, attributed to Robert Goldscheider, which dictates that 75 percent of the profit derived from intellectual property (IP) should go to the licensee for its role in the development of the IP, as well as the developer's assumption of operational and commercialization risks, while the other 25 percent accrues to the licensor.[84] Critics of the rule point to its "indefinite level of application[,]" for example, to gross profits or to operating profits, as well as its possible *lack of reliability in withstanding litigation scrutiny* under the standards set forth by *Daubert v. Merrill Dow Pharmaceuticals* and *Kumho Tire Co. v. Carmichael*.[85] Proponents of the rule argue that it can be used as a rough tool, in conjunction with detailed analysis of the specific facts and circumstances associated with the subject intellectual property.[86] Recent empirical tests of the rule, conducted by Gordon Smith and Russell Parr, have confirmed the rule's

[83] See Section: 8.3, "Risk Assessment," in Chapter 8, "Valuation Approaches and Methods," for a more in-depth discussion of identifying and quantifying risk for purposes of determining an appropriate risk-adjusted required rate of return.

[84] Robert Goldscheider, "The Classic 25% Rule and the Art of Intellectual Property Licensing," *Duke Law & Technology Review* no. 006 (August 2011): 3; Gordon V. Smith and Russell L. Parr, *Intellectual Property: Valuation, Exploitation, and Infringement Damages* (Hoboken, NJ: John Wiley & Sons, 2005), p. 412.

[85] Gordon V. Smith and Russell L. Parr, *Intellectual Property: Valuation, Exploitation, and Infringement Damages* (Hoboken, NJ: John Wiley & Sons, 2005), p. 419; *Daubert v. Merrell Dow Pharmaceuticals, Inc.*, 509 U.S. 579 (1993); *Kumho Tire Co. v. Carmichael*. 526 U.S. 137 (1999).

[86] Robert Goldscheider, "The Classic 25% Rule and the Art of Intellectual Property Licensing," *Duke Law & Technology Review* no. 006 (August 2011): 5–6.

validity generally; however, they point out the wide variation in results by industry and suggest that the rule be used in *conjunction* with other *qualitative and quantitative analysis*.[87] The use of the rule in litigation settings was dealt a setback in the recent case of *Uniloc U.S.A. v. Microsoft Corp.*, which stated,

> *This court now holds as a matter of Federal Circuit law that the 25 percent rule of thumb is a fundamentally flawed tool for determining a baseline royalty rate in a hypothetical negotiation. Evidence relying on the 25 percent rule of thumb is thus inadmissible under Daubert and the Federal Rules of Evidence, because it fails to tie a reasonable royalty base to the facts of the case at issue.*[88]

The *Relief from Royalty Method*, also referred to as the *Capitalized Royalty Income Method*, is a hybrid method incorporating elements of both an *Income Approach* and a *Market Approach*, which seeks an indication of value by assuming that the subject intangible asset could be *licensed* to another party for a fee, known as a *royalty rate*.[89] Note that most texts on the subject consider the *Relief from Royalty Method* an *Income Approach–based method*. The *Relief from Royalty Method* is based on the premise that the owner of the *subject intellectual property interest* would have to pay a third party a *royalty fee* to *license* the *intellectual property interest* in the event that he or she did not *own* the rights to the *subject intellectual property interest*. Therefore, by having ownership of the rights to the *subject intellectual property interest*, the subject enterprise is "*relieved*" of the royalty payments it would incur from licensing the *intellectual property interest* from another party. This reduction in expense serves as the *net economic benefit* derived from ownership of the *subject intellectual property interest*. To calculate this *net economic benefit*, the valuation analyst performs two steps:

1. Determines an appropriate royalty rate for the subject intellectual property interest; and
2. Forecasts the future economic benefits (e.g., revenue or gross profit) attributable to the subject intellectual property interest to which the selected royalty rate is to be applied.

---

[87] Gordon V. Smith and Russell L. Parr, *Intellectual Property: Valuation, Exploitation, and Infringement Damages* (Hoboken, NJ: John Wiley & Sons, 2005), pp. 421–426.

[88] *Uniloc USA, Inc. v. Microsoft Corp.*, 632 F.3d 1292 (January 4, 2011).

[89] Robert Reilly and Robert Schweihs, *Valuing Intangible Assets* (New York: McGraw-Hill, 1999), p. 428.

To determine an appropriate royalty rate for the subject intellectual property interest, the valuation analyst should compile a list of applicable royalty rates from transactions that include comparable licensing arrangements for similar types of intellectual property interests. In order to establish comparability, the terms of the licensing agreements, as well as the type of property being transacted, should be scrutinized, and only those royalty rates with homogenous badges of comparability to the subject property interest should be selected. The elements of the comparable licensing agreements that should be considered include, but are not necessarily limited to,

1. Current industry conditions, in contrast to those present when the comparable licensing agreement was developed;
2. The uncertainty regarding the ability of the subject intellectual property interest to generate the level of economic benefit exhibited by the comparable intellectual property interest;
3. The age of the subject intellectual property interest in relation to the comparable intellectual property interest; and
4. The stage within the life cycle of both the subject intellectual property interest and the comparable intellectual property interest.[90]

After the *comparable royalty rates* have been identified, the valuation analyst needs to select a rate based on specified *objective* and *subjective* criteria to determine the *future net economic benefit* to be derived from ownership of the *subject intellectual property interest*. In selecting that rate, the valuation analyst could rely on *statistical analysis* establishing the most probable rate from the data sample—for example, *mean, median*, *harmonic mean*—or, in the event the data sample indicates that some of the *comparable royalty rates* are more or less efficacious than others, the analyst may choose to employ a *weighted arithmetic mean*. Once the *first step* to estimate the *net economic benefit* derived from ownership of the *subject intellectual property interest* is completed, that is, the determination of an *appropriate royalty rate*, the *second step* calls for the projection of the *level of economic benefit* of the *enterprise, product, or service* that requires the support of the *subject intellectual property interest*. Depending on the type of *subject intellectual property interest*, this may or may not be an easy task. For example, determining the *level of economic benefit*, such as *revenue*, *gross profit*, to be derived from a *patent* may be more straightforward than

[90] Gordon V. Smith and Russell L. Parr, *Intellectual Property: Valuation, Exploitation, and Infringement Damages* (Hoboken, NJ: John Wiley & Sons, 2005), pp. 669–674.

determining the *level of economic benefit*, such as *revenue, gross profit*, to be derived from a *trademark*.

After the projection of the appropriate level of net economic benefit generated by the *subject intellectual property interest* has been completed, the valuation analyst then multiplies the *level of economic benefit* attributable to the *subject intellectual property interest* by the *appropriate royalty rate* in order to derive the *net economic benefit* attributable to ownership of the *subject intellectual property interest*. It should be noted that *various* comparable royalty rates may be applicable to *various* levels of economic benefit, for example, *net revenue, gross profit*. The valuation analyst should ensure that the *level of economic benefit* of the royalty rate *selected* is applicable to the *appropriate level of economic benefit* of the *subject intellectual property interest*.

When performing a valuation under the standard of *Fair Market Value*, the analysis considers the *hypothetical universe* of *typical buyers, sellers, owners, and investors* and ***not*** a *specific buyer* or a *specific class of buyer.*[91] Therefore, even though the *purchaser* or the *seller* of *the subject intellectual property interest* may be a *tax-exempt organization*, it is typically assumed that the *net economic benefit*, derived from the application of *comparable royalty rates* to the *subject intellectual property interest*, should be *tax affected*, given that the *hypothetical universe* prescribed by the standard of *Fair Market Value* would include both (1) *tax-paying* entities and (2) *tax-exempt organizations*, which are required to provide charitable services *in lieu of a direct tax*.

After calculating the *after-tax net economic benefit* that will be produced by the *subject intellectual property interest* in the future, the indicated future *after-tax net economic benefit* should be discounted back to the present, using an appropriate *risk-adjusted required rate of return,* which should reflect the *risks* associated with *investing in the subject intellectual property interest*.[92] Note that employing the *Income Approach–based Single Period Capitalization Method* should be limited to only those circumstances where the *after-tax net economic benefit* is determined to be stable in the future. The valuation analyst should instead consider using the *Income Approach–based Discounted Net Cash Flow Method* in the event the *after-tax net economic benefit* is projected to vary substantially in the future. Close attention

[91] See Section 7.2.1.1, "Fair Market Value," in Chapter 7, "Basic Valuation Tenets," for more information regarding the standard of *Fair Market Value*.

[92] See Section 8.3, "Risk Assessment," in Chapter 8, "Valuation Approaches and Methods," for a more in-depth discussion about identifying and quantifying risk for purposes of determining an appropriate *risk-adjusted required rate of return*.

by the valuation analyst is warranted to ensure that the *appropriate discount rate* is employed for the selected method, that is, the *Single Period Capitalization Method* would incorporate the use of the calculated discount rate less the expected long-term growth rate, while the *Discounted Net Cash Flow Method* would incorporate the use of the calculated discount rate value.[93]

The *Trended Historical Cost Method* is an *Asset/Cost Approach*, similar to the *Reproduction Cost Method* used for tangible asset valuation engagements, which starts by identifying the *historical* intangible asset *development* and/or *acquisition costs*, which are then *indexed* to the most *probable* amount anticipated to be expended to reproduce the subject intangible asset *as of the valuation date*.[94] These "*indexing*" adjustments can be made by using appropriate *inflation-based indices*, which are available from proprietary databases such as Marshall & Swift's *Valuation Quarterly* or publicly available Bureau of Labor Statistics data, for example, *consumer price inflation, producer price inflation,* or *employment cost inflation*, relevant to the specific category of identified cost being included in the method.[95] Once the indexed costs have been calculated, any pertinent *age-related deterioration* and various forms of *obsolescence*, that is, *functional*, *technological*, *or economic*, should be deducted from the indexed costs to determine the value of the subject intangible asset. Note that intangible assets do not experience *physical wear and tear* but still may be "used up" over time.[96] This method assumes that the *cost incurred* to create the subject intangible asset can provide an *appropriate indication of value* for the subject intangible asset, which may or may not be the case. It is further assumed that *rational market participants* would *not* expend the costs to create the subject intangible asset unless they were able to earn an *appropriate return on their investment*.

Another consideration when valuing intangible assets is the appropriateness of the application of adjustments, for example, a *discount for lack of marketability* (DLOM), to determine the final indication of value. The concept of a DLOM for intangible assets is not straightforward and has been

[93] See Chapter 8, "Valuation Approaches and Methods," for a general discussion of these methods.

[94] Robert Reilly and Robert Schweihs, *Valuing Intangible Assets* (New York: McGraw-Hill, 1999), p. 427.

[95] *Marshall Valuation Service* (Los Angeles, CA: Marshall & Swift/Boeckh, LLC, 2013). See http://bls.gov/bls/inflation.htm for a description of each inflation index published by the BLS.

[96] Robert F. Reilly, "Cost Approach of Health Care Entity Intangible Asset Valuation," *Journal of Health Care Finance* 39, no. 2 (Winter 2012): 16.

the subject of repeated debate among participants in capital markets, the courts, and the business valuation profession.[97] Intangible assets typically lack *established*, *transparent*, *liquid markets*, where they can be bought and sold in a fully disclosed manner, creating a *deficiency* in a *supportable base* of empirical data on which to establish the size of a discount based on comparing transactions of *freely traded* and *closely held* intangible assets. The concept of applying a DLOM in the context of valuing an intangible asset should take into account whether the *subject intangible asset* is being valued as part of an *assemblage of assets*, which would include those *tangible and intangible assets* that allow for the *full exploitation* of the subject intangible property. In the event that the subject intangible asset is being appraised as a property interest, separate and aside from any other component, a DLOM may be warranted to account for the perceived *deficiency in its value*, due to this lack of assemblage.[98]

It should be noted that payments for intangible assets should be analyzed to ensure that they are not in violation of the restrictions related to the *Anti-Kickback* and *Stark* regulations, which prohibit any consideration being paid, whether direct or indirect, based on the *volume or value of referrals* or other business that the parties may otherwise be in position to generate for each other.

14.4.1 Classification and Valuation of Intangible Real Property

As briefly mentioned in Section 14.2.1, "Classification and Valuation of Tangible Real Property," *intangible real property* may be described as *the legal rights* to *use real estate*, which typically consists of *one or more legal rights* related to the specific *real estate*, but most often does not include all of the *legal rights* related to the subject property. There are numerous types of *intangible real property*, including, but not necessarily limited to, *easements*, *permits, leasehold interests*, *in-place leases, zoning waivers* and *variances*, and *use rights*.[99]

An *easement* is the *right to perform* a *specific action* on a *specific parcel* of real estate, created (1) by *contract*; (2) through *government acquisition*, that is, *eminent domain* (which is further discussed later in this section); or (3) as *a matter of law.* Typical easements include *access* to an *adjoining property* or as a *public right of way.* For example, a hospital may be

[97] Robert Reilly and Robert Schweihs, *Valuing Intangible Assets* (New York: McGraw-Hill, 1999), p. 155.

[98] Ibid.

[99] Ibid., pp. 411–412.

GENERAL CATEGORIES OF INTANGIBLE REAL PROPERTY

(1) Easements, (2) permits, (3) leasehold interests, (4) zoning waivers and variances, and (5) use rights.

Valuing Intangible Assets, *by Robert Reilly and Robert Schweihs (New York: McGraw-Hill, 1999), pp. 411–412.*

Easement

An interest in land owned by another person, consisting of the right to use or control the land, or an area above or below it, for a specific limited purpose.

Black's Law Dictionary, *9th ed., edited by Bryan A. Garner (St. Paul, MN: Thomson Reuters, 2009), pp. 585–586.*

required to compensate a third party for *use* of certain land as an access point to the hospital's facilities. The property that *gains* the *easement* is known as the *dominant estate*, while the property that is *burdened* by the easement is known as the *servient estate*. In the event that an *easement* is created through *eminent domain*, the *value* of the easement is *calculated* as the *value lost* by the *servient estate*, and *not* the *value gained* by the *dominant estate*. Also, some easements do *not* have a *dominant estate*, for example, *utility access rights*, which impose access for a given utility's infrastructure on a piece of property. Other *easements* include *conservation easements* and *preservation easements*.[100]

Permits are another type of *intangible real property asset* that are derived from a *certification* by a *governmental entity* (usually, a local authority) that *authorizes* the *use* or *development* of real estate and serves as a form of *land-use control*.[101] Examples of *permits* include *occupancy permits* for residential buildings and *building permits* for new developments and typically include an inspection of the building or the property. The economic value

[100] William L. Ventolo and Martha R. Williams, *Fundamentals of Real Estate Appraisal*, 7th ed. (Chicago: Dearborn Financial Publishing, 1998), p. 29.

[101] Jeffrey D. Fisher and Robert S. Martin, *Income Property Valuation* (Chicago: Dearborn Financial Publishing, 1994), pp 200–201.

attributable to a *permit* can be derived from the *cost* and *time* expended to acquire the *permit*. Also, it should be noted that there is some portion of a Certificate of Need (CON) that may appear to relate to *real property,* which would suggest the creation of an *intangible real property asset*. However, as a CON is a precursor to licensing a facility or a service, it is most often considered a *market entrance barrier* related to *tangible personal property*, which suggests the creation of an *intangible personal property asset*.

A *leasehold interest* is a type of *intangible real property asset* that may arise when a *fee simple interest* in real property (defined in Section 14.2.1, "Classification and Valuation of Tangible Real Property") is divided by a lease agreement between a *lessor* and a *lessee*. The *lessor's partial interest* is known as a *lease fee interest*, while the *lessee's partial interest* is known as a *leasehold interest*. An *intangible personal property asset* can be created when the contractually agreed-on lease rate (*contract rate*) is *higher* or *lower* than the *market rate*. In the event that the *market rate* is above the *contract rate*, an *intangible personal property* asset known as a *positive leasehold interest* is created. In the event that the *market rate* is below the *contract rate*, an *intangible personal property asset* known as a *negative leasehold interest* is created.

The circumstances that give rise to the existence of a *negative leasehold interest*, that is, *contract rental rates* being above *market rates*, are typically not sustainable and therefore may not be *transferable*, since the lessee would generally be unwilling to accept an *above market rental rate* on *renewal* of the contract. However, there may be *additional value derived* for the lessee from the *specific location* or *other element of value related to the specific piece of real estate* that provides that lessee with enough utility to validate the continuance of the *negative leasehold interest*. For example, an *established professional practice* may derive an economic benefit *greater* than the amount expended for a *negative leasehold interest* from maintaining the same *geographic proximity* to its *existing patient base* or the convenience of the proximity to a hospital at which it provides services, such as coverage and call.

In addition, depending on the rights granted in a specific lease agreement, a similar *leasehold interest* may be created by a *sublease* agreement between a sublessor (the lessee of the lease fee interest) and a sublessee.[102] However, the economic valuation of *subleasehold* should consider that this type of *intangible real property asset* is typically subject to the approval of the lessor, which may warrant an adjustment to reflect an appropriate *discount for lack of marketability* for the asset.

---

[102] *The Appraisal of Real Estate*, 12th ed. (Chicago: Appraisal Institute, 2001), pp. 81–85.

The *intangible asset* commonly referred to as an *in-place lease* represents the value of having *existing tenants* and *contractually based lease income*, which is separate and aside from any value arising from *favorable lease rates*, that is, *leasehold interests*.

Zoning ordinances may represent another type of *intangible real property assets*. The *development* of real estate is subject to *conforming* to existing *zoning ordinances* that have been established by state and local government entities to *regulate land use*. Three broad categories of land zones include (1) *residential*, (2) *commercial*, and (3) *industrial*. These *restrictions* may include the *height and size of buildings*, *lot coverage*, *unit number*, *parking requirements*, and *setbacks*.[103] However, a developer may obtain a *variance* of certain restrictions or a *waiver* of an entire restriction. A *zoning waiver* or *zoning variance*, often referred to as a *special use permit*, is typically *applied from* and *approved by* a land use committee and may represent a *restriction* on the *highest and best use* of the subject property. Correspondingly, a *waiver* of a *zoning ordinance* removes this *restriction*, returning the property to its *highest and best use*.[104]

The economic value of the *zoning waiver* or *zoning variance* is the value of the *highest and best use* of the subject property *with* the waiver or the variance, *less* the value of the *highest and best use* of the subject property *restricted* by the *zoning ordinance*. An example of value attributable to a *special use permit* is a *nursing home facility* that has received such a permit to *exceed* population density for the given parcel of land that it occupies, which provides for a significantly *higher patient bed day revenue* than might be achieved under the *occupancy density provision* of *existing zoning ordinances*.

Use rights are another form of *intangible real property*, which include *water use rights*, *mineral and drilling rights*, *air rights*, and *subterranean rights*.[105] Depending on the type of *use right* considered, the economic value may be *quantified directly* through the *generation* of certain *revenues* (e.g., mineral rights) or may be quantified *indirectly* through the *change in value* of the *subject property* (e.g., water rights), similar to an easement. Another potential *use right* may be a *lease* whereby a hospital grants the use of an adjoining parcel of land to a physician practice for the development of an outpatient clinic. It should be noted that the *use right* granted by a lease is separate and aside from the intangible real property associated with *leasehold interests* or *in-place leases*.

---

[103] Ibid., p. 194.

[104] See Chapter 7, "Basic Valuation Tenets," for further discussion of the economic principle of *highest and best use*.

[105] Robert Reilly and Robert Schweihs, *Valuing Intangible Assets* (New York: McGraw-Hill, 1999), p. 412.

USE RIGHTS

Use rights of real estate include specific interests in a specific aspect of the real estate. Typical use rights include water use rights, mineral and drilling rights, air rights, and subterranean rights.

Valuing Intangible Assets, *by Robert Reilly and Robert Schweihs (New York: McGraw-Hill, 1999), p. 412.*

A particular attribute of *intangible real property* is that its existence can be *created*, *shaped*, or *even destroyed* by government intervention, for example, *eminent domain* or the government's *police power.*[106] *Eminent domain* and *police power* both have their source in the *authority* of the *community* to act in the *public good*; however, *police power* is restricted to the *use* of the real property, while *eminent domain* rises to the level of *taking* the real property. As such, the *use* of a *real property interest* through a *police power*, such as a *zoning requirement*, is *noncompensable*, while the *taking* of *a real property interest* through *eminent domain* is *compensable.*[107] An example of how these various types of intangible real property interest may be essential to a healthcare provider is the case of a *large, tertiary care hospital, with a regional trauma center*, being confronted by *new highway interchange construction*, with the *loss* of a small amount of its *campus land footprint*, as well as a *restriction on highway access* in regress/egress patterns. While the small amount of land acreage to be *taken for highway expansion* might have been more simple for appraisal on a *land cost per acre basis*, the result of the *taking* would have been to *reduce the overall land footprint* of the hospital campus to a degree that might *prohibit future expansion*, for example, the addition of clinical outpatient facilities and medical office buildings. Accordingly, the value of the *real property interest compensable* due to the *taking by eminent domain* would include not only the *tangible real property* but also the *future use of the remaining parcels.*

The valuation of *intangible real property* is often closely related to the valuation of the *underlying real estate*, which approaches and methods are discussed in Section 14.2.1.1, "Tangible Real Property Valuation Methods." Specifically, the use of any of the three basic approaches to valuation, that is,

[106] J. D. Eaton, *Real Estate Valuation in Litigation*, 2nd ed. (Chicago: Appraisal Institute, 1995), pp. 46–48.

[107] Ibid.

the *Income*, the *Market*, or the *Asset/Cost*, may be used, depending on the *availability* of *sufficiently reliable data* to perform the methods prescribed by each valuation approach.

14.4.1.1 Income Approach for Valuing Intangible Real Property While *Income Approach–based valuation methods* may not be applicable to all *intangible real property assets*, they may be the most pertinent methods of valuation for certain assets, such as *leasehold interests*, *permits,* and/or certain *use rights*.

For example, to develop the valuation of a *leasehold interest*, the valuation analyst determines an appropriate "*market rental rate*," which most often would require the use of a *Market Approach–based valuation method* to derive *rental rates* for real estate assets similar to the subject real estate assets. These may be found in lease agreements for real property with similar terms to that of the subject real estate lease agreement, that is, based on *homogenous badges of comparability.* Once the *market rental rate* has been established, the valuation analyst would calculate the *variance* between the *contract rental rate* and the *current market rental rate* to determine the *future revenue stream* attributable to the *positive (negative) leasehold interest* to be used in an *Income Approach–based valuation method*, for example, the *Discounted Net Cash Flow Method*.

Under the *Discounted Net Cash Flow Method*, the revenue stream, that is, the difference between the *current market rental rate* and the *contract rental rate*, would be projected over the life of the contract (and beyond, if it is determined that the lease agreement would be renewed under similar circumstances). Then, any applicable *economic operating expenses* or *economic capital expenses* incurred to derive the *revenue stream* would be applied, and this *adjusted revenue stream* would serve as the *future net economic benefit stream* attributable to the *leasehold interest*. This *future net economic benefit stream* would be *discounted back* to the valuation date, using an appropriate *risk-adjusted required rate of return*, in order to determine the value of the *leasehold interest*.

The appropriate *risk-adjusted required rate of return* for the *leasehold interest* should reflect:

1. The *opportunity cost of funds*, since investors in a *leasehold interest* could also have invested those funds in a *risk-free* investment and generated a return; and
2. The *specific risk of the investment*, including, but not limited to,
   a. *Uncertainty* as relates to the *comparability* of the agreement terms between those of the market data and those of the subject real estate lease agreement;

b. *Uncertainty* regarding the *efficacy* of current market data as an *indication of future lease rates*, causing *uncertainty* in the ability to achieve the forecasted amount of revenue in each period;
c. *Ability of the purchasing party to enforce* the terms of the lease agreement; and
d. *Uncertainty* regarding any changes in the value of the *underlying real estate assets*, due to unexpected *physical deterioration and/or functional*, *technological*, *or economic obsolescence* that would affect the *contractual rental rate*.

Once the value of the *future net economic benefit stream* related to the *leasehold interest* has been discounted to the valuation date, an analysis should be performed to determine whether there are any appropriate adjustments, such as a *discount for lack of marketability* or a *control premium*. Typically, in the event the *discount rate* used in an *Income Approach–based valuation method* includes the investment returns of *public traded companies*, it is assumed that the calculated result represents that of a *freely traded basis*, in contrast to a *closely held basis*, and therefore may warrant a *discount for lack of marketability.*[108]

In addition to *leasehold interests*, *permits* and certain *use rights* that generate a *revenue stream* may also be valued using an *Income Approach–based valuation method*. The valuation methodology related to these *permits* and *use rights* would be similar to that of *leasehold interests*, that is, determination of *the future net economic benefit* and then development of an appropriate *risk-adjusted required rate of return* to be used to discount the future cash flow to the present value, as discussed earlier.

14.4.1.2 Market Approach for Valuing Intangible Real Property

Market Approach–based valuation methods typically provide an indication of value based on *transactions* of property interests *similar* to that of the subject intangible asset. However, as is the case with many intangible assets, an *established*, *transparent, liquid market* for *intangible real property* may not exist, thereby rendering the *Market Approach* an inappropriate valuation methodology. In those circumstances in which a market for the subject asset *does exist*, and this market is *established*, *liquid*, and *transparent*, it is important to ensure that

1. The reported transactions are from *reliable sources*;
2. The market information represents negotiations at *arm's length*; and

[108] See Section 8.4, "Discounts and Premiums," in Chapter 8, "Valuation Approaches and Methods," for more information regarding the application of various discounts and premiums.

3. The selected transactions are based on *homogenous badges of comparability* to the subject assets, in order to provide a relevant indication of value for the subject property.

Market Approach–based valuation methods used for valuing *intangible real property* usually begin with the development of the *search criteria* for the subject assets, for example, *type*, *risk profile*, and *relative and absolute location*, which are referred to as *homogenous badges of comparability.* Once the search criteria are established, a list of *comparable transactions* is aggregated, with certain *adjustments* made to provide a *greater degree of comparability* between the *subject asset* and the *transactional data*. From the aggregated, adjusted transactional data, appropriate *relative pricing metrics* are derived for the subject intangible asset to calculate an indication of value. For example, a *Market Approach–based valuation method* is often used to determine *comparable lease rates* for use in determining the *net economic benefit stream* related to a *leasehold interest*, as discussed in Section 14.4.1.1, "Income Approach for Valuing Intangible Real Property."

As stated earlier, some *intangible real property assets* may *not* have a *robust*, *liquid*, and *transparent marketplace* from which *comparables* can be aggregated, and, accordingly, these assets *cannot* be valued *directly* using a *Market Approach–based valuation method*. However, both the underlying *real estate* and the underlying *real estate without the subject intangible asset* may have a *robust, liquid*, and *transparent marketplace* from which comparables may be aggregated and may therefore be valued using a *Market Approach–based valuation method*. In this circumstance, the value of the *intangible real property* may be indirectly determined by analyzing the *variance* in the *value of the real estate* and the *value of the real estate without the subject intangible asset*, known as a "*with-and-without*" analysis.[109] For example, a hospital may provide a *land lease* to a physician group practice that wants to build a medical office building in *close proximity to the hospital.* These *land leases* may incorporate a *competitive restriction* that bars the physician group from performing the types of ancillary services provided by the hospital, for example, MRI, operating rooms, without (1) the hospital's *prior approval* or (2) the hospital first being offered the *opportunity to co-venture*. The value of the lease of the medical office building *with the restriction* could be compared to the value of another lease for a medical office building with similar attributes and

[109] See Section 8.2.6, "With and Without Analysis," in Chapter 8, Valuation Approaches and Methods," for further discussion of this alternative valuation technique.

characteristics as the restricted property, such as amenities, square footage, and geographic proximity to a comparable hospital, *without the restriction*. The difference in value between the two property interests would provide an indication of value for the restriction. In the event that there is ***not*** a restriction on the property interest, and the *comparable medical office building* has similar attributes and characteristics to the *subject medical office building*, *except* that it is ***not*** in *close geographic proximity* to a comparable hospital, the difference in value between the two property interests would provide an indication of value of the *location-related intangible real property interest*.

14.4.1.3 Asset/Cost Approach for Valuing Intangible Real Property The valuation of *intangible real property* using an *Asset/Cost Approach-based valuation method* would entail the determination of the *requisite input* necessary *to reproduce* the subject property or *replace* the subject property with *intangible real property* that would provide the same or similar utility. For example, the valuation of *in-place leases* based on a *Replacement Cost Method* entails (1) estimating the *carrying costs* incurred during the hypothetical time it would take to find a tenant for the subject property, for example, *real estate taxes*, *insurance*, and *other operating expenses*; and (2) the *current costs to execute a similar lease*, for example, *legal fees, legal commissions, due diligence costs*, and *other related expenses*.[110] Note that the *carrying costs* represent *opportunity costs*, while the *costs to execute* a similar lease may already include the profit required by the owner of the lease contract. Therefore, no additional costs may be warranted to determine the value of the *in-place lease intangible asset*, using an *Asset/Cost Approach–based valuation method*.

Once the appropriate amount of *carrying costs* and *costs to execute a similar lease* has been determined, these amounts should be aggregated to provide the *ceiling of value* of the *in-place lease, intangible real property asset*. From this *ceiling of value*, applicable amounts of *depreciation*, that is, *physical deterioration*, *functional/technological obsolescence*, *and economic obsolescence,* if any, should be deducted.

It should be noted that a similar methodology could be employed for other types of *intangible real property*, for example, *certain types of agreements*, *permits*, *licenses*, and to the extent they relate to intangible real property, in contrast to intangible personal property, *Certificates of Need,* which are more thoroughly discussed in Section 14.4.2.7.2, "Certificates of Need."

[110]Excerpt from the 10-K filing for the fiscal year ending December 31, 2011, of Caplease, Inc.

14.4.2 Classification and Valuation of Intangible Personal Property

Intangible personal property encompasses all of those *intangible assets* that are *not* classified as *intangible real property*, including those in the following categories:

1. Payor/client relationships;
2. Human capital;
3. Intellectual property;
4. Operations of the enterprise;
5. Governance or legal structure of the enterprise;
6. Marketing and business development;
7. Regulatory or legal-related assets;
8. Financial condition/revenue stream of the enterprise;
9. Technology developments;
10. Patient-related assets; and
11. Goodwill.

As with any asset or service, the *economic value* analysis related to *intangible personal property* should be focused on the economic benefits *reasonably* expected to be *derived* from the *use* or *utility* of the subject intangible asset *in the future,* bounded by the *cost of an equally desirable substitute*, that is, one providing the *same or a similar level of utility*, for each of the elements of *economic benefit* (or *utility*) to be derived from the *ownership of*, or the *rights to control*, the *subject intangible asset*. This requires that a *detailed examination* of the *attributes* of the subject intangible asset be undertaken, with each element first *identified as to its existence* and then *classified* as to the *specific factors and traits* that would *exhibit* the means by which the subject intangible asset would reasonably be expected to provide *utility* to an owner of the property interest *going forward*.

14.4.2.1 Classification and Valuation of Payor- or Client-Related Intangible Assets

Intangible personal property, which may be classified as *payor/client-related*, are those property rights created by certain contractual terms included in various types of agreements, for example, *managed care agreements*, *provider service agreements*, and *HMO enrollment lists*.[111]

Similar to most intangible assets, *payor- and customer-related intangible assets* generally lack *established, transparent*, *liquid markets* with

[111]William H Black, "Valuing Professional Practices—Thorny Challenges," *Analytical Value, LLC*, 2006, p. 25.

homogenous badges of comparability to the subject intangible asset, eliminating the ability to rely on a *Market Approach–based valuation method*.

The valuation of *payor- and customer-related intangible assets* may be based on an *Asset/Cost Approach–based valuation method*. This would include the *Replacement Cost Method*, which in a similar manner to that of valuing tangible personal property, uses the current costs to *re-create* an intangible asset with the same or similar utility to the subject intangible asset to derive an indication of value, as well as the *Trended Historical Cost Method*.[112]

14.4.2.1.1 Managed Care Agreements and Provider Service Agreements *Managed care agreements* may provide the subject enterprise with a reliable, *continued revenue stream*, which may reduce the *volatility* of its *future net economic benefit stream*, thereby creating additional value. In addition, *provider service agreements* (PSAs) can provide the subject healthcare enterprise with a *competitive advantage* through organizational stability, operational efficiencies, and patient convenience. An example would be a *hospital-based anesthesia group* that is a party to a *provider services agreement* under which it is the *exclusive provider* to the hospital's procedure/surgery rooms and other cites of anesthesia services, such as inpatient and outpatient pain management. *Hospital agreements* that provide groups of physicians with *preferred block scheduling times* in hospital operating rooms or diagnostic clinics may also provide value, in that they offer the same type of competitive advantage.

Provider service agreements and *managed care agreements* may be valued using an *Income Approach–based valuation method*, for example, a *Discounted Net Cash Flow Method*, incorporating a *With and Without Technique*.[113] The basic methodology would be to value the subject enterprise using the *Discounted Net Cash Flow Method* under two scenarios: one *with* the agreement(s) in place and another *without* the agreement(s) in place, whereby the *variance* between the two scenarios would serve as an indication of value for the subject intangible asset.[114]

Provider service agreements and *managed care agreements* may also be valued as separate intangible assets, using an *Income Approach–based*

---

[112] See Section 14.2.2.1.3, "Asset/Cost Approach for Valuing Tangible Personal Property," for further discussion of the *Replacement Cost Method* related to tangible personal property. See Section 14.4, "Classification and Valuation of Intangible Assets," for further discussion of this method.

[113] See Section 8.2.6, "With and Without Analysis," in Chapter 8, "Valuation Approaches and Methods," for a discussion on the implementation of this technique.

[114] See Section 8.1.1.2, "Discounted Net Cash Flow Method," in Chapter 8, "Valuation Approaches and Methods," for further discussion of this method.

valuation method, if the *elements* of the *net economic benefit*, that is, *associated revenue*, *economic operating expenses*, *and economic capital expenses*, are readily available or easily estimated. The *risk-adjusted required rate of return* for the separately identified and valued *provider service agreement* or *managed care agreement* should reflect the risks inherent to an investment in that *subject intellectual asset*, which may be different than the risks inherent in an investment in the *subject enterprise*.[115]

14.4.2.1.2 HMO Enrollment Lists Participation in *HMO enrollment lists* may provide healthcare professional practices and other providers with access to a stable revenue base from premiums generated by *a specific patient base*, that is, the *per member per month* (PMPM) payments for a block of HMO enrollees to which they otherwise may not have access.[116] These assets may be valued using a *With and Without Technique*, in conjunction with an *Income Approach–based valuation method*.[117]

14.4.2.2 Classification and Valuation of Human Capital–Related Intangible Assets *Human capital*, in contrast to *financial* or *physical capital*, consists of the investments in *education*, *training*, and *medical care* that are not separable from the person receiving the benefit and therefore do not have *physical form* in the same manner that *financial* and *physical capital* do.[118] This concept is embodied in the definition of *human capital* by Gary Becker, as follows:

> *Schooling, a computer training course, expenditures on medical care, and lectures on the virtues of punctuality and honesty are capital too in the sense that they improve health, raise earnings, or add to a person's appreciation of literature over much of his or her lifetime. However, these produce human, not physical or financial, capital because you cannot separate a person from his or her*

[115] See Section 8.1.1, "Income Approach," in Chapter 8, "Valuation Approaches and Methods," for further discussion of these methods.

[116] See Chapter 2, "Reimbursement Environment," for the discussion of HMO-related payments.

[117] See Section 8.2.6, "With and Without Analysis" in Chapter 8, "Valuation Approaches and Methods," for a discussion on the implementation of this technique, and see Section 8.1.1, "Income Approach," in Chapter 8, "Valuation Approaches and Methods," for further discussion of these methods.

[118] Gary Becker, *Human Capital: A Theoretical and Empirical Analysis with Special Reference to Education* (Chicago: University of Chicago Press, 1993), pp. 15–16.

Human Capital–Related Intangible Assets

Includes staff/employee and provider employment agreements, trained and assembled workforce in place, policies and procedures, and depth of management.

Intangible Assets: Valuation and Economic Benefit, *by Jeffrey A. Cohen (Hoboken, NJ: John Wiley & Sons, 2005), pp. 24–26.*

> *knowledge, skills, health, or values the way it is possible to move financial and physical assets while the owner stays put.*[119]

In the healthcare industry, those *intangible personal property assets* that may be classified as *human capital–related* include *staff/employee* and *provider employment agreements*, *trained and assembled workforce in place*, *noncopyrighted policies and procedures*, and *depth of management*.

The application of *economic principles* to support the *existence* of *value* that may be attached to certain *human capital–related* intangible assets, for example, a *trained and assembled workforce in place*, is becoming increasingly important in healthcare valuation, as it is throughout the economy, a circumstance confirmed by Bianchi and Labory, to wit:

> *The capital of a firm is less and less identifiable with its machines, buildings, and physical structures. It is increasingly related to the firm's capacity to combine skill, dexterity and judgment in an organization capable of operating in terms of work to be done. This latter form of capital has an intangible nature and depends therefore on the valuation attached to it by the market.*[120]

Human capital–related intangible assets are most often valued using *Asset/Cost Approach–based valuation methods*, for example, the *Replacement Cost Method*. Under this method, the cost to construct, at *current* prices, an intangible asset providing *equal desirability* and/or *equivalent utility* as the subject intangible asset is determined. Some have suggested that *human capital–related intangible assets*, specifically a *Trained and Assembled Workforce in Place* (TAWF), do not hold *Fair Market Value* (FMV) in

[119] Ibid.

[120] Patrizio Bianchi and Sandrine Labory, eds., *The Economic Importance of Intangible Assets* (Burlington, VT: Ashgate, 2004), pp. 28–29.

the event that the subject enterprise in which they reside, do not generate a *positive economic cash flow* and therefore cannot support a premise of value of *value-in-use*, *as a going concern* for the enterprise. This notion is incorrect; however, as under the *Principle of Substitution* and the valuation premise of *value-in-exchange*, the FMV of TAWF would be equal to the *cost of acquiring* an *equally desirable substitute* or one of *equal utility.* Under the premise of *value-in-exchange*, the avoidance of the costs *recruiting*, *hiring*, and *training* both the physician and the nonphysician staff forms a basis of economic FMV.

As previously mentioned, an *economic benefit*, supporting an indication of value, can be the result of *either* (1) an *increase in revenue* or (2) a *decrease in expenses*. The *avoidance* of an expense positively affects the *net economic benefit* flowing to the owner of an asset and, similar to directly improving revenue, a *prudent investor* would be willing to pay to receive the *anticipated benefit* of this *cost reduction.*

14.4.2.2.1 Employee and Provider Employment Agreements *Employee and provider employment agreements* provide *certain assurances* as to the expectation of the *continuity of those elements of the employment relationship*, which make up the *human capital* that adheres to the individual person, however defined under the terms of the agreement, that is to be *transferred* to the *financial and economic benefit* of the enterprise with whom the individual has contracted.

These types of agreements are most often valued using *Asset/Cost Approach–based valuation methods.*[121] When one is using these methods to value intangible assets that are developed internally by the subject enterprise, a *developer's profit margin*, which reflects the *financial incentive* required for the owner of the asset to produce the intangible asset, may be an appropriate addition to the *direct/indirect costs* and *opportunity costs* associated with *re-creating/reproducing* the subject intangible, as discussed in Section 14.4.[122]

14.4.2.2.2 Trained and Assembled Workforce in Place The determination of value attributable to the *human capital–related intangible asset* known as

[121] See Section 14.2.2.1.3, "Asset/Cost Approach for Valuing Tangible Personal Property," for further discussion of the basic elements involved in using a *Replacement Cost Method* to appraise tangible personal property, which methods may be similar to the valuation of *employee and provider employment agreements*.

[122] Robert Reilly and Robert Schweihs, *Valuing Intangible Assets* (New York: McGraw-Hill, 1999), p. 124.

trained and assembled workforce in place (TAWF) is a growing activity for healthcare valuation professionals. As defined by Elizabeth King, PhD, in the book titled *Valuation of Intangible Assets in Global Operations*:

> *An assembled workforce consists of a set of relationships between a firm and its employees (Smith and Parr, 1994: 89). Its value derives from the fact that these relationships are costly to establish in the first instance. From the standpoint of the firm, such costs include both the opportunity cost of time spent forging the necessary relationships and imparting the necessary training, and the explicit recruitment and training costs that it incurs in the process (Becker, 1964: 33).*[123]

King goes on to state that

> *explicit costs [of assembling a workforce] include: (1) outlays for services performed by executive recruiters, (2) the opportunity cost of time spent by in-house professionals whose efforts would temporarily be diverted from directly productive activities to workforce replacement activities; and (3) one-time recruitment costs, such as signing bonuses, relocation expenses, and the like.*[124]

The *existence of* and determination as to the *Fair Market Value* attributable to the intangible asset represented by a *Trained and Assembled Workforce* (TAWF), as *discrete*, *separate*, *and distinct* from other *intangible assets* and possessing *economic utility* by virtue of the *right to control* employees as the *means of production*. This concept is illustrated in well-documented and settled bankruptcy law, even in *insolvent*, *nonoperating companies* where there is no evidence that the business would have value under the premise of *value-in-use, as a going concern.*[125] Even in the absence of a *positive net cash flow* and/or the *existence of goodwill*, the property interest related to TAWF has been held to exist and, furthermore, to be transferable, thereby possessing economic value. In the event that there is *insufficient net cash flow* to support the value of the invested capital of the subject

---

[123] Elizabeth King, "Valuing an Assembled Workforce," in Farok J. Contractor, ed., *Valuation of Intangible Assets in Global Operations* (Westport, CT: Quorum Books, 2001), p. 265.

[124] Ibid., p. 274.

[125] *Glosband v. Watts Detective Agency, Inc.*, 21 B.R. 936 (D.C. Mass. 1981), affirmed by *Robinson v. Watts Detective Agency, Inc.*, 685 F. 2d 728 (1st Cir. 1982).

Factoid

A trained and assembled workforce is distinguished by (1) the physicians' and other healthcare providers' workforce and (2) the non–healthcare providers' workforce.

enterprise under the premise of *value in-use*, the *highest and best use* and, therefore, the *Fair Market Value* of the TAWF are established under an alternative *valuation premise* known as *value-in-exchange*, in which event the *Fair Market Value* is *conditioned* on (1) both an *assemblage* and the *probability* of *retention* of the workforce and (2) the *existence* of an *agreement* specific to a transaction involving the transfer of the TAWF. In the *absence* of these conditions, the bankruptcy courts have held that where employees are subsequently employed by a purchasing organization, without their *retention* having been a part of the *purchasing agreement*, the TAWF *cannot* be viewed as an intangible asset subject to claims of *fraudulent conveyance*.[126]

James Hitchner, CPA, ABV, ASA, explains,

> *By acquiring fully trained personnel, the buyer avoided the expenditures associated with hiring and training equivalent personnel. The value of the assembled workforce is represented by the assemblage cost avoided. Therefore, the cost approach is the most applicable valuation approach to value this asset.*[127]

In using *Asset/Cost Approach–based valuation methods*, such as the *Replacement Cost Method*, to value a *Trained and Assembled Physician Workforce*, each and every cost related to *replacing* the intangible asset should be *quantified*. These costs include those incurred to hire and train a replacement workforce, as well as the opportunity cost of having less productive staff during the replacement period.

The first cost to consider is that of *Efficiency Costs*, which represent the difference in value derived from variances in productivity between a trained staff and the equivalent replacement staff. The calculation of *Efficiency Costs* begins with an *Industry-Indicated Salary* for each physician

[126] See *Atchison, Topeka & Santa Fe Ry. Co. v. Brown & Bryant, Inc.*, 159 F. 3d 358, 361, 365 (9th Cir. 1997).

[127] James R. Hitchner, *Financial Valuation: Applications and Models*, 3rd ed. (Hoboken, NJ: John Wiley & Sons, 2011), p 937.

based on the *Fair Market Value* (FMV) of his or her productivity, which is determined by using normative industry benchmark survey data for the specialty of the physician. Estimated FMV *Total Annual Benefits* are then added to the *Industry-Indicated Salary* to determine *Annual Employment Cost*. *Annual Employment Cost* is then used to calculate the projected *Efficiency Costs*, based on the estimated amount of time it would take the *replacement workforce* to produce output at a similar level as the subject workforce. *Efficiency Costs* can be developed from applicable market evidence regarding the timing and amount of productivity for newly hired physicians and should reflect the *projected efficiency* during the specified ramp-up period, for example, 80 percent of full productivity during the first four weeks of employment, 90 percent in weeks 5 to 8 of employment, and full productivity (100 percent) thereafter.

The next costs to consider when appraising TAWF using the *Replacement Cost Method* are *Recruiting Costs*, which can be reflected in either (1) the cost incurred by the subject enterprise to *internally* recruit and hire the workforce or (2) the cost incurred by the subject enterprise to *outsource* the recruiting and hiring functions. In the event that the *Recruiting Costs* included in the *Replacement Cost Method* are those that are incurred *directly* through the internal recruiting and hiring by the subject enterprise, the addition of an appropriate rate of return on the cost of those activities, similar to the profit margin required by a third-party staffing company, may be appropriate. However, should the *Recruiting Costs* be developed based on *market research* of the costs charged by third-party staffing companies, it may be assumed that the required profit margin of the staffing company is fully represented in the stated price for its services.

These *Recruiting Costs* are then added to *Efficiency Costs* (see earlier discussion) to determine the *Total Cost per Employee*. *Total Cost per Employee* should be adjusted for the anticipated level of employee turnover, similar to the physical deterioration of a tangible asset. The *Total Cost per Employee* should also be adjusted to reflect any anticipated *functional obsolescence* and/or *economic obsolescence* (if they exist). In the case of a TAWF, *functional obsolescence* refers to the decrease in value of the *task*, *duties*, *accountabilities*, *and responsibilities* (TDRAs) provided by the TAWF—for example, requisite skill sets change over time and may require additional future training—and/or due to technological advancements in the future, less skilled staff may be able to be replaced with higher skilled staff at a similar cost to the subject enterprise. *Economic obsolescence* related to a TAWF refers to events or circumstances not particular to the TAWF that cause a decrease in its value, for example, an *economic recession* that causes the value of all assets to decrease.

The concept of *economic obsolescence* should be considered under the notion of *highest and best use* for the asset.[128] Accordingly, even though the existing owner of the TAWF has not been able to generate *sufficient net cash flow* from the asset, this does not mean that other potential users of the asset would not be able to derive *net economic benefit* from ownership of the asset. In the example of the valuation of TAWF in this section, no additional *economic obsolescence* was applied to the TAWF, since the *avoidance of cost* serves as an *economic benefit* that a *potential purchaser* would be willing to acquire, even in the case that there were *insufficient financial/monetary benefits* to support the value of the business under the *premise of value* of *value-in-use as a going concern*, giving rise to the *premise of value* of *value-in-exchange* (see earlier for further discussion of the value of TAWF in bankruptcy court settings).[129]

In addition, due to the impracticality of forecasting the *timing* and *effect* of *technological advancement* on the functionality of a workforce, it can be assumed that the *historical workforce turnover* yields some indication as to the amount of *functional obsolescence* experienced by the workforce in the past, as during a period of time the *historical turnover rate* reflects, in part, the filtering out of staff inefficiencies experienced through lack of functionality. Therefore, this *historical turnover rate* may provide an indication of the future amount of *functional obsolescence,* as well as any future *physical deterioration*, inherent in the existing TAWF.

The turnover adjustment is commonly referred to as the *Turnover Deficiency Cost per Employee* and can be estimated by analyzing the *historical turnover rate* for the existing workforce, where the *turnover rate* is calculated as the reciprocal of the *average tenure* of the workforce in place. The *Turnover Deficiency Cost per Employee* is *subtracted* from *Total Cost per Employee* to determine the *Net Cost per Employee*, and the *Net Cost per Employee* for each staff person is then *summed* together to determine the total expected cost to replace the *Trained and Assembled Physician Workforce.*

Using the *Replacement Cost Method* to value a *Trained and Assembled Nonphysician Workforce* includes consideration of the *actual salary* of the employees in the estimation of the *Efficiency Costs* (along with *actual benefits*), since the nonphysician staff is usually not paid on a *productivity basis*, and the compensation received most often represents that of an *arm's length*

[128] See Section 7.2.2.2, "Highest and Best Use," in Chapter 7, "Basic Valuation Tenets," for further discussion of this concept.

[129] As previously discussed in Section 14.4.2.2, "Classification and Valuation of Human Capital–Related Intangible Assets," revenue increases and cost decreases both provide an economic benefit to an enterprise.

transaction for the services rendered. In addition, due to the greater *variability* of *hours* worked by nonphysician employees, it is important to *adjust* the costs used by the *Full Time Equivalency* of each employee.

It should be noted that *valuation due diligence* may reveal that the healthcare enterprise has too *few* or too *many* FTEs performing a particular position. In the case that the enterprise is determined to have too many FTEs, the value of the TAWF could be adjusted to deduct FTEs that produce duplicative *tasks*, *duties*, *responsibilities*, *and accountabilities* deemed to be unnecessary. However, in the event that the enterprise is determined to have *too few FTEs*, and based on the premise that the *avoidance of a cost* to a potential purchaser serves as the basis of economic benefit derived from TAWF, *no adjustment* would be made, since a potential purchaser would have to *incur the costs of assemblage and training* the requisite staff.

Exhibit 14.5 sets forth the methodology for valuing a *Trained and Assembled Physician Workforce in Place*, discussed earlier.

The *human capital–related intangible assets*, for example, TAWF, of enterprises that generate *positive net economic cash flow* are sometimes valued using a *With and Without Technique*.[130] However, in the healthcare industry, this type of methodology should be *heavily scrutinized* and *cautiously used*, if ever, to ensure that it is not in *violation of regulatory restrictions* related to *Anti-Kickback* and *Stark*, which prohibit any consideration being paid, whether directly or indirectly, based on the *volume or value of referrals* or *other business* that the parties may otherwise be in a position to generate for each other. Since the TAWF often involves physicians or physicians' staffs who are in fact in a position to refer, *Income Approach–based valuation methods* are usually not employed, and *Asset/Cost Approach–based valuation methods*, which rely on the *avoidance of cost*, are typically used.[131]

A highly respected valuation author, Robert Reilly, has written a recent article touching on similar issues related to the valuation of intangible assets in the healthcare industry, which provides a fresh perspective on the topic of valuing these types of assets using an *Asset/Cost Approach–based valuation method*.[132] While the terminology/nomenclature discussed in the Reilly

[130] See Section 8.2.6, "With and Without Analysis," in Chapter 8, "Valuation Approaches and Methods," for further discussion of this technique.

[131] See Chapter 3, "Regulatory Environment," for more information regarding the rules, regulations, and case law pertinent to the healthcare industry.

[132] Robert F. Reilly, "Cost Approach of Health Care Entity Intangible Asset Valuation," *Journal of Health Care Finance* 39, no. 2 (Winter 2012).

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	
	Provider (1)	Specialty (1)	FT/PT (1)	TTM wRVU Productivity (2)	Industry Indicated Compensation per wRVU (3)	Industry Indicated Salary (4)	Total Annual Benefits (5)	Annual Employment Cost (6)	Efficiency Costs (7)	Cost to Recruit (8)	Total Cost per Employee (9)	Tenure (10)	Turnover Deficiency Cost per Employee (11)	Net Cost per Employee (12)	
1	Doctor 1	Orthopedic Surgery	1.00	9,707	$63.98	$621,073	$55,000	$676,073	$17,637	$25,000	$42,637	37.03	$2,481	$40,156	1
2	Doctor 2	Orthopedic Surgery	1.00	11,022	$63.98	$705,235	$55,000	$760,235	$19,832	$25,000	$44,832	8.75	$2,608	$42,224	2
3	Doctor 3	Orthopedic Surgery	1.00	10,381	$63.98	$664,199	$55,000	$719,199	$18,762	$25,000	$43,762	26.02	$2,546	$41,216	3
4	Doctor 4	Orthopedic Surgery	1.00	13,635	$63.98	$872,390	$55,000	$927,390	$24,193	$25,000	$49,193	18.90	$2,862	$46,331	4
5	Doctor 5	Orthopedic Surgery	1.00	16,305	$63.98	$1,043,247	$55,000	$1,098,247	$28,650	$25,000	$53,650	12.25	$3,121	$50,528	5
6	Doctor 6	Orthopedic Surgery	1.00	11,429	$63.98	$731,276	$55,000	$786,276	$20,512	$25,000	$45,512	12.07	$2,648	$42,864	6
7	Doctor 7	Orthopedic Surgery	1.00	9,174	$63.98	$586,969	$55,000	$641,969	$16,747	$25,000	$41,747	5.30	$2,429	$39,318	7
8	**Total Indicated Value of Trained and Assembled Physician Workforce-in-Place (Rounded)**													**$300,000**	8

N/A = Not Applicable

wRVU = work Relative Value Unit

TTM = Trailing Twelve Months

Notes:

1 Source: Physician CVs received from practice management.

2 Source: Productivity data received from practice management.

3 Survey weighted Compensation per wRVU, representing the most probable.

4 Equals Column D times Column E.

5 Benefits based on benchmark industry amounts.

6 Annual employment cost equals annual salary plus total annual benefits (Column F plus Column G).

7 Estimate of the cost of lost productivity of new hires. See table below.

	A	B	C	D	E	F
		Annual Employment Cost	Efficiency Costs			
			Weeks 1–4	Weeks 5–8	Weeks 9+	Total
a	**Productivity Assumed**		**80%**	**90%**	**100%**	N/A
b	**Weeks Worked per Year Assumption**		**46**	**46**	**46**	N/A
c	**Weeks per Efficiency Period**		**4**	**4**	**4**	N/A
d	Doctor 1	$676,073	$11,758	$5,879	$0	$17,637
e	Doctor 2	$760,235	$13,221	$6,611	$0	$19,832
f	Doctor 3	$719,199	$12,508	$6,254	$0	$18,762
g	Doctor 4	$927,390	$16,129	$8,064	$0	$24,193
h	Doctor 5	$1,098,247	$19,100	$9,550	$0	$28,650
i	Doctor 6	$786,276	$13,674	$6,837	$0	$20,512
j	Doctor 7	$641,969	$11,165	$5,582	$0	$16,747

Productivity was assumed to equal 80%, 90%, and 100% in weeks 1–4, 5–8 and 9+ of employment,

8 Cost to Recruit Physicians ($25,000) is based upon independent research and includes such costs as: (1) staff time and/or recruiter fees, (2) interviewing candidates, (3) relocation allowance, and (4) posthire marketing.

9 Total cost per FTE (Column I plus Column J).

10 Represents the tenure of each employee. Calculated as the difference between the VALUATION DATE and the reported date of hire.

11 Based upon average tenure (average of reported tenures in Column L), as of the VALUATION DATE, of approximately 17.19 years, which equates to an average turnover rate of approximately 5.82% (1.0 ÷ 17.19). Accordingly, Turnover Difficiency Cost (Column M), on average, equals Total Cost per FTE (Column K) multiplied by 5.82%."

12 Equals Column K minus Column M.

EXHIBIT 14.5 Fair Market Value of Trained and Assembled Physician Workforce in Place

article may appear to vary from that used in this chapter, it is in fact parallel to the methodology described earlier, for example:

1. The developer's profit, described in the Reilly article as "a percentage rate of return (or profit margin) on the developer's investment in material, labor, and overhead costs," is included in the methodology described above through inclusion in the market-derived Recruiting Costs, which are based on the fees charged by third-party recruiters and are assumed to include the required profit margin for their services.[133]
2. The entrepreneurial incentive, described in the Reilly article as "[t]he lost income concept . . . considered in the context of a "make versus buy" decision, is included in the methodology described earlier through inclusion in the ramp-up portion of the Efficiency Costs, which reflect the lost productivity due to replacement of the workforce during the estimated ramp-up period.[134]
3. The physical deterioration, described in the Reilly article as "the [amount of the] intangible asset [that] can be 'used up' over time," is accounted for in the methodology described earlier, by including only personnel who are expected to be part of the TAWF going forward, for example, currently employed physicians who are not becoming employees of the purchasing organization are to be excluded from the TAWF.[135]
4. The functional obsolescence, described in the Reilly article as "inefficiencies associated with the asset operation," is accounted for in the methodology described earlier through the Turnover Deficiency Cost per Employee, which reflects the expected turnover in the workforce derived from the historical turnover rate that is assumed to be, in part, related to the filtering out of inefficient or nonfunctional staff.[136]
5. The economic obsolescence, described in the Reilly article as "the inability of the intangible asset to generate a fair rate of return on its value indication[, which] . . . is often analyzed with respect to the ability of the owner/operator to earn a fair rate of return on investment (ROI)," was taken into consideration for the methodology described earlier but deemed to be nonapplicable, since the inability of the current owner of the TAWF to generate a sufficient financial return from operations is addressed in the concept that even in the absence of a financial return,

[133] Ibid., p. 12.

[134] Ibid.

[135] Ibid., p. 16.

[136] Ibid., p. 17.

the TAWF still provides an economic benefit in the form of avoidance of cost to willing purchasers.[137]

14.4.2.2.3 Noncopyrighted Policies and Procedures The *policies and procedures* of a healthcare enterprise that contribute to the subject organization's ability to achieve certain *efficiencies* and *productivity* are often developed and refined over an extended period of time and at a significant *cost* to their owner(s). The *avoidance* of incurring the expense to create certain *policies and procedures* that provide similar utility to those that already exist in the subject enterprise is the *economic value* that a potential purchaser would realize in a transaction of the *policies and procedures*. *Value drivers* related to the *distinct selling proposition* of *policies and procedures* are the *unique attributes* that the subject policies and procedures possess and that cannot be found in generic versions. However, it should be noted that *policies and procedures* that are specific to a particular organization, in other words, those that would require *significant additional investment* to revise and modify to be used by other enterprises, would provide *lower utility to other organizations* and therefore *command lower amounts of financial consideration* in a transaction, due to the *decreased ability to transfer* the *policies and procedures* in their *current form*. In addition, when *policies and procedures* are *appropriately developed* and *consistently followed*, they may benefit the enterprise in ensuring *continuous productivity* and *consistency of performance* of a *cross-trained staff*, even in the event of *significant staff turnover*. This benefit provides value by enabling the subject enterprise to operate in a *cost-efficient manner*, as well as affording customers/clients a *reasonable expectation* as to the *degree of the quality of products/services to be received*.

Applying the *Replacement Cost Method* to value the intangible asset consisting of the existing *policies and procedures* of a healthcare enterprise involves the valuation analyst determining the *type* and *amount* of applicable *tasks*, *duties*, *responsibilities*, *and accountabilities* (TDRAs) associated with *re-creating* a similar set of equally desirable *policies and procedures*, providing equal utility as the *subject policies and procedures*. This TDRA information may be ascertained through *independent research of relevant regulatory and professional requirements*, as well as through *interviews with the subject enterprise management* as to the utilization/application of these policies and procedures in operation. These TDRAs most often include *strategic management development*, *operational management oversight*, *privacy and regulatory compliance* (e.g., HIPAA, OSHA, radiographic-related, human resources–related), and *data entry*. *Normative industry benchmark data* could then be used to determine the *costs associated* with the *performance*

[137] Ibid., p. 13.

Factoid

The HIPAA Privacy Rule protects all "individually identifiable health information" held or transmitted by a covered entity or its business associate, in any form or media, whether electronic, paper, or oral.

"HIPAA—General Information," Centers for Medicare & Medicaid Services, http://www.cms.gov/Regulations-and-Guidance/HIPAA-Administrative-Simplification/HIPAAGenInfo/index.html?redirect=/HIPAAGenInfo/ (accessed September 7, 2012).

of the TDRAs, which are identified as being necessary to *re-create* an asset with *equal utility* as that of the subject intangible asset. These costs, along with (1) other *necessary direct and/or indirect costs*, for example, *legal/regulatory filings costs* and *fixed capital investment*; (2) an appropriate *developer's profit margin*, which may or may not be applicable, depending on whether the source of the direct and indirect costs includes this margin; and (3) any *opportunity costs* incurred while developing the policies and procedures, which may vary in amount based on the *importance of the subject policy and/or procedure* to the *operations of the enterprise*, constitute the *predepreciation* value of the subject *policy and/or procedure*. Then applicable depreciation, that is, *physical deterioration*, *functional/technological obsolescence*, *and economic obsolescence*, if any, should be deducted to derive the economic value of the *subject policy and/or procedure*.

Physical deterioration may not be applicable if the *subject policy and/or procedure* is perceived to have a relatively long *estimated remaining useful life* (or the amount of the *physical deterioration* may be considered to be *de minimis*). However, depending on the *type* of policy and/or procedure being considered, an appropriate amount of *functional obsolescence* may be applicable, for example, the use of paper copies of policies and procedures may be less efficient and therefore may hold less value than electronic versions, which may justify an adjustment for *functional obsolescence* in the event the *Replacement Cost New* for the *subject policy and/or procedure* is based on the creation of electronic policies and procedures. Note that *economic obsolescence* is difficult to measure for intangible assets created by *policies and procedures* but should be considered when appropriate.

14.4.2.2.4 Depth of Management *Depth of management* is another form of *human capital–related intangible asset*, which derives its value from the *qualifications*, *skill sets*, and *experience*, as well as the *institutional*

knowledge of management personnel, that provide *competitive benefits* to the subject enterprise. This type of intangible asset has *economic value*, since the success of many organizations is most often significantly reliant on the *abilities* and *input* of its *management leadership*. The intangible asset consisting of the *depth of management* can be valued using the *Replacement Cost Method* in a manner similar to that previously described for TAWF, in Section 14.4.2.2.2, "Trained and Assembled Workforce in Place."

14.4.2.3 Classification and Valuation of Intellectual Property–Related Intangible Assets *Intellectual property* refers to *intangible assets* that are afforded special *legal recognition* and *legal protection*, which allows their owner the ability to realize the economic benefit in a more commercialized manner, for example, *license*, *joint venture*, or *other channels of exploitation* of the property interest.[138] In the healthcare industry, *intangible personal property assets* that may be classified as *intellectual property–related* include, but are not necessarily limited to, *clinical practice protocols* and *treatment plans*, *copyright-protected procedure manuals*, *other copyrighted works*, *trademarks*, *trade names*, *patents and patent applications*, *technical and specialty research capabilities*, and *other forms of trade secrets*.[139]

Intellectual property that has a *discernible*, *isolated stream of economic contribution*, which most often includes *patents*, *trademarks*, and *copyrights*, but may also include *special* "*know-how*" and *trade secrets*, can be valued using *Income Approach–based valuation methods*.[140] Other than the *patient care–related revenues* of the subject healthcare enterprise, which

Intellectual Property–Related Intangible Assets

Includes practice protocols, treatment plans, procedure manuals, technical and specialty research, patents and patent applications, copyrights, trade names, and trade secrets.

Valuation of Intellectual Property and Intangible Assets, *3rd ed., by Gordon V. Smith and Russell L. Parr (New York: John Wiley & Sons, 2000), p. 27.*

[138] Robert Reilly and Robert Schweihs, *Valuing Intangible Assets* (New York: McGraw-Hill, 1999), pp. 21–26.

[139] Excerpts from a PowerPoint presentation given by Mike Pellegrino at the American Society of Appraisers International Conference, July 27, 2010.

[140] Gordon V. Smith and Russell L. Parr, *Intellectual Property: Valuation, Exploitation, and Infringement Damages* (Hoboken, NJ: John Wiley & Sons, 2005), p. 259.

may be *enhanced* through the *use* of its *patents*, *trademarks*, *copyrights*, *branding*, and *other intellectual property assets*, as well as any *operational efficiencies* or *other cost savings* attributable to the intellectual property assets of the subject enterprise, the owner of these assets may also generate *royalty income* through *licensing the use* of the *intellectual property interest* to third parties. Note that while there has been significant growth in *investor interest* in *healthcare intellectual property*, there has also been growing *investor concern* that *increased regulatory scrutiny* of research and consulting arrangements between pharmaceutical and medical device firms and physicians may *reduce* healthcare-related *intellectual property royalty rates*. However, based on recent studies by researchers at Invotex, the *average royalty rates* in the healthcare industry appeared to have actually *increased* (while the median rates have stayed the same).[141]

Intellectual property, where transactional data as to direct market transactions of comparable property interests exists, can be valued using a *Market Approach–based valuation method* or the related *Relief from Royalty Method*, which most often includes *patents*, *trademarks*, and *copyrights*.

Asset/Cost Approach-based valuation methods typically do not consider the *profits from commercialization*, *investment risk*, and *earnings growth potential* of intellectual property and therefore may not provide a reliable indication of value for intellectual property.[142] When these methods are used, it is important to remember that intellectual property may be considered *unique*, in that there are *legal protections* in place *that prohibit the reproduction* of the exact same intellectual property interest, which *reproduction* would be considered an *infringement on the existing legal protections*. Therefore, *Asset/Cost Approach–based valuation methods* should be conducted as though the *existing intellectual property did not exist*, similar to the "*greenfield*" premise used by real estate appraisers when valuing land, which would result in the valuation of the intellectual property from a *replacement cost perspective*, where the focus would be on the cost to replace *the utility* derived from the intellectual property, in contrast to *reproducing the exact same intellectual property interest*.[143]

---

[141] Edward A. Gold, Lynton L. Markham, and Julie A. Neal, "Has Governmental Anti-Kickback Statute Enforcement Kicked Back Royalty Rates?" *Invotex*, http://quickreadbuzz.com/2013/02/06/has-governmental-anti-kickback-statute-enforcement-kicked-back-royalty-rates, February 6, 2013 (accessed February 8, 2013).

[142] Gordon V. Smith and Russell L. Parr, *Intellectual Property: Valuation, Exploitation, and Infringement Damages* (Hoboken, NJ: John Wiley & Sons, 2005), p. 262.

[143] Robert F. Reilly, "Cost Approach of Health Care Entity Intangible Asset Valuation," *Journal of Health Care Finance* 39, no. 2 (Winter 2012): 5.

The economic value to be derived from *intellectual property* may be considered separate and aside from the economic value that the *underlying intangible asset* may possess. For example, *books and websites* may be considered a *marketing-related intangible asset*, which derive economic value from the *enhanced image* of the organization, while at the same time, the value derived from *copyrights* associated with those *books and websites* may be derived from the *legal protection* of the *marketing-related intangible asset*, consisting of those *books and websites*, from being exploited by another party without sufficient financial consideration being paid to their owner. Therefore, when valuing certain types of intangible assets, such as *marketing related intangible assets*, the analyst should consider whether the *net economic benefit* to be derived from the *intangible asset* would persist without the *legal protections* afforded by intellectual property rights, which may be the *highest and best use* of the property interest.[144] Note that inherent in the definition of *Fair Market Value* is the concept that the *hypothetical transaction* is assumed to be closed, with the *typical legal protections* in place to safeguard the *transfer of ownership* of the legal bundle of rights that define and encompass the transacted property or interest.[145]

The information regarding *intellectual property* contained in this chapter is a *brief overview* of the *various types* of these intangible assets. Each valuation assignment will entail *specific facts and circumstances* that will typically require *further research and analysis*, for example, the *term* of a patent depends on its *classification*, and the *economic benefit* to be derived from a *patented process*, *machine*, or *other form of patented product/service* would *vary*, based on the *length of time* the patent is valid. Additional information regarding specific aspects of various types of intellectual property in the United States can be found on the website for the United States Patent and Trademark Office, in the sections of the United States Code pertaining to intellectual property, and other significant sources included in the canon of professional literature related to intellectual property (see the *Key Sources* at the end of this chapter).

14.4.2.3.1 Clinical Practice Protocols and Treatment Plans *Clinical practice protocols* and *treatment plans* are composed of *standardized steps* and *agreed-on processes* related to the *diagnosis* and *management* of a patient's care. They may bring value to the subject enterprise, if *consistently followed*, *recorded*, *and reported*, inasmuch as they provide *evidence* of a *higher-quality/*

[144] See Section 7.2.2.2, "Highest and Best Use," in Chapter 7, "Basic Valuation Tenets," for further discussion of this concept.

[145] See Section 7.2.1.1, "Fair Market Value," in Chapter 7, "Basic Valuation Tenets," for a more complete definition of the standard of *Fair Market Value*.

more cost-effective delivery of services that enhances performance, leading to gains in *competitive advantage* for their owner. These protocols and plans may be especially valuable in a healthcare reimbursement environment that is being transformed into a *value-based purchasing* reimbursement paradigm.[146]

Clinical protocols and treatment plans and/or *procedure manuals* typically do not have *established liquid markets* with reported transactions of similar property interests, invalidating the use of a *Market Approach–based valuation method*. Also, it may be difficult to determine a direct income stream derived from these intangible assets. Accordingly, these property interests are typically valued using a *Replacement Cost Method*, similar to that previously described for *noncopyrighted policies and procedures*, in Section 14.4.2.2.3, "Noncopyrighted Policies and Procedures."

14.4.2.3.2 Copyrights *Copyrights* may be defined as:

> *a form of protection provided to the authors of "original works of authorship" including literary, dramatic, musical, artistic, and certain other intellectual works, both published and unpublished.*[147]

Copyrights that are *developed* or *acquired* by healthcare enterprises may include the *design*, *structure*, and *programming code* of *proprietary software applications* that can be used to:

1. Generate schedules and patient encounter/billing forms;
2. Track patient care across multiple providers and disciplines;
3. Produce utilization and outcome reports based on the treatment provided;
4. Maintain clinical records; and
5. Perform revenue cycle tasks, for example, coding, charge entry, and claims resolution.[148]

---

[146] See Section 2.7.1.1.2, "Value-Based Purchasing," in Chapter 2, "Reimbursement Environment," for further discussion of the shift from *fee-for-service* to *value-based purchasing*.

[147] United States Patent and Trademark Office, "General Information Concerning Patents—What Is a Copyright?" November 2011, http://www.uspto.gov/patents/resources/general_info_concerning_patents.jsp#heading-4 (accessed February 18, 2013).

[148] See Section 2.2, "Healthcare Revenue Cycle," in Chapter 2, "Reimbursement Environment," for further discussion of the revenue cycle in the healthcare industry. James Cortada, Dan Gordon, and Bill Lenihan, *The Value of Analytics in Healthcare: From Insights to Outcomes*, IBM Institute for Business Value (Somers, NY: IBM Global Services, 2012), p. 3.

These *proprietary software applications* hold economic value, in that they have the capacity to (1) *increase productivity*, (2) *increase the quality of patient care outcomes*, and/or (3) *increase the reimbursement yield collected from payors*. *Copyrights* may also include the legal protection of *marketing-related* and/or *operations-related intangible assets*, such as *written materials*, *books*, *procedure manuals*, *journal articles*, *patient information brochures*, *websites*, *blogs*, and *similar communication-related assets*, which provide value to the subject enterprise through *enhanced visibility* and *operational efficiency*, respectively.

Copyrights are most often valued using *Income Approach–based valuation methods*. When copyrights are owned and exploited by the organization, the *Relief from Royalty Method* may be appropriate to appraise the subject copyright interest.[149] In the event that the subject copyright is owned by the subject enterprise but is licensed to another party, the *net economic benefit stream* attributable to the *subject copyright interest* is calculated as the *revenue stream* produced through the licensing agreement, less any applicable *economic operating costs* and *economic capital costs*. The future net economic benefit is then discounted back to the present at an appropriate *risk-adjusted required rate of return* applicable to an investment in the subject copyright. This rate should reflect the risk associated with *collecting the royalty payments*, which may include (1) investment alternatives, (2) counter-party risk of the licenser, and (3) competition from similar copyrighted works.[150]

Copyrights that have a sufficient number of transactions for similar property interests may be valued using *Market Approach–based valuation methods*.[151] In the alternative, these property interests may be valued using a *Replacement Cost Method*, similar to that previously described for *noncopyrighted policies and procedures*, in Section 14.4.2.2.3, "Noncopyrighted Policies and Procedures." However, it should be noted that the *copyright process* provides an additional layer of *regulatory cost* that should be considered when performing *Asset/Cost Approach–based valuation methods* to appraise copyrighted material. Also, as previously mentioned, these approaches often fail to consider the *profits from commercialization*, the *investment risk*, and the *earnings growth potential* of intellectual property and therefore may not provide a reliable indication of value.[152]

---

[149] See Section 14.4, "Classification and Valuation of Intangible Assets," for further discussion of this method.

[150] Gordon V. Smith and Russell L. Parr, *Intellectual Property: Valuation, Exploitation, and Infringement Damages* (Hoboken, NJ: John Wiley & Sons, 2005), p. 261.

[151] See Section 8.1.2, "Market Approaches," in Chapter 8, "Valuation Approaches and Methods," for further discussion of this method.

[152] Gordon V. Smith and Russell L. Parr, *Intellectual Property: Valuation, Exploitation, and Infringement Damages* (Hoboken, NJ: John Wiley & Sons, 2005), p. 262.

14.4.2.3.3 Trademarks and Trade Names *Trademarks* may be defined as:

> *a word, phrase, symbol, or design, or a combination thereof, that identifies and distinguishes the source of the goods of one party from those of others.*[153]

Trade names refer to the commercial name that a business sells products or services under.[154] *Trademarks* and *trade names* hold economic value, in that they have the capacity to bring *recognition* and "*brand loyalty*" to the subject enterprise through the *perception* of *quality assurance* in the services provided by the branded organization.[155] Brands are becoming an increasingly important asset for all types of business, especially *service-oriented organizations*, such as those in the healthcare industry.[156] This *recognition* may allow an enterprise to charge *higher reimbursement rates* than its competitors for similar types of services, or it may provide the ability to gain market share from competing peers through perceived quality differences.[157] These abilities arise from the communication of the "*unique selling proposition*" of the organization, for example, *scope of services provided* and/or *quality of outcomes rendered*, which is usually accomplished through *advertising*.[158]

As with other forms of intellectual property, *trademarks* and *trade names* are most often valued using *Income Approach–based valuation methods*; however, for those property interests that have reported transactional data of comparable licensing arrangements, a *Market Approach–based valuation method* may also be appropriate.[159] One example of an Income Approach that can be used to value trademarks and trade names, such as that of a nationally renowned cancer treatment center, is the *Relief from Royalty*

---

[153] United States Patent and Trademark Office, "Protecting Your Trademark: Enhancing Your Rights through Federal Registration," 2012, p. 1.

[154] Eric Berkowitz, *Essentials of Health Care Marketing* (Gaithersburg, MD: Aspen Publishers, 1996), p. 222.

[155] Gordon V. Smith and Russell L. Parr, *Intellectual Property: Valuation, Exploitation, and Infringement Damages* (Hoboken, NJ: John Wiley & Sons, 2005), p. 43.

[156] Wes Wilkes, "Vital Times: The Changing Role of Brand within the Health & Life Sciences Industry," *InterbrandHealth*, p. 1.

[157] Roman R. Snihurowych, Felix Cornelius, and Volker Eric Amelung, "Can Branding by Health Care Provider Organizations Drive the Delivery of Higher Technical and Service Quality?" *Managed Health Care* 18, no. 2 (2009): 126–134.

[158] See Section 14.4.2.6.1, "Advertising," for further discussion of advertising.

[159] Gordon V. Smith and Russell L. Parr, *Intellectual Property: Valuation, Exploitation, and Infringement Damages* (Hoboken, NJ: John Wiley & Sons, 2005), p. 259.

Method. This method starts with transactions from *proprietary databases*, for example, KtMine, or *published books*, such as *Licensing Royalty Rates*, that include *comparable royalty rates* for *trade names* of other prestigious healthcare organizations that can be used to determine an *appropriate royalty rate* for the *subject trade name*.[160] It should be noted that it is critical that the valuation analyst review the underlying licensing agreements to ensure that the *selected* royalty rates are based on *homogenous badges of comparability*, when using *market data* to derive an *appropriate royalty rate* for the subject intangible asset.[161] This rate would then be multiplied by the *applicable* level of economic benefit, that is, the level *specified* in the *selected comparable licensing agreements*, generated by the portion of the subject enterprise that is determined to *rely on* the *trade name* to generate revenue (which in this case would be the cancer treatment center), in order to derive the *before-tax* net economic benefit attributable to the *subject trade name*. Applicable taxes would be deducted to arrive at the *after-tax* net economic benefit attributable to the *subject trade name* that is then discounted back to the present using a *risk-adjusted required rate of return*, based on the risks associated with an investment in the *subject trade name*. These risks may include:

1. The *uncertainty* related to the ability of the subject enterprise, which relies on the *subject trade name* in order to generate revenue, to achieve the level of *forecasted economic benefit*;
2. The *uncertainty* regarding whether the *selected* royalty rate is comparable to the rate that the *subject trade name* would command as a royalty in the market;
3. The risk of *brand obsolescence* or *poor brand management* post-transaction; and
4. The availability of *alternative investments*. An example of the application of trademarks and trade names can be found online at http://www.wiley.com/go/healthcarevaluation.

14.4.2.3.4 Patents *Patents* are classified by the United States Patent and Trademark Office into three subcategories: *utility patents*, *design patents*,

[160] See KtMine database website for information regarding licensing transactions, http://www.ktmine.com/. Gregory Battersby and Charles Grimes, *Licensing Royalty Rates*, 2012 ed. (New York: Aspen Publishers, 2012).

[161] Examples of *homogenous badges of comparability* for licensing agreements are discussed in Section 14.4, "Classification and Valuation of Intangible Assets."

and *plant patents*.[162] These subcategories of patents are defined by the United States Patent and Trademark Office as follows:

1. ***Utility patents*** *may be granted to anyone who invents or discovers any new and useful process, machine, article of manufacture, or composition of matter, or any new and useful improvement thereof;*
2. ***Design patents*** *may be granted to anyone who invents a new, original, and ornamental design for an article of manufacture; and*
3. ***Plant patents*** *may be granted to anyone who invents or discovers and asexually reproduces any distinct and new variety of plant.*[163]

Inventions that are *patentable* are defined by reference to the United States Code as:

> *any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof. . . .*[164]
>
> *The word "process" is defined by law as a process, act or method, and primarily includes industrial or technical processes. The term "machine" used in the statute needs no explanation. The term "manufacture" refers to articles that are made, and includes all manufactured articles. The term "composition of matter" relates to chemical compositions and may include mixtures of ingredients as well as new chemical compounds. These classes of subject matter taken together include practically everything that is made by man and the processes for making the products.*[165]

Process-related patents typically involve the *legal protection* of those business processes that are *legally transferable* to other enterprises, which enable an organization to operate in an efficient manner, for example, *six sigma design methods*. *Specialized equipment* and *instruments* that may lend to the

---

[162] United States Patent and Trademark Office, "General Information Concerning Patents—What Is a Patent?" November 2011, http://www.uspto.gov/patents/resources/general_info_concerning_patents (accessed March 4, 2013).

[163] Ibid.

[164] "Inventions Patentable," 35 USC 101 (January 2013).

[165] United States Patent and Trademark Office, "General Information Concerning Patents—What Can Be Patented," November 2011, http://www.uspto.gov/patents/resources/general_info_concerning_patents.jsp#heading-4 (accessed February 18, 2013).

increased care and *beneficial quality outcomes* received by the subject enterprise's patients make up the items covered under a *machine-related patent*. *Composition of matter–related patents* would include pharmaceuticals and other biologics, and *manufacture-related patents* would serve as the "*catch-all*" moniker for innovations that do not fall into the other categories.[166] Typically, patent rights for pharmaceuticals have a duration of 20 years.[167] However, FDA-granted exclusivity, which is another important aspect to consider when valuing patents, is dependent on the type of exclusivity granted.[168]

Most intellectual property, including patents, is valued using *Income Approach–based valuation methods*, as previously discussed in Section 14.4, "Classification and Valuation of Intangible Assets." However, *patents* that have *established liquid markets* with reported transactions of comparable property interests may also be valued using a direct *Market Approach–based valuation method*.

In the healthcare industry, patents for *pharmaceuticals* and *medical devices* most often vary in value based on the perception of the probability of obtaining FDA approval or other regulatory approvals required for the patent. These patents also vary in value based on the *perception* of the strength of legal protection of the patent, which affects (1) the investment time horizon of achieving the *future net economic benefit* and (2) the level of certainty that the patent will ultimately meet regulatory approval (in its current form).[169] Note that the approval process for patents is considered to be longer and more costly than the process for medical devices.[170]

The stratification of levels to obtain FDA approval for a patent includes:

1. Investigational New Drug permission;
2. New Drug Application—Phase 1 Clinical Trials;
3. New Drug Application—Phase 2 Clinical Trials; and
4. New Drug Application—Phase 3 Clinical Trials.[171]

---

[166] Gordon V. Smith and Russell L. Parr, *Intellectual Property: Valuation, Exploitation, and Infringement Damages* (Hoboken, NJ: John Wiley & Sons, 2005), p. 28.

[167] Lisa M. Brownlee, *Assets & Finance: Audits and Valuation of Intellectual Property* (Eagan, MN: Thomson Reuters, 2012), §5:12.

[168] U.S. Food and Drug Administration, "How Long Is a Patent Granted For?" 2013, http://www.fda.gov/Drugs/DevelopmentApprovalProcess/ucm079031.htm (accessed March 1, 2013).

[169] Mike Pellegrino, "Pharmaceuticals & Medical Devices: Building and Valuing Intellectual Property Portfolios," Business Valuation Resources Webinar, December 11, 2008.

[170] Ibid.

[171] See Section 3.6.5, "Food and Drug Administration (FDA) Enforcement," in Chapter 3, "Regulatory Environment," for more information on the levels of FDA approval.

Typically, the further along the patent is in the FDA approval process, the *shorter the time horizon* of receiving the *future net economic benefit* from the investment, and the *greater the certainty* of the patented product obtaining final FDA approval. Both of these factors reduce the *perceived risk* related to an investment in the subject patent. This concept results in both *lower royalty rates* and *higher discount rates* associated with deals for patents that have not reached the *proof of concept* (POC) stage, that is, those patents that have an FDA approval level of Phase II or below, since POC is defined as an FDA approval level of Phase III and above.[172]

Determining the future net economic benefit derived from the patented product or service requires forecasting sales volume, product pricing, economic operating expenses, and economic capital expenses.[173] This future net economic benefit to be derived from ownership of, or the right to control, a patent may be determined by using either the Relief from Royalty Method, discussed in Section 14.4, "Classification and Valuation of Intangible Assets," or a Premium Pricing Method, discussed later. This forecasted benefit stream is then discounted back to the present by an appropriate risk-adjusted required rate of return to develop an indication of value for the ownership interest in the subject patent.

The *Relief from Royalty Method* uses *comparable royalty rates*, derived from market transactions of similar intellectual property interests, to establish the *revenue stream* attributable to the subject patent. This comparable market data is available from numerous sources, including *proprietary databases*, such as KtMine, or *published books*, for example, *Licensing Royalty Rates*.[174] Once the *revenue stream* generated by the subject patent has been established, applicable *economic operating costs* and *economic capital costs*, as well as *appropriate taxes*, are deducted from the *revenue stream* in order to determine the *net economic benefit* attributable to the subject patent. These expenses should reflect all of the necessary periodic costs incurred to license the subject patent interest.

---

[172] Licensing Executives Society (USA and Canada), *2012 Global BioPharmaceutical Royalty Rates & Deal Terms Survey*, December 2012, pp. 44, 47–48, 116.

[173] See Section 8.1.1.2.3, "Forecasting," in Chapter 8, "Valuation Approaches and Methods," for further discussion on forecasting methods and techniques.

[174] See the KtMine database website for information regarding licensing transactions: http://www.ktmine.com/. Gregory Battersby and Charles Grimes, *Licensing Royalty Rates*, 2012 ed. (New York: Aspen Publishers, 2012). See Section 14.4, "Classification and Valuation of Intangible Assets," for further discussion on selecting royalty rates based on *homogenous badges of comparability* to the subject patent interest.

The *Premium Pricing Method* is a form of *With and Without Technique* that uses the anticipated difference in product pricing between, for example, in healthcare a *branded drug* and a *generic version* to determine a basis for the *net economic benefit* attributable to the subject patent interest. The *pre-tax net economic benefit is* calculated by multiplying the estimated *percentage difference* in product pricing between the branded and unbranded products by the projected sales volume of the patented product, over the life of the patent protection for that product.[175] This *incremental benefit* for each period of the patent's remaining useful life is then tax-affected in order to derive the *net economic benefit* to be discounted back to the valuation date at an appropriate *risk-adjusted required rate of return.*

The level of risk associated with investment in a patent is based on factors that may include, but are not necessarily limited to,

1. The perceived *strength of patent protection*;
2. The perceived *risk of future product/service failures* associated with postregulatory approval clinical studies;
3. The *uncertainty related to market adoption*;
4. The *amount of competition* at the product/service level, that is, from competing patents during the protection period or from generic products once the protection period has expired;
5. The *variability in future brand affinity*;
6. The remaining useful life of patent protection; and
7. Future changes in science and technology.[176]

Other considerations for the amount of risk associated with investment in a patent may include:

1. The diversity of end-uses for the patented intellectual property;
2. The estimated remaining life of patent protection; and
3. The availability of substitute intellectual property providing similar or greater utility than the subject intellectual property.[177]

---

[175] Christopher Glover, "Alternative Methods of Brand Valuation," in Raymond Perrier, ed., *Brand Valuation*, 3rd ed. (London: Premier Books, 1997), pp. 21–22.

[176] Mike Pellegrino, "Pharmaceuticals & Medical Devices: Building and Valuing Intellectual Property Portfolios," Business Valuation Resources Webinar, December 11, 2008.; Michael Pellegrino, *BVR's Guide to Intellectual Property Valuation* (Portland, OR: Business Valuation Resources, 2009), chap. 6.

[177] Gordon V. Smith and Russell L. Parr, *Intellectual Property: Valuation, Exploitation, and Infringement Damages* (Hoboken, NJ: John Wiley & Sons, 2005), p. 222.

14.4.2.3.5 Trade Secrets or Other Know-How *Technical* and *specialty research* may be considered the "*work-in-progress*" of *patents*, *copyrights*, *trademarks*, or *other intangible assets*, which usually entails special "know-how" or *trade secrets* that are often protected or "*padlocked*," in contrast to being *patented*. The decision of whether to *patent* or *padlock* is often based on factors that include:

1. The amount of expenditure invested in research and development;
2. The depth and breadth of the market for the technology;
3. The amount of competition pursuing similar research;
4. The ability to keep the technology confidential; and
5. The pace of technological advancement in the industry, which has the potential to shorten the useful economic life of the technology below the time it would take to obtain patent approval.

Trade secrets are protected from misappropriation at the *federal level* by the *Uniform Trade Secrets Act*; however, most state laws conform to the federal law, and therefore most litigation takes place at the state level.[178] Note that *trade secrets* differ from other forms of intellectual property, in that there is no statutory limit to trade-secret protection.[179]

Technical and specialty research capabilities may produce reported revenue streams based on grants or other research-related funding. Applicable *economic operating expenses*, for example, *salary*, *benefits*, and *overhead*, along with applicable *economic capital expenses*, are deducted from the reported *economic benefit* from the research grants to calculate the *net economic benefit* attributable to the *subject technical and specialty research capabilities*. This net economic benefit is then discounted back to the present at an appropriate *risk-adjusted required rate of return* applicable to the risks associated with investment in the *subject technical and specialty research capabilities,* which is in contrast to a direct investment in the subject enterprise. Risks associated with an investment in *trade secrets* include, but are not necessarily limited to,

1. The transferability of the process;
2. The level of confidentiality in the process;
3. The versatility of the "know-how";[180]

[178] Ibid., pp. 22–27.

[179] Ibid., p. 222.

[180] Ibid.

4. The relative ease with which the technology is able to be reverse-engineered; and
5. The likelihood that the technology would be independently developed by another party.[181]

14.4.2.4 Classification and Valuation of Operations and Location-Related Intangible Assets *Operations and location-related intangible assets* are certain components of a business enterprise's operations that generate *positive economic benefits* through operational efficiencies. As regards the healthcare industry, *intangible personal property* that fits into the classification of *operations-related intangibles* may include *historical information and documentation, supplier contracts, assets assemblage factors, and going-concern value.* Most *location-related intangible assets* would be classified as intangible *real property*, for example, *leasehold interests, favorable locations—close proximity to hospitals*, in contrast to intangible *personal property*, and, as such, are discussed in Section 14.4.1, "Classification and Valuation of Intangible Real Property."

Operations-related intangible personal property is most often valued using the *Replacement Cost Method* or *Income Approach–based valuation methods.*[182] However, *licensing arrangements* related to the *use* of *operations-related intangible assets* that could be used in the *Relief from Royalty Method* may exist.[183]

Operations-Related Intangible Assets

Includes computerized management information systems that produce customized reports on the financial, operating, and patient outcome performance of the subject enterprise to aid in future management decision making and strategic planning.

Valuing Professional Practices—Thorny Challenges, *by William H. Black (Sandy Springs, GA: Analytical Value, 2006), p. 27.*

[181] Ibid., pp. 22–23.

[182] See Section 14.4.2.2.3, "Noncopyrighted Policies and Procedures," for further discussion of this method applied to the valuation of *noncopyrighted policies and procedures*. See Section 8.1.1, "Income Approach," in Chapter 8, "Valuation Approaches and Methods," for further discussion of these methods.

[183] See Section 14.4, "Classification and Valuation of Intangible Assets," for further information related to the implementation of the *Relief from Royalty Method*.

14.4.2.4.1 Historical Information and Documentation *Historical information and documentation*, for example, *information regarding clinical outcomes*, *financial statements*, and *productivity reports*, creates a record against which future records can be compared and benchmarked that may (1) provide management with the *necessary data and information* to make *operational and/or strategic adjustments* to adapt to market changes, in order to *maximize* the organization's *net economic benefit* and thereby *enhance* the *value of the enterprise*; or (2) can be used to assess the efficacy of prescribed treatments, which provides valuable analytics to the subject enterprise to develop more efficacious treatment plans, as well as organizations that compile clinical data for research purposes, for example, the Regenstrief Institute.[184]

Certain types of *historical information and documents*, such as *financial records*, may be valued using *Asset/Cost Approach–based valuation methods,* similar to their application for the valuation of other types of intangible assets, for example, *noncopyrighted policies and procedures*, discussed in Section 14.4.2.2.3, "Noncopyrighted Policies and Procedures." It should be noted that the TDRAs necessary to re-create financial records with the same or similar utility to the subject financial records would be more heavily weighted toward *data entry* than *strategic development*, which is in contrast to *noncopyrighted policies and procedures*.

Other types of *historical information and documents*, such as *historical records of clinical outcomes*, may have significant value above the cost to create the record and accordingly may be valued using an *Income Approach-based valuation method*. Typically, data regarding *clinical outcomes* may hold particular value based on either (1) the length of time that data for a *particular treatment regimen* for a *specific patient population* has been recorded and/or (2) the *number of patients* included in the treatment regimen. The *net economic benefit* attributable to this data would be in the form of *more efficient* and *efficacious treatment plans* for specified *injuries*, *ailments*, *or diseases*, which allow the enterprise to provide services at a *reduced cost*. This *net economic benefit* could be calculated by analyzing the difference in profit margins that the subject enterprise would have *with and without* the *historical records of clinical outcomes*.[185] This net economic

[184] James Cortada, Dan Gordon, and Bill Lenihan, *The Value of Analytics in Healthcare: From Insights to Outcomes*, IBM Institute for Business Value (Somers, NY: IBM Global Services, 2012), p. 3; Regenstrief Institute, http://www.regenstrief.org/, 2013 (accessed March 1, 2013).

[185] See Section 8.2.6, "With and Without Analysis," in Chapter 8, "Valuation Approaches and Methods," for further information on performing this type of technique.

benefit is then discounted back to the present using an appropriate *risk-adjusted required rate of return* applicable to an investment in the *subject historical records of clinical outcomes*.

14.4.2.4.2 Supplier Contracts *Supplier contracts*, typically those obtained through *group purchasing organizations*, can provide the subject enterprise with *pricing* and *service assurances* that may allow for *increased accuracy* and *reliability* for budgeting of the enterprise's operations, as well as a *competitive cost advantage* for producing and providing its services. The premium pricing derived from increased negotiation leverage and/or the cost avoidance from increased accuracy and reliability would serve as the *net economic benefit* attributable to supplier contracts.

Supplier contracts that provide the subject enterprise with these *favorable contract rates* can be valued using an *Income Approach-based valuation method*, in a manner similar to that described for *leasehold interests* in Section 14.4.1, "Classification and Valuation of Intangible Real Property."

14.4.2.4.3 Asset Assemblage Factors and Going-Concern Value *Asset assemblage factors* and *going-concern value* are those incremental elements of value that are created when *assets*, either tangible or intangible, are *associated together* to produce benefit above that which would be created by the *assets apart*.[186] *Going-concern value* is defined by the Internal Revenue Service as:

> *value that attaches to property by reason of its existence as an integral part of an ongoing business activity. Going concern value includes the value attributable to the ability of a trade or business (or a part of a trade or business) to continue functioning or generating income without interruption notwithstanding a change in ownership.*[187]

It should be noted that going-concern value is a *separate and distinct* intangible asset, which represents the value produced by *combining dissimilar resources*, in contrast to the value associated with goodwill, which is further discussed in Section 14.4.2.11, "Classification and Valuation of Goodwill."[188]

---

[186] Robert Reilly and Robert Schweihs, *Valuing Intangible Assets* (New York: McGraw-Hill, 1999), p. 12.

[187] "Amortization of Goodwill and Certain Other Intangibles," 26 CFR §1.197-2 (4-1-09 Edition).

[188] Merle F. Dimbath, "The Theory and Practical Determination of Going Concern Value," *Journal of Forensic Economics* 7, no. 2 (1994): 178.

Going-concern value is most often appraised by analyzing the subject property interest under the premise of *value-in-use* and under the premise of *value-in-exchange*. The resulting difference in the value of the subject property interest under each premise of value provides an indication of the *going-concern value*.[189] Or, in the alternative, the *separately identified and appraised* tangible and intangible assets, including *goodwill*, which could be valued using an excess earnings method, could be subtracted from the indication of value derived from the premise of *value-in-use* to determine any value attributable to the separate and distinct intangible asset of *going-concern value*.[190] *Asset assemblage factors* can be valued in a similar manner by assessing the difference in value between the subject property *sold as an assemblage of assets* and the value of the subject property *sold on a piecemeal basis*.[191]

14.4.2.5 Classification and Valuation of Governance or Legal Structure Related Intangible Assets In the healthcare industry, *intangible personal property* classified as *governance/legal structure-related* may include *organizational documents*, *income distribution plans*, *right of first refusal*, *antipiracy provisions*, and *covenants not to compete*.[192]

Governance and legal structure–related intangible assets, such as *income distribution plans* or *corporate by-laws*, while *necessary* to the operation of an enterprise, may *not* provide a *direct revenue stream* for use in an *Income*

Governance/Legal Structure–Related Intangible Assets

Includes organizational documents, income distribution plans, and covenants not to compete.

Valuing Intangible Assets, *by Robert Reilly and Robert Schweihs (New York: McGraw-Hill, 1999), pp. 403–404.*

[189] Robert Reilly and Robert Schweihs, *Valuing Intangible Assets* (New York: McGraw-Hill, 1999), p. 12.

[190] See Section 8.1.3.3, "Excess Earnings Method," in Chapter 8, "Valuation Approaches and Methods," for further discussion of this method. Merle F. Dimbath, "The Theory and Practical Determination of Going Concern Value," *Journal of Forensic Economics* 7, no. 2 (1994): 176–178.

[191] Merle F. Dimbath, "The Theory and Practical Determination of Going Concern Value," *Journal of Forensic Economics* 7, no. 2 (1994): p. 171.

[192] Robert Reilly and Robert Schweihs, *Valuing Intangible Assets* (New York: McGraw-Hill, 1999), pp. 403–404.

Approach–based valuation method. Likewise, because of the *unique* nature of many of these documents, there may be a lack of comparable transactions providing guidance as to the value of the *subject governance/legal structure–related intangible asset*, nullifying the use of a *Market Approach–based valuation method*. However, an *Asset/Cost Approach–based valuation method*, which allows for the *quantification* of the intangible asset through the measure of the *economic input* used to *create the documents*, for example, *outside professional services* or *internal labor*, may be an appropriate technique to employ.[193]

14.4.2.5.1 Organizational Documents *Organizational documents*, such as *corporate by-laws*, *operating agreements*, and *shareholders agreements*, are a written record of the *governance rules* by which the organization *operates* and provides certain *privileges* and *protections* to the owner(s)/shareholder(s) on an *individual*, as well as a *collective*, basis. These documents provide order and structure to the management and operation of the enterprise through:

1. The establishment of the organization's vision, mission, and goals;
2. Designation of key stakeholders; and/or
3. Delegation of authority.

These documents most often do not produce direct income streams for use in an *Income Approach–based valuation method* and usually lack *established liquid markets* with reported transactions, invalidating the use of a *Market Approach–based valuation method*. However, the *Replacement Cost Method*, used in a manner similar to that used to appraise *noncopyrighted policies and procedures*, may yield an appropriate value attributable to the intangible asset consisting of *organizational documents*.[194]

14.4.2.5.2 Income Distribution Plans *Income distribution plans* are the agreed-on formula(s) by which the owner(s)/shareholder(s) are compensated, which provide the *incentives* that may influence their behavior and performance, for example:

1. Their *ability/willingness to tolerate risk* in strategic business planning;
2. Their *desire to be involved in the day-to-day management* of the business operations; or

[193] See Section 14.4.2.2.1, "Employee and Provider Employment Agreements," for further discussion on implementing the *Replacement Cost Method*.

[194] See Section 14.4.2.2.3, "Noncopyrighted Policies and Procedures," for further discussion of the *Replacement Cost Method* used to value *noncopyrighted policies and procedures*.

3. In the case of a physician owner of a medical practice, their *willingness to exchange leisure time to devote more time to providing clinical related services*, typically measured by work Relative Value Units (wRVUs).[195]

These types of assets are typically valued using the *Replacement Cost Method* in a manner similar to that used to appraise *noncopyrighted policies and procedures* and may yield an appropriate value attributable to the intangible asset made up of *organizational documents*.[196]

14.4.2.5.3 Right of First Refusal *Governance/legal structure–related intangible assets* may also include *provisions* or *rights* that are attached to certain contracts and agreements, for example, a *right of first refusal* (ROFR), which gives the *holder* of the ROFR right the *option* to purchase property for the same price that another bidder is willing to pay for that property.[197] The ROFR may act to:

1. *Restrict the marketability* for the subject property when the *cost of performing due diligence is high*, since most purchasers would be *less willing* to expend such *investigative costs* to determine the amount they should offer for the subject property, if the right holder has the option to *purchase the property* at a price equal to the offer from a non-ROFR holder, *decreasing* the probability that the non-ROFR holder will ultimately achieve a return on his or her *due diligence investment*;
2. *Create additional legal/transactional costs* to accommodate the transfer of the ROFR; and
3. *Delay the transition* of the subject property interest. Also, the seller of a property interest subject to an ROFR may run the risk of obtaining *lower initial offers*, as well as the possibility that the *final offer* would be lower, due to the ability of the ROFR holder to price his or her *initial*

[195] wRVUs are more fully discussed in Section 2.4.1.3.2, "Physician Reimbursement and Billing: The Resource Based Relative Value Scale (RBRVS)," of Chapter 2, "Reimbursement Environment."

[196] See Section 14.4.2.2.3, "Noncopyrighted Policies and Procedures," for further discussion of the *Replacement Cost Method* used to value *noncopyrighted policies and procedures*.

[197] Ashok Bhardwaj Abbott, "Healthcare Finance: ROFO and ROFR Agreements in Acquisitions," National Association of Certified Valuators and Analysts, December 6, 2012.

bid below what the ROFR holder would have bid, had he or she not held the ROFR right to a second bid.[198]

Since the economic value of an ROFR is partially derived from the amount of *market restriction* imposed by the right on the subject property interest, the valuation of an ROFR may be ascertained by employing *put option models*, which are often used by appraisers to value *discounts for lack of marketability.* In those instances where the ROFR has a stated *exercise price*, the *Black-Scholes model* and certain *look back put option models*, which may include (1) the Chaffee model, (2) the Longstaff model, (3) the Finnerty model, or (4) Long-Term Equity Anticipation Securities (LEAPS) studies, may be used to derive an indication of value for the ROFR.[199] However, in the event that the ROFR does not specify the price at which the holder of the right may "*exercise*" his option, the valuation may be performed using a *path dependent option*, for example, a *floating look back put option*.[200] The further description and the specific steps used in these methods were deemed to be outside of the scope of this book but are widely published in various books, journals, and treatises that address option valuation methods and techniques (see *Key Sources*).

It should be noted that the *use* of these models may be *constrained* by *the availability of reliable data* to estimate the *requisite input* for the method selected. For example, returns on publicly traded stocks are often used to derive the *volatility input* of an option pricing model.[201] However, certain types of healthcare enterprises, for example, *professional physician practices*, may lack *comparable publicly traded companies* whose investment returns could be used as a proxy for the expected investment returns of the subject property.

---

[198] Marcel Kahan, Shmuel Leshem, and Rangarajan Sundaram, "First-Purchase Rights: Rights of First Refusal and Rights of First Offer," *American Law and Economics Review* 14, no. 2 (October 10, 2012): 334–335.

[199] Shannon Pratt and Roger Grabowski, *Cost of Capital*, 4th ed. (Hoboken, NJ: John Wiley & Sons, 2010), pp. 579–583.

[200] M. Barry Goldman, Howard B. Sosin and Mary Ann Gatto, "Path Dependent Options: Buy at the Low, Sell at the High," *Journal of Finance* 34, no. 5 (December 1979); John C. Hull, *Options, Futures, and Other Derivatives*, 8th ed. (Boston: Prentice Hall, 2012), pp. 582–583.

[201] See Section 14.4.2.8.4, "Financial Derivatives," for further discussion of the input required to value *call/purchase options* using a *binomial option model*, which is the same as those necessary to value *put options* using a *binomial option model*.

14.4.2.5.4 Covenants Not to Compete *Covenants not to compete* (CNCs) are one of the *twigs in the legal bundle of rights* that define the property interest being appraised, which involves the *restriction* of one party, by another party, from *providing the same or similar goods and services* for a *specified period of time* and *in a specified geographic area*. Since *human capital–related assets* (defined in Section 14.4.2.2, "Classification and Valuation of Human Capital–Related Intangible Assets") are often one of the most valuable assets included in transactions involving *healthcare services or service-related enterprises*, CNCs are of particular importance, since they afford the buyer some *competitive protection* from the *risk* that the seller, after receiving appropriate consideration for the *future net economic benefit* to be derived from specific forms of his or her *human capital*, could then, post-transaction, sell that same *human capital* to another buyer.

It should be noted that the concept of CNCs may already be addressed and is inherent in the definition of *Fair Market Value*, which states that *both parties* to a transaction are *well informed*; are *acting in their respective, rational, economic self-interests*; are *professionally advised*; and that the *hypothetical transaction* is assumed to be closed, with the *typical legal protections* in place to safeguard their investment in the *transfer of ownership* of the *legal bundle of rights* that *define* and *encompass* the transacted property or interest. Within that context, the existence of the CNC may be considered to be an inherent element, manifesting the "*typical legal protections*" in the *Fair Market Value* of the property interest being appraised. Accordingly, while the value of the CNC may be (1) *allocated* from the *purchase price* of the enterprise, or (2) as a distinct asset in an *Adjusted Net Asset Method*, it may be *double-counting* the value of the CNC to appraise it as a *stand-alone asset*, over and above the subject enterprise's *Fair Market Value* in-use as a going concern, arrived at through an *Income Approach–based valuation method* or *Market Approach–based methods*, unless evidence exists that the comparable companies used in the *Market Approach method* were explicitly reported to exclude a CNC.[202] The issue of *double-counting* may also be a concern when a *trained and assembled workforce* (TAWF) and a CNC are valued as separate and distinct assets, as discussed later.

In the past, methodologies used for determining the value of a CNC included the use of *Income Approach–based valuation methods* that attempted to measure the difference in *revenues* and *net economic benefit* accruing to the property interest holder, by means of a *With and Without*

[202] See Section 8.1.3.1, "Adjusted Net Asset Method," in Chapter 8, "Valuation Approaches and Methods," for further discussion of this method.

Technique, which compares the financial results of the organization benefiting from the CNC, both with the restrictions and without them.[203] However, in those instances when *physician owners* of an *enterprise*, *asset*, *or service* are transferring their rights of ownership to an entity or an organization to which they will continue, post-transaction, to *refer patients*, these methodologies may be subject to regulatory scrutiny, for example, the *Anti-Kickback Statute* and/or the *Stark Law*, to the extent that this type of analysis might be construed as either directly or indirectly taking into account the *volume or value of referrals*.

Under the *premise of value* known as *value-in-exchange*, the value of a CNC can be derived without the same level of concern regarding regulatory scrutiny related to prohibition of considering the *volume or value of referrals*, by estimating the economic benefit derived from the *expectation* of the *avoidance* of a *future expense*, for example, the *costs* associated with *recruiting*, *hiring*, *and training* a new employee to replace the employees who may leave the organization, in the absence of the CNC. This method is essentially a *With and Without Technique*, where an indication of value for the CNC is derived from the difference in value between the TAWF with the CNC and the value of the TAWF without the CNC.

In accordance with the *Principle of Substitution*, the value of acquiring a *Trained and Assembled Physician Workforce* and a *Trained and Assembled Nonphysician Workforce* is *commensurate* with the expense required to *build* a new workforce in its entirety.[204] *Implicit* in the valuation of the workforces is the *assumption* that they will continue to *exist as an assemblage of staff, producing economic benefit* after a prospective transaction. It should be noted that this *assemblage assumption* includes a further assumption of the *indicated historical rate of turnover within the subject workforce*, calculated as the inverse of the *average tenure* of the existing workforce. For example, if the average tenure of the staff making up the subject workforce was 10 years, then the resulting *turnover rate* would be calculated as 1/10 or 10 percent.

A portion of the value attributable to the *Trained and Assembled Physician Workforce* and the *Trained and Assembled Nonphysician Workforce* may be allocable to a *Covenant Not to Compete* based on the probability that the workforce will either (1) *continue to exist as an assemblage*, under the assumption that workforce turnover will be similar to the *historical rate*

[203] See Section 8.2.6, "With and Without Analysis," in Chapter 8, "Valuation Approaches and Methods," for a discussion on the implementation of this technique.

[204] See Section 14.2.2.2, "Classification and Valuation of Cash and Investments," for an example of calculating the value of a *Trained and Assembled Physician Workforce*, based on the historical workforce turnover.

of turnover, due to the presence of individual CNCs; or (2) *dissolve* as an assemblage, due to the lack of a CNC, which would equate to a *higher than the projected historical turnover* in the workforce.

The steps in determining the *Fair Market Value* of a CNC related to employment of a physician, using a *Certainty Equivalent Valuation Methodology*, begin with the creation of discrete periods (e.g., years) coinciding with the number of periods the CNC will be in effect. In each period there are two possible outcomes: (1) in the absence of a CNC, a physician can *choose to compete*; or (2) under the terms of the CNC, the physician can *choose not to compete*. The value of the *Trained and Assembled Workforce* serves as the basis for the *expected cost* to the subject enterprise *in the absence* of CNCs, while $0.00 serves as the *expected cost* to the subject enterprise with CNCs *in place*. The next step is to determine the probability that either outcome occurs.

To develop the *probability of competition* in each period, referred to here as the *outcome probability,* several methods may be used, including:

1. *Research* as to attractiveness of the current physician employment opportunity relative to other opportunities that may be available in the region;
2. *Information* based on *management* expectations and representations; and
3. *Outside business advisers* to the subject enterprise.

Note that in the absence of *reliable information* pertaining to influences of the probability of either outcome occurring, each outcome is subject to being the result of an *independent event*. In that circumstance, a "*naïve*" assumption as to the *outcome probability* may be used that reflects that there would be a 50 percent chance (one of two possible outcomes) of either of the two outcomes occurring, that is, competing or not competing, analogous to basing the assumption on the *flip of a coin* where there are only two outcomes possible: heads or tails. Once the *outcome probabilities* have been established, the *probability weighted cost of each outcome* is determined by multiplying the *outcome probability* by the indicated *value of the outcome* (either the value of the *Trained and Assembled Workforce* or $0.00), which are then summed together to derive the *expected periodic cost of competition*, which is mathematically equivalent to multiplying the *outcome probability* associated with the absence of CNCs by the value of the *Trained and Assembled Workforce*.

An illustration of a *Certainty Equivalent Valuation Methodology* used to value a CNC is set forth in Exhibit 14.6. Note that for illustrative purposes, the assumptions that were used in the exhibit are as follows:

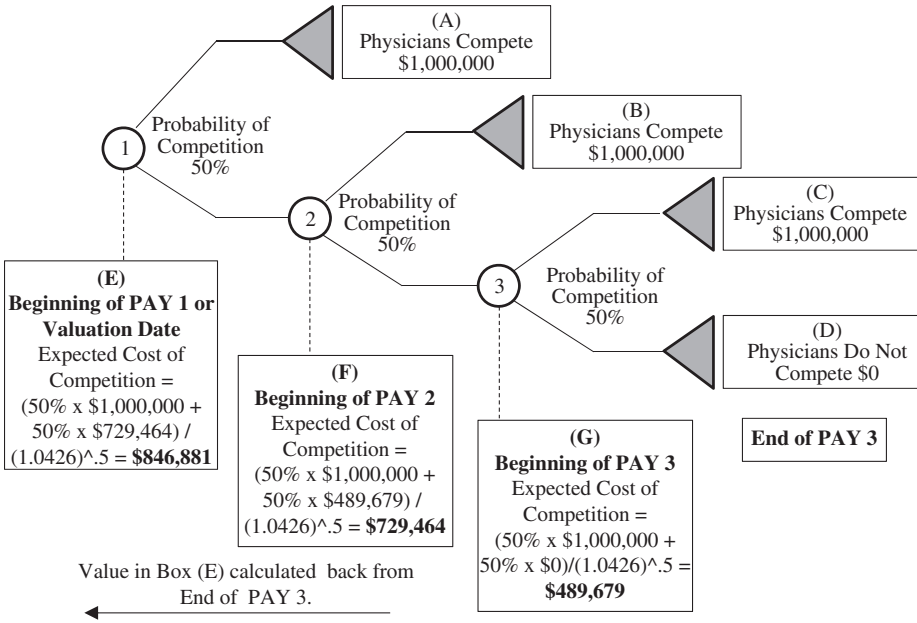


EXHIBIT 14.6 Fair Market Value of Covenant Not to Compete

(1) the CNC had a three-year term; (2) the undiscounted value of the *Trained and Assembled Physician Workforce* is assumed to be $1,000,000, which represents the cost incurred by the employer should the physicians decide to leave and compete; and (3) the probability of competition is 50 percent in each discrete period. The steps used in Exhibit 14.6 are as follows:

1. Note that the calculation starts at the end node and works backward; therefore, the Year 3 *expected cost of competition* is calculated as the sum of the products of:
   a. The full value of the TAWF, *multiplied by* the probability of competition; and
   b. The Year 4 *expected periodic cost of competition* ($0.00—since the term of the CNC is only three years), discounted back to the beginning of Year 4 (which is also the end of Year 3), *multiplied by* the probability of noncompetition (calculated as one minus the probability of competition);
2. The Year 2 *expected cost of competition* is calculated as the sum of the products of:
   a. The full value of the TAWF, *multiplied by* the probability of competition; and

   b. The Year 3 *expected periodic cost of competition,* discounted back to the beginning of Year 3 (which is also the end of Year 2), *multiplied by* the probability of noncompetition (calculated as one minus the probability of competition);

3. The Year 1 *expected cost of competition* is calculated as the sum of the products of:
   a. The full value of the TAWF, *multiplied by* the probability of competition; and
   b. The Year 2 *expected periodic cost of competition*, discounted back to the beginning of Year 2 (which is also the end of Year 1), *multiplied by* the probability of noncompetition (calculated as one minus the probability of competition).

The Year 1 *expected cost of competition* is discounted back to the beginning of the current period.

The appropriate *risk-adjusted required rate of return*, used to discount the *expected periodic cost of competition* to the beginning of each period, is typically a *risk-free rate*, since the riskiness of the CNC is reflected in the *outcome probability.* Also, the *mid-period convention* should be used to discount the *expected periodic costs of competition*, since the costs are assumed to be incurred evenly throughout each period, which, if averaged over the period, would lead to the conclusion that the cost is incurred in the middle of the period.[205]

It should be noted that in the event TAWF and CNC are being valued as separate and distinct elements of a transaction, the value of the CNC, which is part of the *typical legal protections* inherent in the definition of the FMV standard of value, is most often assumed to be included in the value of the TAWF. Therefore, in order to *avoid double counting* the economic value of the CNC, it is recommended that it be apportioned from the economic value of the TAWF, when appraised using a *Certainty Equivalent Valuation Methodology* as referenced earlier.

In addition to a CNC, which prevents employees from competing with the employer organization, a similar and related provision is an *anti-piracy clause*, which prevents terminated employees from *soliciting* other employees to leave the employer organization. These types of provisions can be valued using a similar *With and Without Technique* related to the value of the TAWF, as described earlier for a CNC. The difference in the

[205] See Section 8.1.1.7.1, "The Discrete Projection Period," in Chapter 8, "Valuation Approaches and Methods," for further information regarding the mid-period convention.

application of the method for an antipiracy provision is that in place of the probability that employees will compete in the absence of a CNC is the *joint probability* that (1) even in the absence of the antipiracy provision, there would be a *normal level of attrition* (most likely based on the historical rate) to the TAWF of the employer organization; and (2) an additional portion of the TAWF *would be successfully solicited to leave the employer organization by the terminated employees* in the event there was no antipiracy clause.

Also, in addition to a CNC related to employed services of individuals as described earlier, a CNC may be related to the services provided by an enterprise, post-transaction. For example, a transaction related to the *Fair Market Value* of the entirety of an ambulatory surgery center would be expected to include the *typical legal protections* afforded by a CNC, which protect the buyer from competition from the seller, for example, the seller "walking off" with the property interest previously transferred to the buyer. The value of the CNC could be allocated from the purchase price of the entirety of the enterprise by using a *With and* Without *Technique*, whereby the difference in value of the subject enterprise with and without the restriction would serve as an indication of value related to the CNC.[206]

Certain circumstances—namely, *marital dissolution* and *transactional tax planning*—may require the allocation of *professional and practice goodwill*, as further discussed in Section 14.4.2.11, "Classification and Valuation of Goodwill."[207] In some of these situations, it has been held by the courts that personal goodwill may include the value of a CNC. However, it should be noted that the case law regarding this topic differs from state to state (see Table 14.4) and changes frequently.

14.4.2.6 Classification and Valuation of Marketing and Business Development–Related Intangible Assets *Intangible personal property* that may be classified as *marketing and business development–related* include those assets that generate revenue for the subject enterprise through *enhanced recognition and quality assurance*. In the healthcare industry, these types of *intangible assets* may include *advertising, franchise/licensing agreements*, *joint ventures/alliances,* and *brand management services*.

---

[206] See Section 8.2.6, "With and Without Analysis," in Chapter 8, "Valuation Approaches and Methods," for a discussion on the implementation of this technique.

[207] Alina Niculita, Angelina Mckedy, and Kimberly Linebarger "How to Distinguish Personal Goodwill from Enterprise Goodwill, the Key Person Discount, and Noncompete Agreements," in *BVR's Guide to Personal v. Enterprise Goodwill*, 5th ed. (Portland, OR: Business Valuation Resources, 2012), pp. 101–102.

Marketing and Business Development–Related Intangible Assets

Includes advertising, franchise/licensing agreements, and joint ventures/alliances.

Valuation of Intellectual Property and Intangible Assets, *3rd ed., by Gordon V. Smith and Russell L. Parr (New York: John Wiley & Sons, 2000), pp. 17–18.*

Marketing and business development–related intangible assets are often intertwined with *intellectual property–related intangible assets* and usually provide *additional utility* to their owner(s), above the level of value produced by the underlying intellectual property, only when either (1) the licensing agreement grants the subject enterprise *the right to use* the intellectual property and pay another party a royalty rate *below the current market rate*, or (2) by allowing the subject enterprise *to license* the underlying intellectual property to another party at a royalty rate *above that of the current market rate*, depending on whether the subject enterprise owns the underlying intellectual property.[208] For example, most forms of *advertising* provide *important maintenance* to a *trade name or a trademarked brand*; therefore, the advertising expense may serve as an *economic expense burden* applicable to the *isolated income stream* attributed to the *intellectual property interest* to determine the *net economic benefit* derived from ownership of the intellectual property interest.[209]

In the event that the subject *marketing and business development–related intangible asset* does produce an isolated income stream above that produced by any associated intellectual property, an *Income Approach–based valuation method*, for example, the *single period capitalization method* when the *net economic benefit* is assumed to be *stable* in the future or the *discounted cash flow method* when the *future net economic benefit* is assumed to vary over the short term, may be appropriate methods to employ. Note that the methodology for valuing these types of assets would be similar to methodology used to value *leasehold interest intangible assets*, as discussed in Section 14.4.1.1, "Income Approach for Valuing Intangible Real Property," except that the net economic benefit is generated by the difference in *royalty rates*, in contrast to *lease rates*.

In the event that the *market rate* approximates the *contractual rate* for licensing *marketing and business development–related intangible*

[208] Gordon V. Smith and Russell L. Parr, *Intellectual Property: Valuation, Exploitation, and Infringement Damages* (Hoboken, NJ: John Wiley & Sons, 2005), pp. 17–19.

[209] Ibid., p. 261.

assets and therefore does not reflect a variance to serve as a *stream of future net economic benefit* above that of the underlying intangible assets for use in an *Income Approach–based valuation method*, the use of an *Asset/Cost Approach–based valuation method* may be indicated in determining the value of utility available to a potential purchaser from the avoidance of cost related to developing the *marketing and business development–related intangible asset* that is already in place. This could be determined by using the *Replacement Cost Method* in a manner similar to that used to value *noncopyrighted policies and procedures,* as discussed in Section 14.4.2.2.3, "Noncopyrighted Policies and Procedures."

14.4.2.6.1 Advertising There are ever expanding channels of healthcare *advertising programs* in support of the marketing and business development department of a healthcare organization, which include *direct mail*, *other print media*, *electronic media*, *social media*, *websites, telephone numbers*, *patient education outreach sessions*, *development of referral networks*, and *billboards*. *Advertising programs*, in addition to *publicity and personal selling*, are a method that is used to (1) *explain and differentiate a product/service*, how it can be *accessed*, what its *objectives* are, and its *unique selling proposition* in contrast to other products/services; and (2) *build goodwill* and *enhance the public's image* of a healthcare organization. Advertising can be classified into two common categories: *product* or *institutional*. *Product advertising* consists of communications meant to be (1) *informational*, (2) *competitive*, or (3) *a reminder*, while *institutional advertising* is most often used to (1) *introduce or announce* the opening of a new facility, (2) *compare programs*, or (3) *advocate a public position* of an organization, which may also assist in branding the enterprise.[210]

There is significant research evidence that in addition to providers and payors, *patients* need to be engaged in their treatment in order to be *accountable* for their care, if providers are going to be successful in *delivering quality outcomes*, as the reimbursement environment for healthcare products and services changes from the previous focus on procedure volume to that of value-based purchasing.[211] *Informational advertising* and *reminders* at the product/service level, for example, *patient appointment/treatment reminders* and *patient educational materials*, which consider health literacy and cultural competence, may go a long way in balancing the competing

[210] Eric Berkowitz, *Essentials of Health Care Marketing* (Gaithersburg, MD: Aspen Publishers, 1996), p. 309.

[211] See Chapter 2, "Reimbursement Environment," for further discussion of the reimbursement environment in the healthcare industry.

forces between *volume* and *value* brought on by the shifting reimbursement paradigm.[212]

In the past, many *not-for-profit entities* that implemented advertising programs came under heavy scrutiny for their expenditures.[213] Note that *healthcare advertising programs* have been deemed to be legally permissible under the Federal Trade Commission Act but must still comply with federal and state protections against *false*, *misleading*, or *deceptive* advertisements, and the American Medical Association's (AMA) Code of Ethics has special requirements of its members regarding the advertising it deems permissible.[214] The motivations for increased advertising and promotion may be different between *for-profit* and *not-for-profit* healthcare entities, in that *tax-exempt healthcare organizations* do not generate *net economic benefit* to the advantage of private shareholders. However, the *net economic benefit* they generate from providing goods and services may be reinvested into the enterprise to fund purchases of new technologies that *increase the ability* of the organization to *provide quality services* to their patients, including those patients who receive *charity care under* the exempt organization's mandate. Therefore, branding may be just as important to *tax-exempt organizations* as to *for-profit entities*, not only because of *increased competition* within the healthcare industry sector but also due to the *constantly evolving nature of healthcare technology* (see Chapter 4, "Competition," and Chapter 5, "Technology," for further discussion of these topics).

For those elements of an advertising program that provide a potential purchaser with an economic benefit through the *avoidance of cost* of re-creating the *advertising program*, the *Replacement Cost Method* may be used in a manner similar to that proscribed for *in-place leases*, as discussed in Section 14.4.1.3, "Asset/Cost Approach for Valuing Intangible Real Property," except that this method would entail determining the *tasks*, *duties*, *responsibilities*, *and accountabilities* associated with developing an advertising program. These TDRAs would include:

1. *Defining the target audience*;
2. *Determining the advertising objectives*, for example, awareness, interest, evaluation, trial, and adoption of the product/service;

---

[212]Wayne Clark, "Marketers and Communicators: Your Future Is Waiting," Society for Healthcare Strategy and Market Development, *Spectrum* (September/October 2012): 1–3.

[213]Philip Kotler and Roberta Clarke, *Marketing for Health Care Organizations* (Englewood Cliffs, NJ: Prentice Hall, 1987), p. 21.

[214]Steven Harris, Esq., "Advertise with Caution: State Laws Restrict How Physicians Can Market Themselves," *ENT Today*, December 2010, http://www.enttoday.org/details/article/884837/Advertise_with_Caution_State_laws_restrict_how_physicians can_market_themselves.html (accessed March 14, 2013).

3. *Determining the advertising budget*, for example, percentage of sales, competitive parity, residual, objective, and task;
4. *Developing the target message* through rational, emotional, and social appeals;
5. *Specifying the communication program* through the selection of medium and vehicles; and
6. Evaluating the response.[215]

Similar to that of *in-place leases*, market data used to determine the *direct and indirect costs* associated with the TDRAs required to *re-create* an equally desirable advertising program to that of the subject advertising program may include the *developer's profit*; if not, this information may be available in benchmark survey data regarding the return on operating expenses of *Advertising Agencies* (NAICS 541810). In addition to the difference in the required TDRAs, the *lost opportunity cost* or the *entrepreneurial incentive* should be based on the time it would take to develop the subject advertising, in contrast to the time it would take to develop a replacement lease.

14.4.2.6.2 Franchise/Licensing Agreements *Franchise/license agreements* can enable an organization to gain *access to markets* (either geographical or service) that *may not be previously feasible*.[216] An example of this may be a *start-up cancer treatment center* that licenses the *rights to use* the *trade name* of a *nationally developed cancer treatment center*, which may also include *other intellectual property* and *depth-of-management intangible assets*. Note that the value associated with the *intellectual property* and/or *operations-related intangible assets* may be separable from the value derived from the *licensing agreement* itself. In this instance, the *licensing agreement* may hold value only if the contract is for a *favorable rate*, which may be valued in a manner similar to that for *leasehold interests*.[217]

In the event that the subject agreement does not produce a direct income stream, the *Replacement Cost Method* may be used in a manner similar to that for *in-place leases*, as discussed in Section 14.4.1.3, "Asset/Cost Approach for Valuing Intangible Real Property."

---

[215] Eric Berkowitz, *Essentials of Health Care Marketing* (Gaithersburg, MD: Aspen Publishers, 1996), p. 309.

[216] Gordon V. Smith and Russell L. Parr, *Intellectual Property: Valuation, Exploitation, and Infringement Damages* (Hoboken, NJ: John Wiley & Sons, 2005), pp. 17–18.

[217] See Section 14.4.1.1, "Income Approach for Valuing Intangible Real Property," for further discussion of the valuation methodology for *leasehold interests*.

14.4.2.6.3 Joint Ventures and Alliances *Joint ventures and alliances* with other healthcare providers may enable an enterprise to *gain access to additional revenue streams*, provided that no legally impermissible payments are made for referrals under the *fraud and abuse* regulations. For example, Accountable Care Organizations (ACOs) are a form of an alliance, which may provide *monetary* and *nonmonetary* value to third parties, including *patients*, *employers*, and the *broader U.S. population* (SOCIETY); *health systems*, *hospitals*, and *physicians* (PROVIDERS); and *managed care organizations*, *commercial insurers*, and *Medicare* (PAYORS). SOCIETY may benefit from ACOs: (1) *monetarily*, *through cost reductions*, for example, reductions in expenditures for specified *patient populations*, reduction in medical expenditures for the *community served by an ACO*, lower overall *national healthcare expenditures* (NHE) as a percentage of gross domestic product (GDP), and/or decreasing rate of growth in medical care inflation, as well as (2) *nonmonetarily*, through *improved quality outcomes* and *greater access to care*.[218] PROVIDERS may benefit from ACOs: (1) *monetarily*, by obtaining the ability to produce *additional revenues*, which are derived from the cost savings the organization is able to achieve for specific payors; and (2) *nonmonetarily*, through improved *work-life balance*, access to *sophisticated technology*, access to *expanding social networks*, and increased *autonomy* in comparison to past managed care models. PAYORS may benefit from ACOs: (1) *monetarily*, through the anticipated reductions in *reimbursement payments* to PROVIDERS; and (2) *nonmonetarily*, through the enhanced reputation of payors that become more involved in the provision of *quality* clinical services.[219]

Alliances and joint ventures are commonly valued using *Income Approach–based valuation methods*.[220] For example, a federal ACO may provide services to Medicare beneficiaries below an *expenditure benchmark* for those services provided, which is established for the ACO by the *Centers for Medicare and Medicaid Services* (CMS). The level

---

[218] David I. Auerbach and Arthur L. Kellermann, "A Decade of Health Care Cost Growth Has Wiped Out Real Income Gains for an Average US Family," *Health Affairs* 30, no. 9 (2011): 1634.

[219] Robert James Cimasi, *Accountable Care Organizations: Value Metrics and Capital Formation* (Boca Raton, FL: Taylor and Francis Group, forthcoming), chap. 8.

[220] See Section 8.1.1, "Income Approach," in Chapter 8, "Valuation Approaches and Methods," for further discussion of this method.

of *incurred costs* below the established benchmark forms the basis of "*cost savings*" achieved by the ACO under the Medicare Shared Savings Program (MSSP).[221] These *cost savings* are then *shared* by the ACO and CMS, and these "*shared payments*" form the basis of the *net economic benefit* attributable to the ACO alliance, which can be discounted back to the present to determine the value of the ACO contract. Risks associated with an investment in an ACO, above the investment alternatives available to all market participants, include, but are not necessarily limited to,

1. *Uncertainty* regarding the *long-term viability* of the ACO reimbursement model, due to its relatively new and unproven operational success;
2. *Uncertainty* regarding the ability of the subject enterprise to *achieve the projected level of shared payments*;
3. *Funding shortfall risk* for payors of shared payments;
4. *Underlying investment risk* associated with each individual ACO participant; and
5. *Uncertainty* regarding the *ability to renegotiate* future ACO contracts.[222]

14.4.2.7 Classification and Valuation of Regulatory or Legal-Related Intangible Assets *Intangible personal property assets* that derive their existence from rules and regulations may be classified as *regulatory/legal-related*.[223] Examples of *regulatory/legal-related intangible assets* in the healthcare industry include *provider medical licenses*, *provider permits*, *Certificates of Need* (CON), *Medicare certification*, and *other certifications and accreditations*. Note that certain *regulatory/legal-related intangible assets* may be classified as *intangible real property*, for example, *facility licenses*, and as such, are discussed in Section 14.4.1, "Classification and Valuation of Intangible Real Property."

Most *regulatory or legal-related intangible assets* consist of some form of *market entrance barrier*, which, by prohibiting or restricting the market, allow incumbents in the healthcare industry sector the opportunity to earn

[221] See Section 6.4.4.1, "ACA's Establishment of Accountable Care Organizations," in Chapter 6, "Healthcare Reform," for further information regarding the MSSP.

[222] Robert James Cimasi, *Accountable Care Organizations: Value Metrics and Capital Formation* (Boca Raton, FL: Taylor and Francis Group, 2013), chaps. 6 and 7.

[223] Chapter 3, "Regulatory Environment," includes a discussion of various rules and regulations that are pertinent to healthcare valuation.

Regulatory/Legal-Related Intangible Assets

Includes facility licenses, medical licenses, permits, litigation awards and liquidated damages, certificates of need, Medicare certification, and other certifications and accreditations.

higher profits through less competition. Examples of *market entrance barriers* include:

1. *Supply side economies of scale*;
2. *Demand-side benefits of scale*;
3. *Customer switching costs*;
4. *Capital requirements*;
5. *Incumbency advantages, independent of size*;
6. *Unequal access to distribution channels*; and
7. *Restrictive government policy.*[224]

Regulatory and legal-related intangible assets, such as *facility licenses* or *certifications*, typically do not have *established*, *transparent*, *liquid markets* reporting transaction data for similar types of intangible assets, invalidating the use of a *Market Approach–based valuation method*. However, *regulatory and legal-related intangible assets* that produce a direct, measurable amount of *net economic benefit* can be valued using *Income Approach–based valuation methods*.

In addition, *Asset/Cost Approach–based valuation methods* may be used to value *regulatory and legal-related intangible assets*, in particular, those that do not produce a discernible direct economic benefit, in a manner similar to that used to appraise *noncopyrighted policies and procedures*.[225]

14.4.2.7.1 Provider Medical Licenses *Provider medical licenses* establish the criteria for the minimum *base of knowledge* required to perform certain professional services. This acts to mitigate the *asymmetric information gap* faced by patients that is inherent in the *physician-patient relationship*, due to the *complex and technical nature* of the services provided in the healthcare industry, as well as the *ambiguous* terminology and language used to communicate those services. These licenses are a type of *restrictive governmental*

[224] Michael Porter, *On Competition* (Boston: Harvard Business School Publishing, 2008), p. 12.

[225] See Section 14.2.2.3, "Classification and Valuation of Accounts Receivable," for further discussion of using this method.

policy that creates a *market entrance barrier*, limiting the amount of competition to those providers who have obtained the *appropriate training* and *experience*.

Provider medical licenses typically do not possess, in the same manner as product/process licenses, an economic value as a stand-alone discrete property interest. However, for the purposes of *marital dissolution*, some courts have held that a *professional medical license* is *marital property* and has value that is *subject to division* (see Table 14.6). In these circumstances, the value of a *license*, represented by the *enhanced earning capability* afforded to the holder of the license, can be determined using a *With and Without Technique*.[226] This technique is based on the difference between the *most probable periodic income* earned by an individual *who is not licensed* in contrast to that expected to be earned by an individual *who holds a license*. Information regarding the *most probable periodic income* for the specialty and/or subspecialty of the individual who *possesses a professional medical license* is published in several sources, including *normative industry benchmark survey data*.[227] To establish the *most probable periodic income* for an individual *who is not licensed*, various sources may be used, including:

1. Federal government agency data, such as the Bureau of Labor Statistics;
2. Compensation surveys, for example, Economic Research Institute (ERI); or
3. Web-based sources, such as Salary.com, Payscale.com.

Factors to be considered when determining the *most probable periodic income* for each scenario include:

1. *Geographic location* where the individual will provide services;[228]
2. *Demographic characteristics* of the individual, for example, *gender* and *age*; and
3. *Forecasted economic conditions* of the labor market.

---

[226] John F. Burke Jr. and Harvey S. Rosen, "Valuing Educational Attainment as a Distributable Asset," in *Valuing Professional Practices and Licenses: A Guide for the Matrimonial Practitioner*, 3rd ed., edited by Ronald Brown (New York: Wolters Kluwer Law & Business, 2013), pp. 31-1–31-17.

[227] See Section 15.5.1.6, "Clinical Related Services Compensation Benchmarking," in Chapter 15, "Healthcare Services," for a list of clinical compensation benchmarking sources.

[228] Milton Friedman and Simon Kuznets, *Income from Independent Professional Practice* (New York: National Bureau of Economic Research, 1945), pp. 173–235.

Once the *most probable periodic income amounts* have been developed for both the individual *with* the license and the individual *without* the license, survey data prepared by federal government agencies, such as the *Bureau of Labor Statistics*, can be used to estimate the *work-life expectancy* of both the individual *with* the license and the individual *without* the license, which would serve as the length of time that the *income from each of the two disparate pursuits* would be expected to be generated. In the healthcare professions, there are additional sources of survey data as to what constitutes the *most probable work-life expectancy time horizon* within which the individual could perform certain services, for example, a neurosurgeon performing surgeries.

Survey data related to the *most probable amount of clinical productivity* generated by an individual at *different age levels* over time can be used to calculate the expected income of an individual with a professional medical license. For example, the *most probable retirement age*, as well as the *most probable clinical production* overtime, of an orthopedic surgeon could be developed from independent market research of other orthopedic surgeons in similar markets or by analyzing survey data compiled by industry groups, such as the *American Academy of Orthopedic Surgeons*. *Mortality tables* are then used to adjust the income levels in each future period, based on the *probability of the individual being alive* at a particular age.[229]

This expected probable income amount is then discounted back to the present at an appropriate *risk-adjusted required rate of return*, which is most often a *risk-free rate*, since the variability of the future income levels is usually taken into account in the projected income amounts but may be subject to adjustment based on consideration of several elements, including:

1. The discount rate should be adjusted for differences in the length of time each income stream will be produced only in the event that differences in work-life expectancy are ***not*** taken into account.[230]
2. The discount rate should be adjusted for differences in uncertainty arising from changes in income over time only when it is reasonably

---

[229] Joel Rakower, "Enhanced Earnings Capacity: Understanding the Computations," in *Valuing Professional Practices and Licenses: A Guide for the Matrimonial Practitioner*, 3rd ed., edited by Ronald Brown (New York: Wolters Kluwer Law & Business, 2013), p. 33-7.

[230] Milton Friedman and Simon Kuznets, *Income from Independent Professional Practice* (New York: National Bureau of Economic Research, 1945), pp. 142–147.

assumed that there will be differences in one income stream that do not affect the other.[231]

3. A *nominal discount rate* should be used when income figures are projected at nominal growth rates.[232]

Once the discount rates and projected *future income streams* have been established, the difference in the present value of each income scenario would give an indication of the value of the license. Note that *ceteris paribus*, the value of the license would *decline with age*, as the expected number of *work-life years* for the individual *decreases over time*. This is in contrast to the value of a *well-run business enterprise*, which with prospects for growth often *increases in value with the passage of time*.[233]

14.4.2.7.2 Certificates of Need *Certificates of Need* (CON) in the healthcare industry, which exist in 36 states, act in a manner similar to a *license* or a *permit*, in that the state government determines *where*, *when*, *and how* capital expenditures will be made for healthcare *facilities*, *services*, and *major equipment*.[234] The CON approval process requires *time* and *resources* to be spent in the pursuit of an endeavor that ultimately may fail to achieve regulatory approval, which provides existing holders of a CON a *competitive advantage* over *potential entrants*, that is, it serves as a *market entrance barrier.*

Factoid

Thirty-six states retain some type of CON Program, law, or agency as of December 2011.

"Certificate of Need: State Health Laws and Programs," National Conference of State Legislatures, http://www.ncsl.org/issues-research/health/con-certificate-of-need-state-laws.aspx (accessed September 7, 2012).

[231] Ibid.

[232] John F. Burke Jr. and Harvey S. Rosen, "Valuing Educational Attainment as a Distributable Asset," in *Valuing Professional Practices and Licenses: A Guide for the Matrimonial Practitioner*, 3rd ed., edited by Ronald Brown (New York: Wolters Kluwer Law & Business, 2013), p. 31-12–31-13.

[233] Ibid., p. 31-14–31-17.

[234] *National Directory of Health Planning, Policy, and Regulatory Agencies*, 22nd ed. (Falls Church, VA: American Health Planning Association, 2011), p. 126; Robert James Cimasi, *The US Healthcare Certificate of Need Sourcebook* (Washington, DC: Beard Books, 2005), pp. 1–3.

These types of property interests manifested in a *market entrance barrier* can be valued using a *Replacement Cost Method*, which requires the summation of the *direct costs*, the *indirect costs*, the *developer's profit margin*, and the *entrepreneurial incentive* (also referred to as the *opportunity cost*) that would be incurred to re-create the market entrance barrier, for example, a CON, that provides the same or similar utility as that of the subject market entrance barrier. The *direct and indirect costs* may be developed through *independent market research* related to the type and amount of *tasks*, *duties*, *responsibilities*, *and accountabilities* (TDRAs) required to *re-create* a CON that provides an equal level of utility as that provided by the subject CON, which may or may not include the *developer's profit margin*.[235] Examples of *direct and indirect costs* include, but are not necessarily limited to,

1. The TDRAs associated with *executive management*, the *medical director*, the *business administrator*, *financial operations executive*, *legal counsel*, *professional advisers*, *expert witnesses*, *lobbyists*, *public relations support*, *and other staff* required to successfully navigate the CON approval process;[236]
2. Application preparation costs and filing fees; and
3. *Costs to perform financial feasibility analysis including Need-Based Formulas and community mapping*.[237]

In lieu of the *developer's profit margin* being included with the *direct and indirect costs*, an *appropriate profit margin* may be obtained from normative industry benchmark survey data related to an appropriate "*markup*" on similar *direct and indirect costs*, for example, the *return on operating expenses* of a consulting business (NAICS 541611 or 541613).

In addition to the *direct* and *indirect* costs associated with the *CON approval process*, the *value* of an *existing CON* may be *significantly affected* by the time and effort other market participants would be required to expend in order to *develop and implement* a successful application in achieving *a similar CON* in the same geographic market service area of the subject

[235] See Section 14.4, "Classification and Valuation of Intangible Assets," for further discussion of the *developer's profit margin*.

[236] Robert J. Cimasi, "Tips to Win: Navigating CON Laws for ASCs," January 2, 2008, http://www.surgicenteronline.com, p. 1.

[237] Robert J. Cimasi, "Developing and Implementing a Successful Certificate of Need Strategy," 2nd Annual GE Healthcare Outpatient Imaging Center Conference, Arlington, VA, July 2007, pp. 34–35.

CON. This additional value can be considered a form of *entrepreneurial incentive/opportunity cost* that may be required by the owner of the CON.

The calculation of the *entrepreneurial incentive/opportunity cost* can be determined using the *Discounted Future Benefits Method*, which calculates the value of the *opportunity cost* as the difference in *net economic benefit* generated by a *hypothetical start-up* and an *established enterprise* over the time it takes the *start-up* to reach the level of the *established enterprise*, which point in time is referred to as the *merger point*. Note that this method assumes that the *net economic benefit* for the *start-up* and the *established enterprise* are *equal* after the *merger point*, and it is unlikely that a purchaser, under the *Principle of Substitution*, in making the *buy* or *build* decision, would pay for a property interest that they could create on their own.

The *Discounted Future Benefits Method* begins with an estimate of the time it will take the *hypothetical start-up enterprise* to reach the merger point. Then, the difference between the *most probable income* generated by an *established enterprise,* which may be derived from normative benchmark industry survey data, and that generated by the *hypothetical start-up enterprise*, serves as the *gross incremental benefit* generated during the period from the *valuation date* to the *merger point*. Note that this *gross incremental benefit* includes the economic contribution of the CON, as well as the economic contribution of all of the other assets, both tangible and intangible, that produce the benefit stream. Accordingly, *contributory asset charges*, which represent the *expected rate of return* for all of the tangible and intangible assets required to generate the *gross incremental benefit*, including amounts related to goodwill, but excluding that for the CON, should be deducted from the *gross incremental benefit* to ascertain the residual *net economic benefit*, which may then be attributed to the economic value of the CON. This *net economic benefit* is then discounted back to the *valuation date* at an appropriate *risk-adjusted required rate of return* associated with an investment in the subject CON. *Risk factors* to be considered for an investment in a CON include, but are not necessarily limited to,

1. The probability of the *healthcare enterprise* being able to achieve the *projected future operating performance results* commensurate with those *past operating performance results* reported in the survey data used;
2. *Investor perceptions* as to the probable *investment time horizon* for an investment in assets similar to the CON; and
3. The probability of *regulatory restraints* manifesting a restriction and/or change in the availability of a CON.

14.4.2.7.3 Medicare Certification *Medicare certification* of an enterprise allows it to receive *reimbursement* from the federal government for patients subscribed to Medicare, with some enterprises, for example, certain types of hospitals, heavily dependent on the revenue stream of Medicare patients (see Chapter 11, "Inpatient Enterprises," for further discussion of the valuation methodology for hospitals, including their reimbursement environment). This *restrictive governmental policy* limits competition for *participating patients* to only those *certified providers*.[238]

The value of a *Medicare certification* can be determined through an *Asset/Cost Approach–based valuation method* in a manner similar to that of *Certificates of Need*, as discussed in Section 14.4.2.7.2, "Certificates of Need," except that the calculation of *opportunity costs* is based on the amount of *net economic benefit* generated by providing services to Medicare beneficiaries, and the risk involved would be related to the ability of the organization to achieve *Medicare certification*.

14.4.2.7.4 Other Certifications and Accreditations Attainment of other *certifications and accreditations*, such as those obtained by the *National Committee for Quality Assurance* (*NCQA*), the *Accreditation Association for Ambulatory Health Care* (*AAAHC*), and the *Joint Commission on Accreditation of Healthcare Organizations* (*the Joint Commission*), can create an added image of *quality* or *superior service* for an organization.[239] The *time* and *effort* expended to obtain other *certifications and accreditations* can be extensive, which cost may serve as a *market entrance barrier*, *deterring* potential competitors from entering the market, due to the cost of substantial capital resources required to achieve the subject certifications and/or accreditations deemed necessary to compete with those certified and accredited organizations already in the marketplace.

The value of *other certifications and accreditations* can be determined through an *Asset/Cost Approach–based valuation method* in a manner similar to that of *Certificates of Need*, as discussed in Section 14.4.2.7.2, "Certificates of Need," except that the calculation of *opportunity costs* is based on the amount of *net economic benefit* generated by providing services with the *certification* or *accreditation*, and the risk involved would be related to the ability of the organization to achieve the *subject certification/accreditation*.

---

[238] See Section 3.8.1.2, "Medicare and Medicaid Certification," in Chapter 3, "Regulatory Environment," for further discussion of this topic.

[239] See Section 3.8, "Licensure, Certification, and Accreditation Regulations," in Chapter 3, "Regulatory Environment," for further discussion of this topic.

Financial/Revenue Stream–Related Intangible Assets

Includes office share arrangements, management service agreements, and financing agreements, including options.

14.4.2.8 Classification and Valuation of Financial or Revenue Stream–Related Intangible Assets *Financial or Revenue Stream–Related Intangible Assets* are those assets that provide value through the use of *financial arrangements*, or those assets that derive their value from the *qualitative attributes of the subject enterprises' revenue stream*, for example, the subject enterprise has a revenue stream provided by an asset that is *not easily replaceable*, or the *payment terms* for a revenue-producing agreement are at *below market rates*. *Intangible personal property* that may be classified as *financial/revenue stream–related* include *office share arrangements*, *management service agreements*, *financial arrangements*, and *financial derivatives*, such as *swaps* and *purchase options*.

14.4.2.8.1 Office Share Arrangements An *office share arrangement* (OSA) consists of an agreement by which a professional practice *shares office space and staff* with another professional provider. From the *perspective of the lessee*, *or sublessee*, an OSA may enable the *physician lessee* to achieve *higher patient volume* in different and/or expanding *geographic areas* on a periodic basis, without bearing the *entire* burden as to the capital and operating expenses related to establishing their presence in a "*satellite*" office. From the *lessor's perspective*, an OSA presents an *economic opportunity* to generate *incremental revenue* from the use of *excess capacity* related to capital already invested in existing *premises*, *equipment*, *and staff*, with *no additional fixed operating expense* and typically only *minimal incremental variable expense*. While OSAs are common among physician practices, it should be noted that even if the arrangement is structured as a c*orporation-to-corporation contract*, an OSA is most often of a *unique personal nature* to particular physician lessors and physician lessees. Therefore, an OSA is typically not subject to transfer from one party to a successor party without *significant restrictions*, that is, the right to approve the physicians who would subsequently use the *premises*, *equipment*, *and staff* under the OSA. Also, it is not uncommon that an OSA be manifested only by an *oral agreement* and not committed to a *written contract*.

In such a case, the appraiser should seek the *advice of legal counsel* to determine whether the subject enterprise's state real estate rules and

regulations considers that an OSA is a sufficient enough *property interest* to be considered real property and subject to the *statute of frauds* in order to be enforceable.[240] As with other intangible assets, the economic value of the property interest related to an OSA is predicated on whether its legal status is subject to being afforded protection by the courts.

The economic value of an OSA may be *allocated from the purchase price* of a healthcare enterprise or may be established as a *distinct intangible asset* when valuing the overall healthcare enterprise using the *Asset/Cost Approach–based Net Adjusted Value Method*. To the extent that an OSA produces an isolated stream of *net economic benefit,* an *Income Approach–based valuation method* may be used to determine its value.[241] For example, significant portions of the *office staff*, *rent*, and most *capital costs* would be considered *fixed expenses* that would be incurred at similar levels, even in the absence of an OSA. However, the utilization of a *small portion of the staff*, for example, certain hourly employees, as well as *basic supplies* and *certain utilities*, might be increased with the presence of an OSA. The amount of increase in economic operating expenses associated with the implementation of the OSA would be subtracted from the revenue produced by the subject OSA in order to determine the *net economic benefit* attributable to the OSA.

To derive an indication of value for the subject OSA, the *net economic benefit* is discounted back to the present at an appropriate *risk-adjusted required rate of return* that reflects the risks associated with an investment in the subject OSA, which, in addition to *alternative investment risks*, include:

1. **Specific terms of the OSA**, for example, ability to assign to other parties, ability to terminate without cause;
2. **Uncertainty related to the projected level of revenue**, due to either *default risk* of the physician lessee or probable risk of losing an OSA lessee relative to the availability of similar services from competing physician groups; and
3. **Uncertainty** as to the projected amount of economic costs to be incurred to obtain the OSA revenue, which affects the projected *level of net economic benefit*.

---

[240]The statute of frauds requires that certain transactions be set forth in writing in order to be legally enforceable. See Bryan Garner, ed., *Black's Law Dictionary*, 9th ed. (St. Paul, MN: Thomson Reuters, 2009), p. 1545.

[241]See Section 8.1.1, "Income Approach," in Chapter 8, "Valuation Approaches and Methods," for more information pertaining to the use of an *Income Approach–based valuation method*.

14.4.2.8.2 Management Service Agreements *Management service agreements* (MSAs) define the terms under which an outside organization provides certain *management services*, for example, *accounting*, *billing*, *and managed care contracting*, to a healthcare enterprise. Note that these agreements may provide a healthcare enterprise with *more efficient means* of obtaining management functions and services, in contrast to performing the services *in-house*.

The value of an MSA can be determined using an *Income Approach–based valuation method*.[242] In using this type of method, the *net economic benefit* attributable to the subject MSA is determined by deducting the applicable *economic operating and capital costs* from the revenue derived from the services rendered under the subject MSA. This *net economic benefit* is then discounted back to the present at an appropriate *risk-adjusted required rate of return*, reflecting the risks associated with investing in the subject MSA. In determining the appropriate *risk-adjusted required rate of return*, additional risks that should be considered, above those related to the *opportunity cost of funds*, include, but are not necessarily limited to,

1. **Default risk/counter-party risk** of party receiving the MSA services;
2. **Specific terms and restrictions of the subject MSA**, for example, time horizon, ability to assign to other parties or terminate without cause;
3. **Competitive environment** related to other providers of MSA services; and
4. **Probability of maintaining** the continuity of the revenue stream and profitability specific to the subject MSA.

14.4.2.8.3 Financing Agreements *Financing agreements* are *financial instruments* that enable an individual or an enterprise to use capital in one period in exchange for a commitment to return the principal amount of that capital with interest over subsequent periods. Note that *lease agreements* may be considered a form of *financing arrangement*.

Financing agreements produce a stream of *net economic benefit* and therefore are typically valued using an *Income Approach-based valuation method*.[243] The *net economic benefit* attributable to a *financing agreement*, for example, a *promissory note* or a *lease agreement*, can be determined by

[242] See Section 8.1.1, "Income Approach," in Chapter 8, "Valuation Approaches and Methods," for more information pertaining to the use of an *Income Approach–based valuation method*.

[243] Ibid.

deducting the applicable *economic operating and capital costs* incurred in the process of:

1. **Obtaining the capital** for underwriting the credit;
2. **The costs of origination**;
3. **The costs of collecting the cash flow** stipulated in the *financing agreement*; and
4. ***Estimated credit and collection losses***, from the revenue stream stipulated in the subject agreement.

This *net economic benefit* is discounted back to the present value at an appropriate *risk-adjusted required rate of return*, to provide an indication of value for the subject *financing agreement*.

The risks associated with an investment in the *subject financing agreement* include, but are not necessarily limited to,

1. **Default risk/counter-party risk** of the borrower, which can be estimated by assessing the four "Cs" of the borrower, that is, *capacity*, *collateral*, *covenants*, *and character* (see *Key Sources* for additional sources that discuss traditional credit analysis);[244]
2. **Forecasted prepayment levels** net of any prepayment penalty (see *Key Sources* for additional sources that discuss calculating prepayment levels);
3. **Uncertainty as to the accuracy of the forecasted level of servicing costs**, which can be determined by using *normative industry benchmark survey data* or through independent market research; and
4. **Secured position** of the subject financing agreement as relates to the *priority of its claims* on the underlying cash flow.[245]

14.4.2.8.4 Financial Derivatives *Financial derivatives* (e.g., *forwards*, *futures*, *options*, or *swaps*) are defined as "financial instrument[s] whose value depends on (or derives from) the values of other, more basic, underlying variables."[246] While derivatives can be used for *speculation* and *arbitrage* purposes, the most common uses by healthcare enterprises are as a *hedge*

[244] Frank Fabozzi, *Fixed Income Analysis for the Chartered Financial Analyst Program,* 2nd ed. (New Hope, PA: Frank J. Fabozzi Associates, 2005), p. 572.

[245] Ibid., pp. 406–407.

[246] John C. Hull, *Options, Futures, and Other Derivatives*, 8th ed. (Boston: Prentice Hall, 2012), p. 1.

against the risk of uncertain input price movements for operational or transactional purposes or for compensation of executives.

For example, a hospital system that has issued *floating rate bonds*, for example, a bond that pays interest based on LIBOR (London Interbank Offered Rate) plus a risk spread, could enter into an *interest rate swap* to pay to a third party a variable rate, such as LIBOR plus a risk spread, in exchange for a *fixed interest rate*, which is commonly referred to as a *plain vanilla interest rate swap* or a *fixed for floating interest rate swap*. This type of transaction is usually considered when the fixed interest rate *established through the swap* is *lower* than the fixed interest rate the enterprise is able to borrow at *in the traditional bond market*, at least at the initiation of the transaction, which is similar to the intangible asset created by *favorable financing agreements*, mentioned in previous sections.

The economic value derived from the *interest rate swap* may be represented by the *increased certainty* as to the *amount* of cash outflow for the enterprise, since the *fixed interest payment* would be a *known outflow*, in contrast to a *variable interest payment*. The risk of this strategy lies in the *correlation* between the variable interest rate paid on the *floating rate debt* and the variable interest rate paid to a *third party as part of the interest rate swap*. The *higher the correlation* between the two variable rates, the *less volatile* or more certain the cash outflow.

Note that prior to the credit crisis in 2007, many hospitals had issued debt instruments known as *Auction Rate Securities* (ARS), which act in a manner similar to floating rate debt, since the interest rate is reset in short time intervals, usually between a week and a month.[247] Subsequent to issuing the ARS, the hospital system would enter into a *fixed for floating interest rate swap* to hedge the possibility that interest rates would increase substantially, causing the ARS interest rate to increase. However, as interest rates began to *fall* in response to the credit crisis, the *purchasers of ARS disappeared*, and the yields for ARS *increased*, based on the common contractual provision established in the ARS security agreement that called for a "*maximum rate*" to be charged in the event that no party bid on the security to establish the periodic interest rate, an event referred to as a "*failed auction.*"[248] The interest rate swaps proved to be poor hedges for the risk

[247] Ianthe Jeanne Dugan, "Hospitals' Wall Street Wounds, Wrong-Way 'Swaps' and Auction-Rate Bets Hit Hard; Brokers Defend Sales," *Wall Street Journal*, July 7, 2010, http://professional.wsj.com/article/SB10001424052748704545004575353190698790172.html?_nocache=1361299003979&user=welcome&mg=id-wsj&mg=reno64-wsj (accessed February 19, 2013).

[248] Ibid.; *Description of BOAML's Auction Rate Securities Practices and Procedures*, http://www.ml.com/media/70501.pdf (accessed February 20, 2013).

involved in the strategy, since the ARS interest rate and the variable interest rate paid as part of the interest rate swap proved to be less correlated than had been anticipated. Hospitals soon found themselves paying higher interest rates than they would have paid by issuing traditional bonds.[249]

In its simplest form, a swap is an agreement to exchange a set of payments at future points in time. Accordingly, the valuation of a swap depends on the basis for each payment amount that is to be exchanged. Typically, swap payments are based on *interest rates*, *returns on various currencies*, and/or *returns on various other securities*, such as *equity indexes*, *commodities*. At the swap initiation, the value is typically set at zero; however, swaps can be adjusted to reflect any initiation value desired.[250] A *plain vanilla interest rate swap*, as discussed in the introduction to this section, can be valued either as (1) the difference between a *fixed rate bond* and a *floating rate bond* that both have the same notional principle or (2) as a portfolio of *forward rate agreements*, which are over-the-counter (OTC) contracts at a *specified interest rate* applicable to a *specified principal amount* that will be paid by either the *borrower or the lender* at a *specified future point in time*.[251]

The following formula can be used to value an interest rate swap, at initiation, as a portfolio of *forward rate agreements*:[252]

$$FS(0, n, m) = \frac{B_0(h_n)}{\sum_{j=1}^{n} B_0(h_j)}$$

where: $FS(0, n, m)$ = the fixed swap payment
n = the various numbers of cash flow in the swap
m = the term of the underlying interest rate
$B_0(h_n)$ = the last present value factor at time = 0
$B_0(h_j)$ = the present value factor for the jth period at time = 0

[249]Ianthe Jeanne Dugan, "Hospitals' Wall Street Wounds, Wrong-Way 'Swaps' and Auction-Rate Bets Hit Hard; Brokers Defend Sales," *Wall Street Journal*, July 7, 2010, http://professional.wsj.com/article/SB10001424052748704545004575353190698790172.html?_nocache=1361299003979&user=welcome&mg=id-wsj&mg=reno64-wsj (accessed February 19, 2013).

[250]Don M. Chance, *The Analysis of Derivatives for the CFA Program* (Baltimore: Association for Investment Management and Research, 2003), p. 271.

[251]See Section 4.5, "Barriers to Free Market Competition in Healthcare," in Chapter 4, "Competition," for further discussion of valuing bonds. John C. Hull, *Options, Futures, and Other Derivatives*, 8th ed. (Boston: Prentice Hall, 2012), pp. 86–87, 168–169.

[252]Don M. Chance, *The Analysis of Derivatives for the CFA Program* (Baltimore: Association for Investment Management and Research, 2003), p. 290.

As an example, given a *swap maturity* of *one year*, with *quarterly payments* based on the annualized spot LIBOR in each quarter, the *n* would equal four, and *m* would equal 90 days. The *forward rate curve* for LIBOR at initiation, which reports the annualized spot LIBOR rates for 90-, 180-, 270-, and 360-day maturities (or as close to these maturities as possible), are used to calculate *present value factors* based on the following formula:[253]

$$B_0 = \frac{1}{1 + r\left(\frac{m}{360}\right)}$$

where: $B_0(m)$ = present value factor at initiation for an *m*-period interest rate
m = the term of the underlying interest rate
r = annualized *m*-period spot interest rate

The LIBOR spot rate for the 360 day maturity at initiation (time = 0) serves as the "*last present value factor at time = 0*" to be subtracted from one in the numerator of the formula. The present value factors for the 90-, 180-, 270-, and 360-day maturities would be summed together to calculate the denominator of the formula. The formula results in the *fixed swap payment* based on a maturity of *m* at initiation, which for this example is a *quarterly payment amount*.

After initiation, it is assumed that interests have changed, and the *new* term structure of LIBOR is used to determine the *new present value factors*. For example, if 30 days had passed since the initiation of the swap mentioned earlier, the valuation analyst would find the annualized LIBOR spot rates with 60-, 150-, 240-, and 330-day maturities to use as input to determine the *new present value factors*, since the swap payments were contractually agreed to be made on dates that correspond to those maturity dates.

The *present value* of all of the *fixed swap payments*, after initiation, is calculated as the sum of:

1. The quarterly *fixed swap payment* determined at initiation multiplied by the summation of all of the *new present value factors* (based on the new term structure of LIBOR as of the valuation date); and
2. *One*, which represents the return of the notional principal, discounted back to the valuation date using the present value factor calculated

[253] Ibid., p. 291.

based on the *new* "*last present value factor at time = 0,*" that is, the annualized 330-day spot LIBOR rate in the example given above, which reflects that the *notional principal* would be returned at the maturity of the swap.[254]

The *present value* of all of the *future floating swap payments*, after initiation, is calculated by:

1. Discounting the *next floating swap payment* back to the valuation date, which in the example given earlier is performed using a *present value factor*, based on the annualized 60-day spot LIBOR from the *new term structure* of LIBOR as of the valuation date (i.e., the annualized 60-, 150-, 240-, and 330-day spot LIBOR maturities).[255] And
2. *One*, which represents all of the *remaining floating swap payments*, *excluding* the next floating swap payment, which is accounted for in step (1), discounted back to the valuation date using a *present value factor* based on the annualized 60-day spot LIBOR from the *new term structure* of LIBOR as of the valuation date, which is the *present value factor* determined for the previous step.

The *present value* of the *fixed swap payments* is then subtracted from the *present value* of the *floating swap payments* to determine the *base value* of the swap. This *base value* is then multiplied by the *notional principal* to determine the amount of payment owed by one party to the benefit of the other party, that is, the value of the swap in the future depends on which contracted party's perspective is being considered. As market conditions change over time, the *value of the swap* would change due to *volatility* in the *underlying variable interest rates*. For example, should interest rates *increase*, the party that *pays the fixed rate*, which is also the party that *receives the floating rate*, would experience a *cash inflow*, and similarly, should interest rates *decrease*, the party that *pays the fixed rate* would experience a *cash outflow*,

[254]Notional principle represents the agreed-on principle amount that the interest rates are applied to, in order to calculate the nominal payment amount to be exchanged in each future period.

[255]In the example given above, the *first floating swap payment* is the "*next floating swap payment*" and was established at initiation to take place in 90 days; however, 30 days have passed since initiation, leaving 60 days left until the *next floating swap payment*; therefore, the *next floating swap payment amount* is determined using the annualized 90-day spot LIBOR *at initiation* (since this was the last time the payment rates were established, commonly referred to as the coupon reset date) multiplied by 90/360 to reflect the *quarterly payments* specified in the swap contract.

Purchase Option

The right, but not the obligation, to purchase an asset, an enterprise, or a service at a predetermined point or within a predetermined period in the future, typically for a predetermined price.

since *interest rate swaps* are a *zero sum game*, that is, the gain to one party is a loss to the other party.

It should be noted that the methodology used to value a *currency swap* would be similar to that for *interest rate swaps*, with an added step of converting the payments to different currencies based on *foreign exchange rates* applicable as of each valuation date. Also, *equity returns* could be supplemented for a floating interest rate as the base in determining the *floating swap payment*, which would equate to valuing equity swaps. The valuation of these types of swaps, along with other variations, for example, credit default swaps, basis swaps, index amortizing swaps, diff swaps, arrears swaps, and swaptions, were considered to be outside the scope of this book but are discussed in other sources regarding the valuation of derivatives (see *Key Sources*).

In addition to the appraisal of *swaps*, which some healthcare enterprises may use as hedges, the value of *stock options* is a growing area of the valuation profession. Stock options, which are also referred to as *purchase options*, are often used by large, publicly traded healthcare enterprises, along with *restricted stock*, to compensate executives. By *linking pay to performance*, this type of compensation package is often used in an effort to mitigate the negative effects arising from the *principle-agent relationship* inherent in the relationship between top management and shareholders in the corporate business structure. This *pay for performance* (P4P) is increasingly more prevalent in the healthcare industry as new *value-based purchasing* (VBP) arrangements are developed to rank reimbursement and compensation to the achievement of specified *organizational and population health objectives*.[256] Similar efforts of tying reimbursement for the rendering of healthcare services to quality and performance are being developed with the implementation of the *Affordable Care Act* (ACA) and other recent healthcare reform legislation.[257]

The value of the *stock option* is dependent on several factors, including:

1. The *current value* of the underlying stock;
2. The specified *predetermined purchase price*;

[256] See Chapter 2, "Reimbursement Environment," for more information on P4P and VBP.

[257] See Chapter 3, "Regulatory Environment," for more information on the ACA and other healthcare reform legislation.

3. The specified *predetermined term* of the purchase option (also referred to as the time to expiration);
4. The *risk-free* rate of return available to all investors;
5. The *amount of distributions or dividends* expected to be made by the underlying stock, which would reduce the value of the underlying stock; and
6. An estimate of the *future volatility* of the value of the underlying stock.[258]

Specific to valuing any type of *option* is the concept of "*risk neutral*" valuation, which assumes that investors are *risk-neutral*, in contrast to the theory held by modern finance (which intuitively defines the way the real world works), that investors are *risk-adverse* and therefore require a *higher rate of return* in order to compel them to invest in *riskier assets*. Note that the value of a derivative is the same under a *risk-neutral* and a *risk-adverse* environment, due to the formulas that relate the *price of the derivative* to the *price of the underlying asset*. Specifically, in a *risk-adverse environment*, when investors become more *risk adverse* they require a *higher rate of return*, causing the value of the underlying asset to *decrease*; however, the *pricing formula* for derivatives adjusts their value such that the *price of the derivative would be the same* in relation to the new decreased value of the underlying stock. This assumption helps alleviate the problem of having numerous return requirements based on the multitude of utility preferences that may be exhibited by different and varying investors.[259]

Among the numerous examples of financial models that have been developed to value certain types of derivatives, the most common model for pricing *purchase options* are:

1. The *binomial model*, which is a discrete time period model;
2. The *Black-Scholes model*, which is the continuous time period version of the binomial model; and
3. *Variations of each of these models*, which have been developed over time.

The *Black-Scholes model* and the equations derived from it form the basis for the *accurate calculation* of a *European Option*, that is, one in which the option can be *exercised only* at the date of expiration of the option. *Binomial models* are required for *American Options*, in other words, those that are assumed to be "*exercisable*" at any time during the option contract term.[260]

---

[258] John C. Hull, *Options, Futures, and Other Derivatives*, 8th ed. (Boston: Prentice Hall, 2012), p. 214.

[259] Ibid., p. 257.

[260] Fischer Black and Myron Scholes, "The Pricing of Options and Corporate Liabilities," *Journal of Political Economy* (May/June 1973).

Factoid

The first Black-Scholes model did not consider dividends. In 1973, Merton proposed an altered model that, as an extension of the original Black-Scholes model, takes annual dividend yield into account.

"The Pricing of Options and Corporate Liabilities," by Fisher Black and Myron Scholes, Journal of Political Economy *81, no. 3 (May–June 1973): 637–654; "Theory of Rational Option Pricing," by Robert C. Merton,* The Bell Journal of Economics and Management Science *4, no. 1 (Spring 1972): 141–183.*

Exhibit 14.7 sets forth an illustration of the formulas and methodology for valuing an *American Call Option* using a *10-step binomial model*. The assumptions included in the illustration are as follows:

1. Five-year maturity;
2. Initial underlying asset price of $327,131;
3. Exercise price of $275,000;
4. Annual volatility of 47.60 percent; and
5. Risk-free alternative yield of 2.62 percent.

As mentioned earlier, another popular option pricing model used to value purchase options is the *Black-Scholes model*. The basic formula for the *Black-Scholes model* related to a *European call option* is as follows:[261]

$$C = S_0N(d_1) - Xe^{-r^{C}T}N(d_2)$$

where: c = purchase option price

S_0 = price of the underlying at time 0

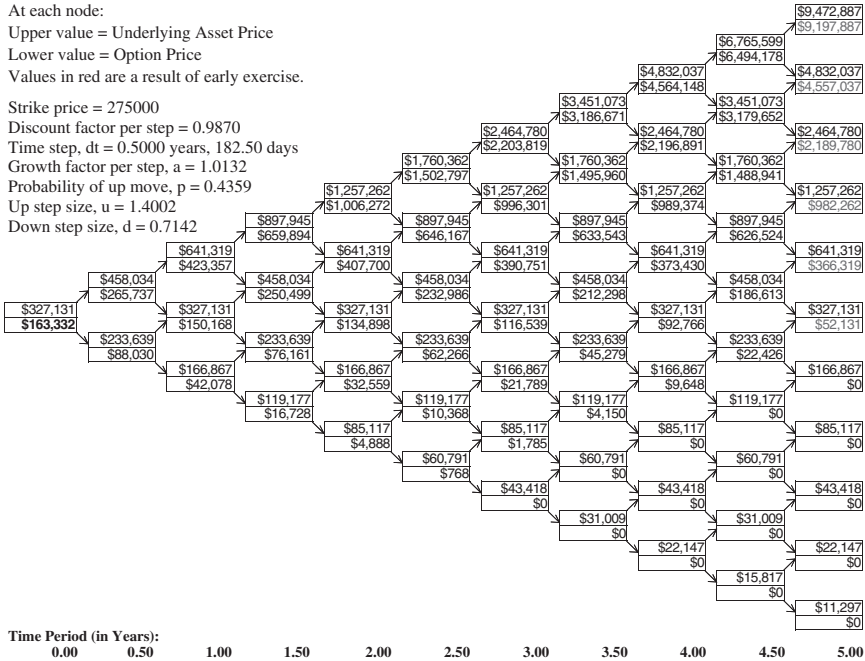
X = exercise price of the option

$$d_1 = \frac{\ln\left(\frac{S_0}{X} + \left[r + \left(\frac{\sigma^2}{2}\right)\right]\right)T}{\sigma\sqrt{T}}$$

$$d_2 = d_1 - \sigma\sqrt{T}$$

σ = the annualized standard deviation of the continuously compounded return on the underlying asset

[261] John C. Hull, *Options, Futures, and Other Derivatives*, 8th ed. (Boston: Prentice Hall, 2012), p. 313.



Notes:

1 It should be noted that at each node the top box represents the underlying equity price and the bottom box represents the value of the option.

2 At each node the underlying can go up ("u") by 39.96% or down ("d") by 28.55%, which is determined by the historical volatility and the following formula:

$$u = e^{\delta * \sqrt{\Delta T}} \qquad d = e^{-\delta * \sqrt{\Delta T}}$$

Where:
δ = Annual Volatility Assumption
ΔT = Time period per step

3 At each node the value of the option is the weighted average of the previous connected node values of the option (one up and one down). The probablity of using the down option value is one minus the up value; and, the up option value is calculated by the following formula:

$$p = \frac{e^{r\Delta T} - d}{u - d}$$

Where:
δ = Annual Volatility Assumption
ΔT = Time period per step
r = risk-free rate

EXHIBIT 14.7 Purchase Option Valuation Using a Binomial Model
Options, Futures, and Other Derivatives, 8th ed., by John C. Hull (Boston: Prentice Hall, 2012), pp. 253–279; DerivaGem—Version 2.01, accompanying software to *Options, Futures, and Other Derivatives*, 8th ed., by John C. Hull, © A-J Financial Systems, Inc., 2010.

One limitation of the *Black-Scholes model*, however, is the utilization of the concept of *constant volatility.* With the increased presence of *computer-based calculations*, more complex analyses can be performed with an *increased number of variables*, including a *changing*, or *stochastic*, *volatility* related to the value of the underlying asset. To appraise an option with a *stochastic variable(s)*, *Monte Carlo Simulations* may be employed, using

numerous iterations with varying assumptions and then taking an average or weighted average of each result.[262]

A key input to most *purchase option models* is the *volatility assumption*. The *volatility assumption* can be calculated from *historical returns on the underlying asset*, or, in the event that historical pricing data for the underlying asset is unavailable, *volatility* may be calculated by observing *historical returns for comparable assets*. Also, one note of caution is that when converting *annual returns* on publicly traded U.S. stocks *to daily returns* for use as an estimate of volatility, there are only 252 trading days in a year; also, most volatility calculations require that the returns be *log normally distributed*.[263] Another notable method for determining *volatility* is to use *reported option prices* for the underlying asset, in conjunction with an *option pricing model*, to perform an *iterative process* holding all of the other variables to the model constant, *except* for the variable related to *volatility*. Derived from this method's results is the *implied volatility*, which is included in the current option price and is often the volatility assumption used by professional traders, since it is assumed to be *forward looking*, in contrast to using *historical returns* that are *backward looking*.

This has been a general discussion of *financial derivatives*, including call options and interest rate swaps. For a more detailed examination of this topic, including, but necessarily not limited to,

1. The *estimation of volatility*, for example, the use of GARCH models, exponentially weighted moving averages, and other historical volatility adjustments;[264]
2. *Other peculiarities associated with valuing options*, such as volatility smiles and option price sensitivities (also known as the "*Greeks*"); and[265]

---

[262] See Section 8.2.2, "Monte Carlo Simulation Analysis," in Chapter 8, "Valuation Approaches and Methods," for further discussion of the *Monte Carlo Simulation technique*.

[263] Due to the continuous compounding nature of stock returns, log normal distributions are used in option pricing. Log normal distributions are those where the natural log of any random variable is normally distributed.

[264] GARCH stands for *Generalized Autoregressive Conditional Heteroscedascity* and is an econometric model used to incorporate certain assumptions regarding the underlying data set when explaining forecasts. For example, when valuing options, GARCH models can be used to incorporate the assumption that stock price volatility will exhibit mean reverting characteristics. See John C. Hull, *Options, Futures, and Other Derivatives*, 8th ed. (Boston: Prentice Hall, 2012), pp. 502–512.

3. The valuation formula for a *put option*; there are a significant number of available sources, for example, *academia, trade and professional associations*, and the *canon of professional literature* (see *Key Sources* for a sample of available sources).[266]

14.4.2.9 Classification and Valuation of Technology-Related Intangible Assets *Intangible personal property* that may be classified as *technology-related* includes *computer software/network integration*, *electronic medical records*, *technical/software documentation*, and *maintenance/support agreements*.[267]

Technology-related intangible assets typically do not include *new technologies* developed by the subject enterprise, which are most often legally protected and therefore constitute *intellectual property*.[268] The value of *technology-related intangible assets* may be derived from an estimate of expenses required to "*switch*" information technology systems, commonly known as *switching costs*, and may be valued using *Income Approach–based valuation methods*, where the *avoided expense* in each period serves as the *net economic benefit* to be discounted back to the present at an *appropriate risk-adjusted required rate of return*.[269]

Technology-Related Intangible Assets

Includes computer software/network integration, technical/software documentation, and maintenance/support agreements.

Valuing Intangible Assets, *by Robert Reilly and Robert Schweihs (New York: McGraw-Hill, 1999), p. 435.*

[265] A volatility smile refers to the change in the implied volatility of an option based on a change in its strike price, while all other variables are held constant. See John C. Hull, *Options, Futures, and Other Derivatives*, 8th ed. (Boston: Prentice Hall, 2012), p. 409.

[266] A *put option* is the opposite of a *call* (*purchase*) *option*, in that it gives the holder the right to sell property at a specified price, at or during a specified time period.

[267] Robert Reilly and Robert Schweihs, *Valuing Intangible Assets* (New York: McGraw-Hill, 1999), p. 435.

[268] See Section 14.4.2.3, "Classification and Valuation of Intellectual Property–Related Intangible Assets," for information pertaining to the classification and valuation of *intellectual property*.

[269] See Section 8.1.1, "Income Approach," in Chapter 8, "Valuation Approaches and Methods," for more information on the use of an *Income Approach–based valuation method*.

For other *technology-related intangible assets*, it may be difficult to estimate the amount of *net economic benefit* directly attributable to the asset, making an *Income Approach–based valuation method* not applicable. In addition, similar to most other intangible assets, *technology-related intangible assets* usually do not have an *established liquid market* where they can be bought and sold. However, the direct and indirect costs of *maintenance* and *support agreements* or *technology-related documentation* may be used in an *Asset/Cost Approach–based valuation method*, for example, the *Trended Historical Cost Method*, similar to that used for tangible personal property.[270]

14.4.2.9.1 Computerized Management Information Systems *Computerized management information systems* may hold significant economic value in their ability to:

1. Perform data mining functions;[271]
2. Produce customized reports related to the financial, operating, and patient outcome performance metrics of the subject enterprise; and
3. *Streamline the availability of data* to be used by management in operational and strategic planning.[272]

Data mining capabilities of *computerized management information systems* are of great importance in a changing healthcare reimbursement environment related to value-based purchasing (VBP), in that they efficiently and in a timely manner provide healthcare enterprises valuable data that can be used to:

1. *Develop more efficacious treatment plans* by *analyzing the causes or symptoms* of certain diseases, injuries, or other ailments, along with *current treatment methods*;
2. Aid management of healthcare enterprises in *achieving operational efficiencies* through evidence-based medical care, reducing resource utilization in pursuit of ineffective treatments; and

[270] See Section 14.4, "Classification and Valuation of Intangible Assets," for further discussion on the use of the *Trended Historical Cost Method*.

[271] Saundra Glover, Patrick Rivers, Derek Asoh, Crystal Piper, and Keva Murph, "Data Mining for Health Executive Decision Support," *Health Services Management Research*, 23, no. 1 (2010): 45.

[272] William H, Black, "Valuing Professional Practices—Thorny Challenges," *Analytical Value, LLC* (Portland, OR: Business Valuation Resources, 2006), p. 27.

3. *Improve customer relationship management* through determination of *patient preferences*, *clinical services usage patterns*, and level of patient satisfaction with current methods.[273]

Computer software/network integration provides the organization with standardized technologies that reduce the need for duplicative resources expended for training and maintenance of multiple systems.[274] Together, both *computer software/network integration* and *computerized management information systems* may increase an organization's productivity and contribute significantly to *efficient operations*, which may *enhance the economic value* of the subject enterprise by *increasing the net economic benefit* available to the owner of the subject property interest.

With the enactment of the *Health Information Technology for Economic Clinical Health (HITECH) Act*, which is part of the *American Recovery and Reinvestment Act of 2009 (ARRA*), the government allotted $19.2 billion to incentivize providers to implement *integrated computer network systems* that would create *interoperable electronic health records* (EHRs) for each and every patient.[275] These investments are aimed at providing organizations with the ability to successfully participate in new models of reimbursement, for example, value-based purchasing, which require standardized reporting systems to achieve care coordination, quality improvement, and utilization management.[276]

The economic value of *computerized management information systems* may be determined through the use of a *With and Without Technique* in a manner similar to that used to value *office share arrangements*, as discussed in Section 14.4.2.8.1, "Office Share Arrangements," whereby the difference in the *level of net economic benefit* and therefore the value of the subject enterprise, both *with* and *without* the *computerized management information systems*, are attributed to differences in operating expenses, as well as the addition of revenue-generating opportunities.

---

[273] Hian Chye Koh and Gerald Tan, "Data Mining Applications in Healthcare," *Journal of Healthcare Information Management* 19, no. 2: 66–68.

[274] Healthcare Financial Management Association, "The Value Journey: Organizational Road Maps for Value-Driven Health Care," 2012, p. 9.

[275] See Section 5.2.2.2, "American Recovery and Reinvestment Act of 2009 and Health Information Technology for Economic Clinical Health Act," in Chapter 5, "Technology," for further discussion of the HITECH Act.

[276] Amy Fehn, "The Importance of Health Information Technology for Accountable Care Organizations," *American Bar Association*, June 1, 2001, p. 1.

In addition, *computerized management information systems* may be valued using a *Replacement Cost Method*. Under this method, the current cost to *re-create* equally *desirable* technology that provides equal *utility* as that provided by the subject technology is determined by (1) employing the methods prescribed by the Constructive Cost Model II (COCOMO II), which is an updated version of COCOMO I developed by Dr. Barry Boehm in 1981, and (2) by using the other steps in the *Replacement Cost Method* discussed in Section 14.4, "Classification and Valuation of Intangible Assets."[277] While the model is available in calculator format from various sources (see *Key Sources*), the intricacies of the model and its use were considered to be outside the scope of this book. In addition to the cost of *re-creating the software*, the value of *computerized management information systems*, under the *Replacement Cost Method*, should also include the cost of necessary hardware, for example, server additions and computer work stations, along with the necessary installation and set-up costs.

For those enterprises that have adequate documentation regarding the historical cost of their *computerized management information systems*, a *Reproduction Cost Method* may be employed. The steps in this method would be similar to those discussed in Section 14.2.1.1.3, "Asset/Cost Approach for Valuing Tangible Real Property," related to valuing tangible personal property using an *Asset/Cost Approach–based valuation method*.

14.4.2.9.2 Electronic Medical Records *Electronic medical records* (EMR), which include the subset of EHRs that is subsidized by the government under the HITECH Act, can provide additional economic value to an enterprise through cost savings and quality outcomes.[278] The American Medical Association (AMA) cites benefits such as the *trending of patient vitals and/or test results*, the *potential for improved supporting documentation in the event of malpractice claims*, *improved reporting about patients and practices*, and *improved communication with other physicians*, indicating that physician practices that *transition* to an EMR system *may yield various health and safety benefits*.[279] In addition, implementation of an EMR system can help *reduce adverse drug events* in the inpatient and ambulatory setting through *Computerized Physician*

[277] Barry W. Boehm, et al., *Software Cost Estimation with COCOMO II* (Upper Saddle River, NJ: Prentice Hall PTR, 2000), p. 1.

[278] Stacy Lawrence, "Studies Show Electronic Medical Records Make Financial Sense," *CIOInsight* (2008), http://www.cioinsight.com/c/a/Health-Care/Studies-Show-Electronic-Medical-Records-Make-Financial-Sense/ (accessed October 5, 2011).

[279] American Medical Association "Electronic Medical Records: How Implementation Will Affect Staffing," 2009, http://www.ama-assn.org/amednews/2009/10/05/bisa1005.htm (accessed October 5, 2011).

Order Entry (CPOE),[280] and EMR's *point of care technology* would allow physicians not only to *retrieve patient clinical data*, but also to *retrieve important scientific information* useful in *patient care and decision making*.[281]

Similar to *computerized management information systems*, the value of an EMR system could be determined by employing the methods prescribed earlier in Section 14.4.2.1.1, "Managed Care Agreements and Provider Service Agreements." Note that in addition to the cost of re-creating the software, the value of an EMR system should also include the cost of necessary hardware, for example, server additions and computer work stations, along with the necessary installation and set-up costs.

Also, an EMR system may be valued using a *With and Without Technique* in a manner similar to that prescribed for the valuation of *computerized management information systems*, as discussed in Section 14.4.2.1.1, "Managed Care Agreements and Provider Service Agreements," whereby the difference in *operational efficiency* could serve as the *net economic benefit* to be capitalized in determining the value of the subject EMR. Note that the *risk-adjusted required rate of return* should be specific to an investment in the EMR system, which may have different investment characteristics than that of the enterprise that currently uses the EMR.

14.4.2.9.3 Maintenance and Support Relationships *Maintenance and support relationships*, evidenced through written agreements, provide an organization with *assurances* that the technology will *consistently perform as expected* during the term of the agreement. The *existence* and *implementation* of these *maintenance and support agreements* may significantly mitigate the level of "*downtime*," with the resulting loss of *productivity* and related *revenue* opportunity costs.

The economic value of *maintenance and support relationships* may be *allocated from the purchase price* of a healthcare enterprise or may be established as a *distinct intangible asset* when valuing the overall healthcare enterprise using the *Asset/Cost Approach–based Net Adjusted Value Method*. To the extent that the subject *maintenance and support relationship* produces an isolated stream of *net economic benefit*, an *Income*

---

[280] "Can Electronic Medical Record Systems Transform Health Care? Potential Health Benefits, Savings, and Costs," *Health Affairs* 24, no. 5 (2005): 1103–1117.

[281] Steven E. Nissen, MD, et al., "Working Group 6: The Role of Technology to Enhance Clinical and Educational Efficiency," *Journal of American College of Cardiology* 44, no. 2 (2004): 258. For more information related to EMR and other healthcare-related technology, including the distinction between EMR and EHR, see Section 5.2.2, "Electronic Health Records," in Chapter 5, "Technology."

Approach–based valuation method may be used to determine its value.[282] For example, the valuation of *maintenance and support relationships* can be determined using a *With and Without Technique* in a manner similar to that used to value *management services agreements* in Section 14.4.2.8.2, "Management Service Agreements," whereby the difference in the *level of net economic benefit* and therefore the value of the subject enterprise, both *with* and *without* the *maintenance and support relationships*, are attributed to differences in operating expenses.

In addition, the *Replacement Cost Method* may be used to determine the value of *maintenance and support relationships*, in a manner similar to that of *employee and provider employment agreements*.[283]

14.4.2.10 Classification and Valuation of Patient-Related Intangible Assets *Intangible personal property* that can be considered *patient-related intangible assets* include (1) *custodial rights to patient medical charts and records* and (2) *patient recall lists*. Certain *patient-related intangible assets* can be valued using *Asset/Cost Approach–based valuation methods*, for example, *custodial rights to patient medical charts and records*, while others may be valued using *Income Approach–based valuation methods*, such as, *patient recall lists*. However, as is the case with most intangible assets, *patient-related intangible assets* typically do not have *established*, *transparent*, *liquid markets* reporting transaction data for similar types of intangible assets, invalidating the use of a *Market Approach–based valuation method*.

Patient-Related Intangible Assets

Includes custodial rights to patient medical records and patient recall lists.

14.4.2.10.1 Custodial Rights to Patient Medical Charts and Records The clinical information and data recorded and contained within the *patient medical charts and records* of a healthcare enterprise *belong* to the patient and ***not*** to the physician or the healthcare enterprise, and therefore, the clinical information and data cannot be sold by the physician or the healthcare enterprise. However, the *custodial rights* to the *structure*, *assemblage*, *and physicality* of the data in the *patient medical charts and records* may

[282] See Section 8.1.1, "Income Approach," in Chapter 8, "Valuation Approaches and Methods," for more information pertaining to the use of an *Income Approach–based valuation method*.

[283] See Section 14.4.2.2.1, "Employee and Provider Employment Agreements," for further discussion of the valuation methodology used to appraise *employee and provider employment agreements*.

constitute a *distinct*, *separate*, and *identifiable intangible asset* that can be transferred and is therefore subject to financial appraisal. The economic benefit associated with the *custodial rights to patient medical charts and records* is derived from, and typically appraised by, quantifying the avoidance of the *costs of assembling*, *maintaining*, *and storing* the *patient medical charts and records*, which represent the costs that would be incurred by a potential purchaser, who would choose to "build," rather than to "buy," the *custodial rights to the patient medical records*.

In contrast to *paper medical records*, the value of *electronic medical records* (EMR) may be significant. *Paper medical records* may have significant drawbacks that can hinder a patient's *access to quality medical care*. Studies have indicated that *paper records*, in contrast to EMR, are *costly to store and maintain*, *are cumbersome*, *are easily misplaced*, and are problematic as to their utility for *meaningful decision analysis*, especially when chronic conditions require an analysis of diagnostic or other testing data across the continuum of care and time.[284] For example, *paper charts* cannot be effectively *searched and used to track*, *analyze*, *or chart voluminous amounts of clinical medical information*; *are more difficult to copy or reproduce*; and, depending on the availability of space at the subject enterprise, may need to be *stored off-site*, at a significant inconvenience and expense.[285] While there is evidence that the investment in EMR has not yet produced a return, both government payors (through recent provisions of the HITECH Act) and private payors are driving the anticipation that EMR in some form will be a requirement in the healthcare industry within the next decade.[286]

Income Approach–based valuation methods, which measure the present value of anticipated future economic benefits that will accrue to the owner of the subject property interest, are typically not used for determining the value of *custodial rights to patient medical charts and records*, especially in instances when physician sellers of those *custodial rights* are transferring their rights of ownership to an entity or an organization to which they will continue, post-transaction, to refer patients. Under those circumstances, *Income Approach–based valuation methods* may be subject to regulatory scrutiny related to the *Anti-Kickback Statute* and/or the *Stark Law*, to the extent that this type of analysis might be construed as either *directly* or *indirectly* taking into account the *volume* or *value of referrals*. However,

---

[284] Medical Systems Development Corporation, "Benefits of EMR," August 11, 2008, http://msdc.com/EMR_Benefits.htm (accessed January 29, 2013).

[285] Ibid.

[286] Julia Adler-Milstein, et al., "A Survey Analysis Suggests That Electronic Health Records Will Yield Review Gains for Some Practices and Losses for Many," *Health Affairs* 32, no. 3 (March 2013): 4.

under the *premise of value* known as *value-in-exchange*, the value consisting of *custodial rights to patient medical charts and records* can be derived without the same level of concern regarding regulatory scrutiny related to prohibition of considering the *volume or value of referrals*, by using an *Asset/Cost Approach–based valuation method* to determine the economic benefit derived from the *expectation* of the *avoidance* of a *future expense*, for example, the *costs* associated with *materials*, *labor*, *and capital expense* required to re-create the *charts or the records*.

A valuation method by which the *Fair Market Value* (FMV) of *custodial rights to patient medical charts and records* can be determined involves several steps, including establishing a *ceiling* (i.e., the *upper bound*) and a *floor* (i.e., the *lower bound*) for the expected value to the *willing buyer* and the *willing seller.* The FMV of the subject *custodial rights to patient medical charts and records* would lie somewhere between the *ceiling* and the *floor*, which would depend on the facts and circumstances specific to the appraisal.

The *upper bound* is set by *the maximum allowable charge*, established by statute, to copy the chart or the record and typically includes a base fee per record, as well as a fee per page component based on the *number of pages per record*. For example, for calendar year 2013, Ohio statutes require payment of $18.34 fee *per record*, as well as an additional payment of $1.20 *per page* for the first 10 pages, an additional payment of $0.62 *per page* for pages 11 through 50, and an additional payment of $0.26 *per page* for pages 51 and higher.[287] In order to apply the *maximum allowable charge per page*, the *number of pages* to be charged at *each rate per page* needs to be determined, based on the *average number of pages per record*. The *weighted average cost* per record, calculated based on the maximum allowable charge per page, is then multiplied by the reported number of *active patient records*, to determine the *upper bound* of the value to be attributed to the *custodial rights to patient medical charts and records*. Exhibit 14.8 illustrates the calculation of the statutory *maximum allowable charge* per record.

It is important to note that only *active* medical records, typically those with some account activity during the 18 to 24 months preceding the valuation date, are included in this calculation. This timeframe is due, in great part, to recognition that the *economic benefit* of the *custodial rights to patient medical charts and records* is significantly focused on the *avoidance of cost* in having to re-create charts and records for those patients, who, in returning to the practice, would require the *historical clinical* and *demographic information* in the charts and records to be *identified*, *classified*, *and reassembled*.

The *lower bound* is based on an estimate of the empirically identifiable *direct and indirect materials, labor,* and *capital expense* required in

[287] "Fees for Providing Copies of Medical Records," Ohio Code §3701.742.

Page Ranges		Fee per Page	Indicated per Page Fees*
1	10	$2.98	$29.80
11	50	$0.62	$24.80
51		$0.26	$1.04
Total per Page Fees per Record*			$55.64
Base Fee per Record			$18.34
Maximum Allowable Charge per Record			$73.98

* Based on Average # of Pages per Record: 54

EXHIBIT 14.8 Calculation of Statutory Maximum Allowable Record Charge

re-creating the *patient medical charts and records*. For paper records, these empirically identifiable costs include:

1. *Cost of materials*, for example, paper, labels, folders, and fasteners, used to create the physical chart;
2. *Labor cost associated with copying the existing patient charts*, which data may be available from *normative industry benchmark survey data* or *independent market research*;
3. *Labor cost associated with assembling the copied pages on to a physical chart*, which data may be available from *normative industry benchmark survey data* or *independent market research*; and
4. *Capital expense*, for example, cost of equipment required to copy and assemble the charts, which may already be included in a *global copying charge* if the labor expense to copy the charts from item (2) is collected from rates charged by copying services.

For EMR, the empirically identifiable *direct and indirect materials*, *labor*, and *capital expense* required in re-creating the *patient medical charts and records* includes:

1. *Labor cost associated with converting paper charts into electronic records*, for example, data conversion programming fees, or, when this data is not readily available, a determination of the labor cost of conversion can be calculated as:

$$\left\{\frac{\left(\frac{\#\text{ of keystrokes per page} \times \#\text{ of pages per record} \times \#\text{ of records}}{\#\text{ of key strokes per minute}}\right)}{60\text{ minutes per hour}}\right\} \times \$\text{ hourly labor rate} = \$\text{ labor cost of conversion}$$

2. Some measure of the *economic capital expenses* related to only the *amortized portion of the EMR software* and the *depreciable portion of the EMR hardware* required to develop the current active records, incurred during the timeframe those active charts were developed, which timeframe would vary, based on the nature of the services provided by the healthcare enterprise.

Recall that in this manner, the *most probable price* at which the *custodial rights to patient medical charts and records* would exchange hands in the marketplace, that is, the FMV, would occur somewhere in the range between the established *upper* and *lower* bounds. Note that the construct of this valuation method recognizes that the *willing buyer* would never have to pay above the *upper bound* of this model, and the *willing seller* would not be able to sell above this amount, since it is the maximum price allowed by statute. Also, the construct of this valuation methodology recognizes that both the *willing buyer* and the *willing seller* realize that the *buyer* would agree to pay at least the amount of the empirically identifiable *materials*, *labor*, *and capital expenses* that would be required to re-create the charts and records, the avoidance of which cost has economic value and serves as the *lower bound* for this model.

This valuation model relies on the naïve assumption that the FMV lies at a measure of central tendency, best represented by the midpoint of the *upper* and *lower bounds*. Under this assumption, the FMV of the subject *custodial rights to patient medical charts and records* would be calculated by taking a *simple arithmetic average* of the *upper* and *lower bounds*. However, each valuation engagement is unique, and the weighting of the consideration afforded to the influence of each bound in the model may differ, depending on the facts and circumstances of the transaction, for example, those related to the assumed leverage of the respective buyers and sellers in the market.

14.4.2.10.2 Patient Recall Lists *Patient recall lists* can be considered an *intangible personal property asset* in the event that the following criteria are met:

1. There is physical evidence that a personal relationship between the customer and the vendor exists, for example, the ability for two-way communication;
2. There is physical evidence of an identifiable income stream generated from the customer to the vendor; and
3. There is a justified rationale for an expected future life or duration to the income stream produced by the customer relationship, for example, the historical performance of the relationship.[288]

[288] Robert Reilly and Robert Schweihs, *Valuing Intangible Assets* (New York: McGraw-Hill, 1999), pp. 341–342.

The valuation of the *patient recall list* should take into account the stage of the relationship, which is based on (1) "the degree of imminence of the customer purchase transaction" and (2) "the degree of formality of the customer purchase transaction."[289]

While in a *nonhealthcare*-related industry, for example, *stock brokerage*, the purchase of *customer recall lists* is an accepted practice, in the *healthcare* industry, the purchase of *patient recall lists* may indicate an either direct or indirect payment for the *volume* or *value of referrals*, which is legally impermissible under both federal and state anti-kickback statutes.[290] One example of an arrangement where the purchase of a pharmacy's *patient recall list* was challenged as a *payment for referrals* was PharMerica, Inc.'s purchase of Hollins Manor I, LLC, which resulted in a settlement agreement between the company and the OIG for $5.9 million, as well as the imposition of a five-year *corporate integrity agreement* (CIA).[291] Furthermore, any purchase that could be construed as a violation of the *professional and ethical codes and standards* of the state, for example, *commercial bribery*, may be subject to scrutiny under the state's *anti-kickback statute* as compensation for the "purpose of improperly obtaining favorable treatment."[292]

In the event that a healthcare enterprise does not involve any payments for designated health services (DHS) under the Stark Law and does not run afoul of federal or state anti-kickback statutes, typically by not accepting payment from government payors, it may be possible to identify a circumstance where the appraisal of a *patient recall list* may be legally permissible, for example, a *cash-only* cosmetic surgery or laser hair removal center.[293] In that event, the typical valuation of a *patient recall list* entails determining the *revenue* derived from the *existing patient base*. This amount is calculated by multiplying:

1. The *projected level of current patients*, taking into account a *rate of decay* in the amount of existing patients, who are assumed to be slowly replaced over time; and

---

[289] Ibid., p. 342.

[290] James G. Sheehan and Jesse A. Goldner, "Beyond the Anti-Kickback Statute: New Entities, New Theories in Healthcare Fraud Prosecution," *Journal of Health Law* 40, no. 2 (Spring 2007): 167–204.

[291] Department of Health and Human Services and the Department of Justice, *Health Care Fraud and Abuse Control Program: Annual Report for FY 2005*, August 2006, p. 14. See Chapter 3, "Regulatory Environment," for additional information on CIAs.

[292] James G. Sheehan and Jesse A. Goldner, "Beyond the Anti-Kickback Statute: New Entities, New Theories in Healthcare Fraud Prosecution," *Journal of Health Law* 40, no. 2 (Spring 2007): 167–204.

[293] See Chapter 3, "Regulatory Environment," for additional information on what constitutes DHS.

2. The *most probable amount of revenue generated per patient*, which can be established through the use of *normative benchmark survey data* or by using *historical net patient revenue per patient ratios*.[294]

To calculate the *net economic benefit* attributable to the subject patient recall list, *economic operating* and *capital costs*, which are required to generate the revenue derived from the enterprise's patients, are deducted from the estimated *net patient revenue*. This *net economic benefit* is then discounted back to the present value at an appropriate *risk-adjusted required rate of return*, based on the riskiness of an investment in the subject patient recall list interest.

14.4.2.11 Classification and Valuation of Goodwill Once the *identifiable* and *separately quantifiable* intangible assets are valued, the *residual* amount of *intangible asset value* that remains, if any, is often referred to as "*goodwill*."

While there are numerous sources for guidance as to the *definition of goodwill*, for example, *IRS Revenue Ruling 59–60*, *FASB ASC 350–20*, and established judicial opinions from valuation-related case law, most of these definitions are applicable only to specific situations, for example, *purchase price allocation*, *marital dissolution*, or *bankruptcy proceedings*.[295]

The definition of *goodwill* is a hotly contested issue in the courts, especially as to the treatment of *goodwill* for purposes of marital dissolution. Table 14.4 sets forth a listing of the status of *goodwill treatment*, as well as whether each state considers a *professional medical license* part of the *divisible marital property.* Note that the concept of *personal/professional goodwill* being separate and distinct from *practice/commercial goodwill* is discussed further on in this section.

In the event that it is first determined that *intangible asset value* exists in the subject enterprise and, second, that some residual element of the value of the intangible assets is attributable to *goodwill*, then, for those engagements that require it, the next step is to *identify*, *distinguish*, *disaggregate*, and *allocate* the relevant portion of the existing *goodwill*

[294] Survivorship curves, for example, Iowa-Type Survivor Curves, may be used to estimate the remaining useful life of the current patient recall list. See Robert Reilly and Robert Schweihs, *Valuing Intangible Assets* (New York: McGraw-Hill, 1999), pp. 351–359.

[295] See Section 8.5.2, "Purchase Price Allocation," in Chapter 8, "Valuation Approaches and Methods," for further discussion.

TABLE 14.4 Defining Goodwill for Purposes of Marital Dissolution

A	B	C	D	E
State	Both Personal Goodwill and Commercial Goodwill a Divisible Marital Asset (Yes or No)	Personal Goodwill a Divisible Marital Asset (Yes or No)	Either Personal Goodwill or Commercial Goodwill a Divisible Marital Asset (Yes or No)	Professional License a Divisible Marital Asset (Yes or No)
Alabama	N/A	N/A	N/A	No
Alaska	No	No	Yes	No
Arizona	Yes	Yes	Yes	No
Arkansas	No	No	Yes	No
California	Yes	Yes	Yes	No
Colorado	Yes	Yes	Yes	No
Connecticut	No	No	Yes	No
Delaware	No	No	Yes	No
Florida	No	No	Yes	No
Georgia	No	No	Yes	No
Hawaii	No	No	Yes	No
Idaho	Yes	Yes	Yes	No
Illinois	No	No	Yes	No
Indiana	No	No	Yes	No
Iowa	Not Clear	Not Clear	Not Clear	No
Kansas	No	No	No	No
Kentucky	No	No	No	No
Louisiana	No	No	Yes	No
Maine	No	No	Yes	No
Maryland	No	No	Yes	No
Massachusetts	No	No	Yes	No
Michigan	Yes	Yes	Yes	Yes
Minnesota	No	No	Yes	No
Mississippi	No	No	No	No
Missouri	No	No	Yes	No
Montana	Yes	Yes	Yes	No
Nebraska	No	No	Yes	No

(*continued*)

TABLE 14.4 Defining Goodwill for Purposes of Marital Dissolution (*continued*)

A	B	C	D	E
State	Both Personal Goodwill and Commercial Goodwill a Divisible Marital Asset (Yes or No)	Personal Goodwill a Divisible Marital Asset (Yes or No)	Either Personal Goodwill or Commercial Goodwill a Divisible Marital Asset (Yes or No)	Professional License a Divisible Marital Asset (Yes or No)
Nevada	Yes	Yes	Yes	No
New Hampshire	No	No	Yes	No
New Jersey	Yes	Yes	Yes	No
New Mexico	Yes	Yes	Yes	No
New York	Yes	Yes	Yes	Yes
North Carolina	Yes	Yes	Yes	No
North Dakota	Yes	Yes	Yes	No
Ohio	Yes	Yes	Yes	No
Oklahoma	No	No	Yes	No
Oregon	No	No	Yes	No
Pennsylvania	No	No	Yes	No
Rhode Island	No	No	Yes	No
South Carolina	No	No	No	No
South Dakota	No	No	Yes	No
Tennessee	No	No	No	No
Texas	No	No	Yes	No
Utah	No	No	Yes	No
Vermont	No	No	Yes	No
Virginia	No	No	Yes	No
Washington	Yes	Yes	Yes	No
West Virginia	No	No	Yes	No
Wisconsin	No	Yes	Yes	No
Wyoming	No	No	Yes	No

Goodwill Hunting in Divorce (Portland, OR: Business Valuation Resources, 2011); "Your Medical License as Marital Property," by Steven Sheinwald and Jennifer Kirschenbaum, Kirschenbaum & Kirschenbaum, PC, 2013, https://www.kirschenbaumesq.com/article/your-.

to either (1) *professional/personal goodwill* or (2) *practice/commercial goodwill*.[296]

From an *economic perspective* in healthcare valuation, *goodwill* may appropriately be considered the *expectation* as to the *propensity* of the *continuity of patients* (*and the revenue stream thereof*) to be *maintained* by the *subject enterprise*, incremental to that *net economic benefit* which is quantified as the value contribution being derived from the other separately *identifiable*, *distinguished*, and *appraised tangible* and *intangible assets*. Lord Eldon, Lord Chancellor of Great Britain in the early nineteenth century, stated, "[Goodwill is] the probability that the old customers will resort to the old place."[297] Note that *goodwill* is only *one* of the several intangible assets that may be found to exist in a healthcare enterprise and should not be considered a "*catch-all-moniker*" for all of the enterprise's intangible assets in the aggregate.

14.4.2.11.1 Classification of Professional/Personal Goodwill *Professional/personal goodwill* is manifested by the *reputation* and *personal attributes* of a specific physician.[298] Since these attributes "go to the grave" with that *specific individual physician* and therefore cannot be sold, they have *no economic value*. While it is often stated that with an *extended transition period of introduction* (i.e., assisted transfer) for a new acquiring owner, a portion of *professional goodwill* may be transferred from the seller to the purchaser, any additional value that is transferred during this *extended transition period of introduction* is paid for through a *service agreement* memorializing the time required of the seller post-transaction through the *extended transition period of introduction*. The payment made by the buyer for the seller's introduction services should be recognized and appraised as services, the value of which would depend on the amount and type of tasks, duties,

---

[296]There are at least two situations when a valuation engagement may require the allocation of personal from enterprise goodwill, that is, marital dissolution and transactional tax planning. See Alina Niculita, Angelina Mckedy, and Kimberly Linebarger, "How to Distinguish Personal Goodwill from Enterprise Goodwill, the Key Person Discount, and Noncompete Agreements," in *BVR's Guide to Personal v. Enterprise Goodwill*, 5th ed. (Portland, OR: Business Valuation Resources, 2012), pp. 101–102.

[297]Anthony Richard Cragg and James Robert Vernam Marchant, *Hints to Young Valuers: A Practical Treatise on the Valuation of Property*, 2nd ed. (London: The Land Agents' Record, Ltd., 1901), p. 518.

[298]Jay Fishman, "Personal Goodwill vs. Enterprise Goodwill," in *BVR's Guide to Personal v. Enterprise Goodwill*, 5th ed. (Portland, OR: Business Valuation Resources, 2011), p. 19.

responsibilities, and accountabilities associated with the introductory services to be provided, and *not* as a part of *professional/personal goodwill*.[299]

14.4.2.11.2 Classification of Practice/Commercial Goodwill *Practice/commercial goodwill*, as distinguished from *professional/personal goodwill*, is *transferred frequently* and may be described as the *propensity* of the *continuity of patients* (*and the revenue stream thereof*) to be *maintained* by the *subject enterprise*, incremental to that which is quantified as the contribution being derived from the other *separately identifiable*, *distinguished*, *and appraised tangible* and *intangible assets*, to the *assemblage of assets* that compose the subject enterprise. In making this identification and classification as to the existence of *practice/commercial goodwill*, it should be determined whether patients return to the subject enterprise because of the specific attributes or the result of some other reason, for example, they are *mandated* to do so by their managed care insurance coverage. In that circumstance, it needs to be determined whether the *value* of the subject enterprise that may be *attributable* to what can be considered the intangible element of the subject enterprise related to the *managed care organization relationships* should be considered as an identifiable and separately valued *specific contract–related asset*, in contrast to being treated as *practice/commercial goodwill*.[300]

14.4.2.11.3 Valuation of Goodwill Within the perspective of *financial economics* (of which, valuation is a branch discipline), *goodwill* may be viewed as "the capitalization of all of the economic income from a business enterprise that cannot be associated with any other asset (tangible or intangible) of the business."[301] As such, the valuation of *goodwill* becomes an *inverse* of the *Asset/Cost Approach–based valuation method*, for example, *Adjusted Net Asset Method*. Under the *Adjusted Net Asset Method*, each individual asset is *separately identified* and *valued*, the *combination* of which is the value of the subject entity. Under an *inverse Adjusted Net Asset Method*, the value of the subject enterprise is determined (using either an *Income Approach–based valuation method* or a *Market Approach–based valuation method*), and from this value, all of the *separately appraised* assets, both *tangible* and *intangible*, are *deducted*. The residual value after these deductions is the value of the *goodwill*.

---

[299] Robert James Cimasi and Todd Zigrang, "Valuing Intangible Assets in Exempt Healthcare Organizations," *Valuation Strategies* (January/February 2013): 23.

[300] Ibid.

[301] Robert Reilly and Robert Schweihs, *Valuing Intangible Assets* (New York: McGraw-Hill, 1999), p. 383.

In the healthcare industry, this *economic definition* of goodwill is *bifurcated* between the *professional goodwill* and the *practice goodwill*. The *professional goodwill* includes those attributes that "go to the grave" with that *specific individual physician* and therefore *cannot be sold*, which leads to the logical conclusion that they have *no economic value*. The *practice goodwill* is defined as *the unidentified*, *unspecified*, *residual attributes* of the subject enterprise as an operating entity that *contribute* to the *propensity of patients* (and the revenue stream thereof) to *return* to the *subject enterprise* in the future.[302]

In those circumstances where the valuation engagement requires that the *professional goodwill* be separated from the *practice goodwill*, for example, in certain litigation related to marital dissolutions, valuation professionals have relied on certain factors to guide their allocations of total goodwill, such as those set forth in the *Lopez v. Lopez* case, which include:

1. The current age and health status of the professional;
2. The demonstrated ability to produce net economic benefit of the professional;
3. The reputation of the professional with colleagues and others within the same profession in regard to judgment, skill, and knowledge;
4. The relative success of the professional; and
5. The length of operations and scope of services related to the business the professional has an ownership interest in and provides services through.[303]

Other factors, in addition to those developed from the Lopez case, considered to be an indication of the existence of *professional goodwill* include years of experience in the current profession; the types and amount of licenses, special recognitions, and awards held by the professional; advertising strategy that promotes the professional, in contrast to the practice; level of business referrals generated by others within the organization, other than the professional; and level of emotional intelligence displayed by the professional, evidenced through interpersonal skills and personality.[304] Factors that have been recognized by valuation professionals that relate to *practice*

---

[302] Jay Fishman, "Personal Goodwill vs. Enterprise Goodwill," in *BVR's Guide to Personal v. Enterprise Goodwill*, 5th ed. (Portland, OR: Business Valuation Resources, 2011), pp. 104–105.

[303] *In re Marriage of Lopez* (1974), 38 Cal. App. 3d 93.

[304] Alina Niculita, Angelina Mckedy, and Kimberly Linebarger, "How to Distinguish Personal Goodwill from Enterprise Goodwill, the Key Person Discount, and Noncompete Agreements," in *BVR's Guide to Personal v. Enterprise Goodwill*, 5th ed. (Portland, OR: Business Valuation Resources, 2012), pp. 104–105.

goodwill include office location, business reputation, and business organization, as well as advertising strategy that promotes the practice in contrast to the professional; alliances with key firms, either vendors or competitors; and growth prospects for the practice, excluding the professional.[305]

Once the attributes that establish the portion of *professional goodwill* and *practice goodwill* that may be allocated from *total goodwill* have been identified, the valuation analyst should first quantify the importance and impact of each attribute in determining that portion of total goodwill that may be allocated to each category of goodwill, that is, *professional* or *practice.* One model that has been developed to assist the valuation professional in quantifying the subjective attributes that are identified and specified as pertaining to *professional* or *practice goodwill* is the Multi-Attribute Utility Model (MUM), which has been accepted in the courts.[306]

14.5 CONCLUSION

The U.S. healthcare delivery system is becoming a more data-driven sector of the economy than ever before, with the emergence of *Electronic Medical Records* (EMR) and *health information exchanges*, *mobile monitoring*, and *sophisticated clinical/business support systems*.[307] This phenomenon is illustrated in a recent quote from a prominent source of healthcare-related news:

> *Healthcare is rich in data. Regulators, researchers, and managers collect multitudes of indicators on patients, procedures, physicians,*

[305] David Wood, "'MUM's the Word': A Formal Method to Allocate Blue Sky Value in Divorce," in *BVR's Guide to Personal v. Enterprise Goodwill*, 5th ed. (Portland, OR: Business Valuation Resources, 2012), pp. 255–261; Alina Niculita, Angelina Mckedy, and Kimberly Linebarger, "How to Distinguish Personal Goodwill from Enterprise Goodwill, the Key Person Discount, and Noncompete Agreements," in *BVR's Guide to Personal v. Enterprise Goodwill*, 5th ed.

[306] David Wood, "'MUM's the Word': A Formal Method to Allocate Blue Sky Value in Divorce," in *BVR's Guide to Personal v. Enterprise Goodwill*, 5th ed. (Portland, OR: Business Valuation Resources, 2012), p. 255–261.

[307] Carla Smith, John Hoyt, and Pamela Matthews, "Health Information Exchanges: Helping Hospitals Harness the Power of IT," *FutureScan 2013: Healthcare Trends and Implications 2013–2018* (Chicago: Society for Healthcare Strategy & Market Development of the American Hospital Association), pp. 26–29; Christopher Wasden, "Health and the Future of Healthcare," *FutureScan 2013: Healthcare Trends and Implications 2013–2018* (Chicago: Society for Healthcare Strategy & Market Development of the American Hospital Association), pp. 30–34.

> *staff, facilities, and equipment. Indeed, the challenge for healthcare organizations is to make sense of this morass of clinical, financial, and operation[al] information generated each day. IT tools are becoming ever more powerful and hold the promise of true business intelligence and predictive capabilities. Yet, healthcare lags using data analytics to learn about the people it services and improve its operations and the bottom line. Leaders are overcoming structural and cultural hurdles to involve many end users–executives, managers and clinicians, as well as analysts.*[308]

During the next several years, as *value-based purchasing*, *accountable care organizations*, *patient-centered medical homes*, and other *changing reimbursement quality paradigms* become increasingly prevalent, the *healthcare transactional marketplace* is likely to continue to be driven by *patient outcomes* and *coordinated care efforts across specialties and enterprise types*, in an effort to further *collaboration* by various providers in order to achieve the *reform* objectives set forth under the ACA related to increased *quality*, *cost-effectiveness*, and *access to care*. Necessarily, these new provider relationships and affiliations will result in *transactional activities* related to the *integration*, *affiliation*, *acquisition*, *and divestiture* of the various *provider enterprises*, as well as the *discrete tangible* and *intangible assets* components making up these enterprises. Central to the success of these emerging healthcare organizations (EHOs), based on new models of care delivery, will be those assets that are subject to transaction and that contribute to the enterprise's *future economic benefit.*[309] These assets will serve as the "*building blocks*" for the newly developed (and often integrated) provider enterprises, provider organizations, and affiliations. In particular, intangible assets, such as *practice protocols*, *clinical and operational research*, *data analytics,* and other *intellectual property,* as well as the *human capital*–related intangible assets, which are requisite for the operation of these emerging healthcare organizations, will likely hold significant *value* for the acquirer of these assets going forward.

It is important to note, however, that due to the *increased pace of transactions* during the last several years between *physician practices* and *other healthcare enterprises*, particularly those involving tax-exempt organizations, there has been a heightened level of *regulatory scrutiny* related to

---

[308] "Healthleaders Media Breakthroughs: The Promise of Healthcare Analytics," (Brentwood, TN: Healthleaders Media, 2012), p. 35.

[309] Krishna Palepu, Victor Bernard, and Paul Healy, *Business Analysis & Valuation Using Financial Statements* (Cincinnati, OH: South-Western College Publishing, 1996), p. 3-2.

these new forms of *provider alignment*, *affiliation*, and *integration*. Accordingly, increasing importance has been placed on obtaining a *certified opinion of value*, in accordance with *professional standards*, related to each of the *discrete* and *separately identifiable tangible* and *intangible assets*, including *intellectual property*, that make up the transaction. This trend provides *significant opportunity* for those valuation professionals who understand the distinction and interrelationship of both tangible and intangible assets, within the context of the *four pillars of the healthcare industry*: (1) *Reimbursement*, (2) *Regulatory*, (3) *Competition*, and (4) *Technology.*

14.6 KEY SOURCES

The Valuation of Property: A Treatise on the Appraisal of Property for Different Legal Purposes, Volumes I and II

A treatise examining the concepts of property and value and how the two relate to and affect each other.

The Valuation of Property: A Treatise on the Appraisal of Property for Different Legal Purposes, Volumes I and II, by James C. Bonbright (New York: McGraw-Hill, 1937)

Valuing a Business: The Analysis and Appraisal of Closely Held Companies

A comprehensive reference for active business appraisers covering theoretical principles and practice techniques for effective business valuation.

Valuing a Business: The Analysis and Appraisal of Closely Held Companies, 5th ed., by Shannon Pratt (New York: McGraw-Hill, 2008)

The Appraisal of Real Estate

A monograph compiling the legal and financial considerations affecting the appraisal of real estate and real property.

The Appraisal of Real Estate, 12th ed. (Chicago: Appraisal Institute, 2001)

Valuing Intangible Assets

A comprehensive guide assisting with the valuation of intangible assets using the cost, market, and income approaches.

Valuing Intangible Assets, by Robert Reilly and Robert Schweihs (New York: McGraw-Hill, 1999)

Valuing Machinery and Equipment

A thorough examination of the pertinent methodologies used to value the tangible assets machinery and equipment.

Valuing Machinery and Equipment (Washington, DC: The American Society of Appraisers, 2000)

Intellectual Property: Valuation, Exploitation, and Infringement Damages
A comprehensive overview of the classification and valuation of intellectual property.

Intellectual Property: Valuation, Exploitation, and Infringement Damages, by Gordon V. Smith and Russell L. Parr (Hoboken, NJ: John Wiley & Sons, 2005)

KtMine Database
Subscription-only database that compiles licensing agreements for intellectual property.

http://www.ktmine.com/

Licensing Royalty Rates
A compilation of licensing royalty rates for different types of intellectual property.

Licensing Royalty Rates, 2012 ed., by Gregory Battersby and Charles Grimes (New York: Aspen Publishers, 2012)

Options, Futures, and Other Derivatives
A comprehensive textbook discussing the valuation of options, futures, and other types of derivatives.

Options, Futures, and Other Derivatives, 8th ed., by John C. Hull (Boston: Prentice Hall, 2012)

The Analysis of Derivatives for the CFA Program
A comprehensive textbook discussing the valuation of derivatives.

The Analysis of Derivatives for the CFA Program, by Don M. Chance (Baltimore: Association for Investment Management and Research, 2003)

Software Cost Estimation with COCOMO II
A comprehensive guide to using the COCOMO method to estimate the cost of developing software.

Software Cost Estimation with COCOMO II, by Barry W. Boehm, et al. (Upper Saddle River, NJ: Prentice Hall PTR, 2000)

"Path Dependent Options: Buy at the Low, Sell at the High"
A journal article describing the reasoning for, and valuation of, exotic options known as path dependent options.

"Path Dependent Options: Buy at the Low, Sell at the High," by M. Barry Goldman, Howard B. Sosin, and Mary Ann Gatto, *Journal of Finance* 34 no. 5 (December 1979)

Fixed Income Analysis for the Chartered Financial Analyst Program

A comprehensive textbook discussing the valuation of fixed income securities.

Fixed Income Analysis for the Chartered Financial Analyst Program, 2nd ed., by Frank Fabozzi (New Hope, PA: Frank J. Fabozzi Associates, 2005)

"Cost Approach of Health Care Entity Intangible Asset Valuation"

A journal article by a renowned business valuation author discussing the implementation of Cost Approach Valuation Methods to appraise healthcare-related assets.

"Cost Approach of Health Care Entity Intangible Asset Valuation," by Robert F. Reilly, *Journal of Health Care Finance* 39, no. 2 (Winter 2012)

Accountable Care Organizations: Value Metrics and Capital Formation

A comprehensive resource for the discussion of ACO models and value metrics.

Accountable Care Organizations: Value Metrics and Capital Formation, by Robert James Cimasi (Boca Raton, FL: Taylor and Francis Group, forthcoming)

Valuing Professional Practices and Licenses: A Guide for the Matrimonial Practitioner

A comprehensive guide for the valuation of certain assets for purposes of marital dissolution.

"Valuing Educational Attainment as a Distributable Asset," by John F. Burke Jr. and Harvey S. Rosen, in *Valuing Professional Practices and Licenses: A Guide for the Matrimonial Practitioner,* 3rd ed., edited by Ronald Brown (New York: Wolters Kluwer Law & Business, 2013)

Income from Independent Professional Practice

A comprehensive resource for the economic value of professional services.

Income from Independent Professional Practice, by Milton Friedman and Simon Kuznets (New York: National Bureau of Economic Research, 1945)

The U.S. Healthcare Certificate of Need Sourcebook

A comprehensive resource for information pertaining to Certificate of Need laws in various states.

The U.S. Healthcare Certificate of Need Sourcebook, by Robert James Cimasi (Washington, DC: Beard Books, 2005)

Hints to Young Valuers: A Practical Treatise on the Valuation of Property
A treatise examining the concepts of property and value and how the two relate to and affect each other.

Hints to Young Valuers: A Practical Treatise on the Valuation of Property, 2nd ed., by Anthony Richard Cragg and James Robert Vernam Marchant (London: The Land Agents' Record, Ltd., 1901)

Intangible Assets: Valuation and Economic Benefit
A comprehensive guide assisting with the valuation of intangible assets focusing on value and economic benefit realized by purchasers of such assets.

Intangible Assets: Valuation and Economic Benefit, by Jeffrey A. Cohen (Hoboken, NJ: John Wiley & Sons, 2005)

14.7 ACRONYMS

Acronym	Full Title
AAAHC	Accreditation Association for Ambulatory Health Care
ACA	Patient Protection and Affordable Care Act
BEV	Business Enterprise Value
CMS	Centers for Medicare and Medicaid Services
CON	Certificate of Need
DME	Durable Medical Equipment
DOJ	Department of Justice
EHO	Emerging Healthcare Organization
EMR	Electronic Medical Record
FERA	Fraud Enforcement and Recovery Act
FF&E	Furniture, Fixtures, and Equipment
HEAT	Healthcare Enforcement Action Team
HHS	Department of Health and Human Services
IRS	Internal Revenue Service
MSA	Management Services Agreements
NCQA	National Committee for Quality Assurance
OIG	Office of Inspector General
PE RVU	Practice Expense Relative Value Unit
PSA	Provider Service Agreements
TAWF	Trained and Assembled Physician Workforce in Place
TDRA	Tasks, Duties, Responsibilities, and Accountabilities

CHAPTER 15

Healthcare Services

Healthcare services may be classified into two general categories, that is, *clinical related* and *nonclinical related*, with *nonclinical-related* activities falling into three generalized subcategories: *administrative*, *management*, and/or *executive*. These categories can be defined by the specific *tasks*, *duties*, *responsibilities*, and *accountabilities* (TDRAs) involved in each. This chapter addresses the classification and valuation of several of the most prevalent services rendered in the healthcare services industry, within the context of the four pillars, that is, *regulatory*, *reimbursement*, *competition*, and *technology*.

As the *corporatization of medicine* has evolved, the provision of healthcare services has transformed from a "*cottage industry*," where physicians had a more direct, personal relationship with their patients, to more of a *commercial structure*, where a patient may have multiple physicians, specializing in various fields, who may or may not *collaborate* together to provide for an *episode of care* (see Section 3.8.2, "Healthcare Professionals," in Chapter 3, "Regulatory Environment"). This trend of *corporatization* has caused an evolution in the TDRAs of physicians from the traditional role of focusing solely on *clinical related* activities, such as *production of*

professional physician services, *call coverage*, *certain medical directorships*, assisting in the *development* and *management of various clinical-related service lines*, and so on, to roles in providing *nonclinical-related* services, for example, *administrative*, *strategic management*, and/or *executive roles*. Furthermore, this shift in the TDRAs of physicians has been amplified by the increased employment of healthcare providers by larger, more integrated health systems, as these large provider organizations typically require additional administrative and managerial oversight functions and are often turning to medical professionals to fill this growing demand (for more information pertaining to the recent trend in the hospital employment of physicians, see Chapter 12, "The Valuation of Outpatient Enterprises").

The movement toward the corporatization of healthcare is paralleled by the commoditization of healthcare services into *fungible commodities* with the creation of a universal *measure of productivity* for physician *clinical services*.[1] This metric was developed to bring *equivalence per unit of care* across physician services and specialties in order to ensure *equitable*, *reasonable reimbursement rates*, while additionally providing a tool for cost containment.[2] The system, known as *Resource-Based Relative Value Scales* (RBRVS), breaks down physician clinical services into *fungible units* known as *Relative Value Units* (*RVUs*). Each total RVU consists of three components: (1) *work RVUs*, (2) *practice expense RVUs*, and (3) *malpractice RVUs*.

Relative Value Units

Fungible units of physician clinical services composed of three components: work RVUS, practice expense RVUs, and malpractice RVUs.

"A National Study of Resource-Based Relative Value Scales for Physician Services," by William C. Hsiao, et al. (Baltimore: Health Care Financing Administration, 1988).

COMPONENTS OF A RELATIVE VALUE UNIT

(1) Work RVUs, (2) practice expense RVUs, and (3) malpractice RVUs.

[1] For the definition of fungible commodities used in this book, as well as more information regarding the commoditization of healthcare, see Section 4.6.3, "Commoditization of Healthcare," in Chapter 4, "Competition."

[2] William C. Hsiao, et. al., *A National Study of Resource-Based Relative Value Scales for Physician Services*, Health Care Financing Administration, 1988.

Due to the central role played by physicians in the delivery of healthcare services, there are two general classifications of operating expenses in healthcare provider enterprises: (1) physician compensation–related expenses and (2) nonphysician compensation–related expenses. In regard to the physician compensation–related expenses, the *work RVU* component of each *total RVU* is determined by the estimated amount of "*work*" performed by a physician when providing a particular service, where "*work*" is defined as (1) the *time*, (2) the *mental effort and judgment*, (3) the *technical skill* and *physical effort*, and (4) the *psychological stress* inherent in each *professional clinical service* provided to patients in support of the forecasted revenue stream.[3]

In regard to the nonphysician compensation–related expenses, the *practice expense* and the *malpractice components* of each total RVU represent the *estimated nonprovider economic operating cost burden* required to perform a particular service in support of the forecasted revenue stream. Additional information pertaining to the history, development, and implementation of

A WORK RVU IS A WORK RVU (I.E., THEY ARE FUNGIBLE COMMODITIES)

The work RVU component of each total RVU is determined by the estimated amount of "work" performed by a physician when providing a particular service, where "work" is defined as (1) the time, (2) the mental effort and judgment, (3) the technical skill and physical effort, and (4) the psychological stress inherent in each professional clinical service provided to patients.

A National Study of Resource-Based Relative Value Scales for Physician Services, *by William C. Hsiao, et al., Health Care Financing Administration, 1988.*

Factoid

Work RVUs reflect the amount of physician resources required to perform a particular service.

A National Study of Resource-Based Relative Value Scales for Physician Services, *by William C. Hsiao, et al., Health Care Financing Administration, 1988.*

[3] Ibid.

the RBRVS reimbursement method can be found in Section 2.4.1.3.2, "Physician Reimbursement and Billing: The Resource-Based Relative Value Scale (RBRVS)," in Chapter 2, "Reimbursement Environment."

The challenge for valuation professionals is being able to *identify* and *separate* the various TDRAs for *clinical services* from those to be provided for *administrative*, *management*, and/or *executive* functions, in order to ensure that compensation for each service is in compliance with the legal implications of the *Stark Law*, the *Anti-Kickback Statute*, and *excess benefit/inurement of benefit* regulations promulgated by the *Internal Revenue Service* (IRS). See Chapter 3, "Regulatory Environment," for a more in-depth discussion of the laws and regulations of the healthcare services industry. Intrinsic to the discussion of *identifying* and *appropriately classifying* each attribute by which a physician will provide *utility* to the subject healthcare enterprise is selecting the *appropriate metric* to be used in *measuring the utility* provided. While such attributes as *tasks* and *duties* have *discretely identifiable metrics* that are more amenable to being *quantified* and *measured* (e.g., hour requirements and wRVU production as set forth in applicable benchmark sources), those attributes related to *responsibility* and *accountability* for ensuring their performance under the given contract are more complex and *varied in their scope*, thereby resulting in these attributes not being easily quantified, despite often being the *attribute of utility* that produces an *equal or greater economic benefit* for the organization. Accordingly, the *value* to be derived from the utility attached to the physician's *responsibilities* and *accountabilities* will often provide greater *economic benefit* to the contracting organization vis-à-vis the *risk/reward continuum* and the physician's *relative risk* in undertaking the given *responsibility* and *accountability* attached to the terms of the given contract.

Factoid

Tasks and duties may be measured with units of time; however, responsibilities and accountabilities (which may account for most of the service compensation) are more subjective.

Stark Law

A federal law prohibiting physicians from referring Medicare or Medicaid patients to an entity for designated health services if the physician or an immediate family member has a financial relationship with that entity.

"Limitation on Certain Physician Referrals," 42 USC §1395nn(a)(1)(A) (2011).

It should be noted that while some types of services fit easily into a *clinical-related* or *nonclinical-related* category (e.g., physician productivity related to patient care is clearly in the *clinical-related* category), due to the many permutations and combinations of TDRAs that can be present in various healthcare service roles, careful analysis is warranted to ensure that the subject services (i.e., those services under consideration in the valuation engagement) are classified into an appropriate category for benchmarking and other valuation related purposes, for example, the role of a medical directorship may be considered *clinical-related*, *nonclinical-related*, or *both*. An illustration of various types of healthcare service–related positions and the *identification* of the TDRAs associates with these roles are listed in Table 15.1.

15.1 CLASSIFICATION OF CLINICAL-RELATED SERVICES

Clinical-related services may be defined as the provision of professional medical services related to the *diagnosis* and *treatment* of patients who present with various injuries, diseases, and ailments by *physicians*, *allied health professionals*, *midlevel providers*, *technicians*, and *paraprofessionals*. *Clinical-related* services may also include *coverage and call*, *research activities*, *clinical academic appointments*, *medical outreach and public health*, and *service line medical directorships*.

Clinical-related *call coverage services* typically require a physician to be responsible for providing *professional clinical services* to patients who may need care during a time other than typical physician practice office hours (e.g., evenings, weekends, and holidays) at various sites of services, including *hospital emergency departments*, *trauma centers*, and *birthing centers*. There are two general classifications of *call coverage services*: *restricted* and *unrestricted*. *Restricted call coverage* requires that physicians be physically present at the location for which they are providing *call coverage services*. This classification of *call coverage* is more prevalent with *hospital-based*

CLINICAL-RELATED SERVICES

The diagnosis and treatment of patients with various diseases and ailments, including the provision of medical services by physicians, coverage and call, research activities, clinical academic appointments, outreach, and clinical service line medical directorships.

TABLE 15.1 Examples of Healthcare Service–Related Positions

Position Titles	Notes	Description of Typical TDRAs	Classification *(i.e., Clinical-Related, Nonclinical-Related, or Both)*
Staff Physician		Provide professional medical services related to the diagnosis and treatment of patients who present with various injuries, diseases, and ailments.	Clinical
Service Line Medical Director	(3)	Similar to a "medical director, general" but specific to a particular clinical service line, for example, cardiology, surgery, and so on.	Both
Medical Director of Clinical Research	(4)(5)	Responsible for research design, methodology, data collection, analysis, and summation of outcomes; grant proposal preparation; research conferences; compliance with protocols, regulations, and research objectives; liaison between finding agencies and the organization.	Both
Medical Director of Clinical Operations	(6)(3)	Monitors day-to-day operations; develops, implements, and monitors policies/procedures; oversees nonphysician technical and records staff; responsible for improving quality and reducing cost by streamlining workforce and technology.	Both
Medical Director of Quality Management	(3)	Responsible for developing and implementing programs to ensure compliance with internal and external quality goals and benchmarks.	Both
Residency/ Fellowship Program Director	(7)(8)	Responsible for organizational policy and compliance, strategic planning, marketing, physician compensation, and reimbursement; oversees clinical research, teaching; and supervises residents and fellows and overall medical education curriculum.	Both

President of Medical Staff	(8)	Duties generally include liaison among/between physicians, management, governing boards, organizations, and the community; setting medical staff policies, procedures, and credentialing.	Both
Chief Operating Officer	(2)	Consults, advises, and assists the CEO and/or practice administrator in providing leadership and direction in planning, directing, and coordinating both patient and nonpatient care activities.	Both
Medical Director, General	(2)	Generally responsible for all activities related to the delivery of medical care and clinical services, such as cost management, utilization review, quality assurance, and medical protocol development, as well as overseeing the activities of group physicians, including recruiting and credentialing; larger organizations may contain more than one of these positions. It should be noted that these roles may be performed for various types of entities, including hospitals, HMO/PPO/Health Plans, PHOs, MSOs, academic medical centers, group practices, and so on.	Both
Associate/Assistant Medical Director	(2)	Assists the medical director in all respects, including clinical services, utilization review, and medical protocol development; these positions are found in the same type of entities that medical directors are.	Both
Chief Medical Information Officer	(1)	Similar to "chief information officer" but performed by a licensed physician, with more of a focus on leveraging clinical data to reduce variance in care processes and quality and achieving "process agility."	Both

(*continued*)

TABLE 15.1 Examples of Healthcare Service–Related Positions (*continued*)

Position Titles	Notes	Description of Typical TDRAs	Classification *(i.e., Clinical-Related, Nonclinical-Related, or Both)*
Chief Human Resources Officer	(3)	Responsible for all human resource management and development programs and procedures, including employment, compensation and benefits, employee/labor relations, education and training, health and safety, and compliance with employment laws and regulations.	Both
Physician Chief Executive Officer	(2)	Develops and monitors organizational policy with other management personnel and board of directors; responsible for the overall operation of the organization, including patient care and contract relations; oversees activities related to growth and expansion of the organization; typically serves as a liaison between the organization, the community, and the board of directors.	Both
Chief Financial Officer	(2)	Develops financial policies and oversees their implementation; typically monitors a variety of financial activities, including budgeting, accounting, billing, payer contracting, collections, and preparation of tax returns; may obtain funds for capital development; usually prepares annual reports and long-term projections.	Nonclinical
Chief Executive Officer	(2)	Maintains broad responsibilities for all administrative positions of the medical group; typically oversees management personnel, with direct responsibilities for the specific functional areas of the organization.	Nonclinical

Chief Information Officer	(2)	Contributes to general business planning regarding technology; accountable for directing data integrity and confidentiality of patient care information; identifies new developments in information system technology and strategizes organizational modifications.	Nonclinical
Chief Legal Counsel	(3)	Responsible for planning, managing, and coordinating the legal affairs of the medical group; directs and coordinates activities of outside counsel; responsible for ensuring that organizational activities meet legal and regulatory requirements; provides legal guidance with the goal of reducing risk to the medical group.	Nonclinical

(1) "What Does a Chief Medical Information Officer Do?" *Modern Healthcare*, July 30, 2007, http://www.modernhealthcare.com/article/20070730/INFO/70730007 (accessed January 7, 2013).
(2) *Management Compensation Survey: 2011 Report Based on 2010 Data*, Medical Group Management Association, 2011, pp. 264–266.
(3) *The 2011 Physician Compensation and Productivity Survey: Including PhDs, Medical Group Executives and Mid-Level Providers*, Sullivan, Cotter, and Associates, Inc., 2011, pp. 652–656.
(4) *Management Compensation Survey: 2011 Report Based on 2010 Data*, Medical Group Management Association, 2011, p. 268.
(5) *The 2011 Physician Compensation and Productivity Survey: Including PhDs, Medical Group Executives and Mid-Level Providers*, Sullivan, Cotter, and Associates, Inc., 2011, p. 653.
(6) *Management Compensation Survey: 2011 Report Based on 2010 Data*, Medical Group Management Association, 2011. p. 265.
(7) *Management Compensation Survey: 2011 Report Based on 2010 Data*, Medical Group Management Association, 2011, p. 268.
(8) *2011 Physician Executive Compensation Survey*, Cejka Executive Search and the American College of Physician Executives, 2011, p. 130.

physicians (e.g., *radiologists*, *anesthesiologists*, *pathologists*, *emergency room department providers*, and *hospitalists*). *Unrestricted call coverage* allows physicians to provide *call coverage services* without having to be physically present at the entity location for the entirety of the on-call shift. Typically, the physicians should be able to arrive at the entity location where they are performing on-call services within 10 to 20 minutes and must carry a pager or another communication device to facilitate correspondence that is required to alert the physician of services needed.

There has been an *increasing demand* for *call coverage* services. According to a 2006 study conducted by the American College of Emergency Physicians, the adequacy of call coverage by specialists in the nation's emergency departments has deteriorated in recent years, due to an *increased volume of patient encounters* that have resulted from changing regulations intended to prevent discrimination in access to emergency medical services.[4]

It should be noted that in the past, physicians were almost universally expected to provide call coverage as a condition of being granted medical staff privileges at the hospital where they treated their patients. However, more recently, changes in physician manpower, including the projected *physician shortage*; the increased demand from the "*graying population*" in the United States; the growing number of older physicians, reducing the total amount of professional hours expended; the increased number of physicians entering early retirement; and a cultural shift where the growing focus of younger physicians is on quality-of-life issues coming out of training, as well as the increasing pressure on physician compensation from diminished reimbursement yield for professional services, have contributed to an environment where more physicians are demanding payment for call coverage services.[5]

15.1.1 Nonphysician Clinical–Related Services

In addition to the *clinical-related services* provided by physicians, there are certain *nonphysician providers*, that is, *allied health professionals*, *midlevel providers*, and *technicians and paraprofessionals*, who may work *synergistically* with physicians (e.g., as a physician supplement for the

[4] American College of Emergency Physicians, "On-Call Specialist Coverage in US Emergency Departments—ACEP Survey of Emergency Department Directors April 2006," (2006), p. 1.

[5] "Hospitals Employing Physicians: A Practical Guide to Buying Physician Practices and Compensating Employed Doctors," presented at the 10th Annual Conference on Emerging Issues in Healthcare Law, in Orlando, Florida, on February 17, 2009, by Leigh Walton, et al., of Bass, Berry & Sims PLC, p. 4.

provision of select services) or *in parallel to* physicians for the provision of services that, although comparable to physician services, are entirely outside the scope of physician practices. For example, *midlevel providers* are afforded a significant level of autonomy within their scope of practice and as such may act alongside—or independent of—physicians under certain conditions for the provision of previously determined services. Despite the expansion of midlevel provider autonomy, their supportive role as part of specialized medical or surgical teams remains particularly significant.[6] In such settings, the role of *nonphysician providers* is typically to support and aid in the provision of physician services, rather than independently providing billable services that generate revenue. As a result, *nonphysician providers* employed as, for example, surgical assistants may be considered a *direct expense* to the physicians who are benefiting from their services. For a more thorough discussion of the various types of *nonphysician providers*, see Chapter 12, "The Valuation of Outpatient Enterprises." It should be noted that midlevel providers, as well as technicians and paraprofessionals, are not considered a "physician" for purposes of the Stark Law's prohibition against self-referrals (see Section 3.3.2, "Stark Law," in Chapter 3, "Regulatory Environment").[7] However, *any* individual who may influence the solicitation of referrals under a federal healthcare program may be subject to the Anti-Kickback Statute, as well as federal and state fraud and abuse laws.[8]

Factoid

Healthcare services are becoming a commodity.

"Commodified Care," by William S. Andereck, Cambridge Quarterly of Healthcare Ethics *16, no. 4 (2007): 401–402.*

[6]Bruce A. Johnson and Deborah Walker Keegan, "Special Issues in Physician Compensation," in *Physician Compensation Plans: State-of-the-Art Strategies*, Medical Group Management Association, 2006, pp. 193–194; Bruce A. Johnson and Deborah Walker Keegan, "Compensation Plans in Bona Fide Group Practices," in *Physician Compensation Plans: State-of-the-Art Strategies*, Medical Group Management Association, 2006, p. 335.

[7]"Definitions," 42 CFR §411.351 (2012).

[8]"Criminal Penalties for Acts Involving Federal Health Care Programs," 42 USC 1320a-7b (January 4, 2012); Health Care Fraud Prevention Enforcement Action Team, "Comparison of the Anti-Kickback Statute and Stark Law," Office of Inspector General, https://oig.hhs.gov/compliance/provider-compliance-training/files/StarkandAKSChartHandout508.pdf (accessed January 8, 2013).

NONPHYSICIAN PROVIDER (NPP) CLASSIFICATIONS

NPPs may be further divided into three categories based on the types of services they provide: (1) allied health professionals (aka "parallel providers"), (2) Midlevel providers (aka "triage providers"), and (3) technicians and paraprofessionals (aka "physician extenders").

15.2 CLASSIFICATION OF NONCLINICAL-RELATED SERVICES

Nonclinical-related services are those services where the TDRAs associated with the position are not directly related to the treatment of patients. The typical *nonclinical-related* roles would include *chief executive officer, chief financial officer*, *chief information officer*, *chief legal counsel*, and other "*C-suite*" *executives*, as well as *strategic and operational management positions*, for example, practice administrators, billing managers, payer contracting managers, and so on, and *nonclinical-related* support staff. As mentioned earlier, the demand for *administrative*, *management*, *and executive services* by healthcare organizations is causing a proliferation in the types of these services required.

The *alignment*, *integration*, and *engagement* of physicians are key strategies for health systems seeking to create *high-performing*, *high-quality*, and *high-efficiency* organizations. Yet aligning physicians' interests with those of hospitals and health systems has been an ongoing struggle, particularly since the shift from *small*, *physician/provider-owned*, *independent private practices* to *captive practices* within larger integrated health systems, that is, *the corporatization of the practice of medicine*. Successful hospital enterprises have understood that "to effectively respond to the economic incentives of reform, a hospital should achieve a deeper level of integration with the physicians that practice there."[9] This has also been a factor in using

C-Suite

A slang term used to describe the top tier of decision makers within an enterprise, based off the first letter of their title, for example, CEO, CMO, COO, and so on.

[9]Healthcare Financial Management Association, "Achieving Physician Integration with the Co-Management Model," http://www.hfma.org/Templates/Print.aspx?id=20619 (accessed July 19, 2010).

EXECUTIVE/ADMINISTRATIVE HEALTHCARE SERVICES

Strategic management–related services performed by medical professionals, including alignment, integration, and engagement of physicians for health systems.

professionals with "*inside knowledge*" of the health system, as well as the collegial "doctor-to-doctor" relationship with fellow physicians within the medical staff, to perform administrative, management, or executive services within the organization in an enhanced, efficient manner.

Another way physicians and hospitals are trying to achieve *closer integration* with physicians is through *comanagement arrangements*, which have reemerged in recent years as an *alternative to joint ventures* or *strict employment arrangements* between hospitals and physicians, who share *mutual interests to lower costs*, *increase efficiency*, and *improve quality.*[10] As previously discussed in Section 4.6.4.1, "Comanagement Arrangements," in Chapter 4, "Competition," under a *comanagement arrangement*, a hospital may enter into a management agreement with an organization that is either *jointly owned* or *wholly owned* by a physician to provide the daily

Comanagement Arrangements

A comanagement arrangement is formed between a hospital and a group of physicians for the purpose of the physicians' providing "comanagement" services for a portion of the hospital's business, typically a service line related to the specialty of the participating physicians.

"How to Seal a Co-Management Deal with a Hospital," by Victoria Stagg Elliott, American Medical News*, January 24, 2011, http://www.ama-assn.org/amednews/2011/01/24/bica0124.htm (accessed November 2, 2012); "What in the World Is Medical 'Co-Management?'" by John C. Erickson III,* Physicians Practice*, http://www.physicianspractice.com/blog/what-world-medical-%E2%80%98co-management%E2%80%99 (accessed November 2, 2012).*

[10] Melanie Evans, "Co-Management Emerges as Alternative to Joint Ventures, Employment by Hospitals," *Modern Physician*, May 10, 2010, http://www.modernphysician.com/apps/pbcs.dll/article?AID=/20100510/MODERNPHYSI# (accessed July 21, 2010).

management services for the inpatient and/or outpatient components of a medical specialty service line.[11] These arrangements provide an incentive to physicians for the development, management, and improvement of quality and efficiency, as well as for making the service line more competitive in the target market.[12]

15.3 ESTABLISHING FAIR MARKET VALUE AND COMMERCIAL REASONABLENESS

Corresponding with the growing trend toward *hospital employment* of physicians, there has been an increase in *regulatory scrutiny* related to the *legal permissibility* of these arrangements under federal and state *fraud and abuse* laws, that is, Stark, Anti-Kickback, and False Claims, as well as IRS regulations related to excess benefit/inurement of private benefit, pertaining to transactions involving exempt organizations (see Chapter 3, "Regulatory Environment"). Significantly, physician compensation arrangements are scrutinized, not only as standalone payments, but also as elements of the overall consideration in the transaction, under the valuation *standard*

Fair Market Value

The value in arm's-length transactions, consistent with general market value, without taking into account any ability between parties to refer business to each other.

"Medicare and Medicaid Programs; Physicians' Referrals to Health Care Entities with Which They Have Financial Relationships," 42 CFR § 411 and 424 (January 4, 2001); "Medicare Program; Physicians' Referrals to Health Care Entities with Which They Have Financial Relationships (Phase II)," 42 CFR § 411 and 424 (March 26, 2004).

Factoid

Compensation should *not* be aggregated along ambiguous lines of demarcation.

[11] Paul F. Danello, "Clinical Co-Management: Hospitals and Oncologists Working Together," *Journal of Oncology Practice* 2, no. 1 (January 2006).

[12] Ibid.

of *Fair Market Value* (FMV), as well as the related threshold of *commercial reasonableness* (both of which are more fully described later and discussed in Chapter 3, "Regulatory Environment").

While FMV looks to the "*range of dollars*" paid for a product or a service, the threshold of *commercial reasonableness* looks to the *reasonableness* of the *business arrangement generally.*[13] It should be noted that these are two *distinct thresholds*, that is, a compensation arrangement may be simultaneously within the range of FMV and be determined to *not* be *commercially reasonable*.

The False Claims Act

Creates civil liability for knowingly presenting false or fraudulent claims for reimbursement to the federal government. Amended in 1986, it has become one of the primary weapons used to combat healthcare fraud. Under the statute's qui tam (whistleblower) provisions, any private citizen can enforce the FCA by filing a complaint alleging fraud against the federal government. The incentive is the potential to share in the recovery of any ill-gotten funds.

"False Claims Act," 31 USC 3729; "Health Care Fraud Report: Fiscal Year 1998," Department of Justice, 1998, http://www.justice.gov/dag/pubdoc/health98.htm#national (accessed December 9, 2009); "False Claims Act," 31 U.S.C.A. §3730(d)(1).

The Anti-Kickback Statute

The federal Anti-Kickback Statute makes it a felony for any person to "*knowingly and willfully*" solicit or receive or offer or pay any "*remuneration*" directly or indirectly in exchange for the referral of a patient for a healthcare service paid for by a federal healthcare program.

"Criminal Penalties for Acts Involving Federal Health Care Programs," 42 U.S.C.A. § 1320a-7b(b).

[13] "Tread Carefully When Setting Fair Market Value: Stark Law Must Be Considered," Joyce Frieden, November 1, 2003, http://findarticles.com/p/articles/mi_m0CYD/is_/ai_110804605 (accessed September 26, 2008).

15.3.1 Fair Market Value

The standard of *Fair Market Value* (FMV) related to transactions involving healthcare services is bound by three areas of law: (1) federal and state Anti-Kickback Statutes, (2) federal and state Stark Laws, and (3) IRS regulations involving excess benefit and inurement of private benefit for exempt organizations, for which an analogy may be a "*three-legged stool*," whereby if one leg of the stool fails, the stool collapses (for an in-depth discussion of the implications of the Anti-Kickback Statute, Stark Laws, and IRS regulations pertaining to compensation for healthcare services, see Chapter 3, "Regulatory Environment").

Table 15.2 sets forth the definition of *Fair Market Value* as established by the *Federal Anti-Kickback Statute*, the *Stark Law*, and *IRS regulations*.

In addition to the definitions of FMV earlier, the *Centers for Medicare and Medicaid Services* (CMS), formerly the *Healthcare Financing Administration* (HCFA), provided the following guidance for determining when a payment for services provided is within the range of FMV:

> *We believe the relevant comparison is aggregate compensation paid to physicians practicing in similar academic settings located in similar environments.* Relevant factors include geographic location, size of the academic institutions, scope of clinical and academic programs offered, and the nature of the local health care marketplace.... *We intend to accept any method [for establishing* FMV] *that is* commercially reasonable and provides us with evidence that the compensation is comparable to what is ordinarily paid for an item or service in the location at issue, by parties in arm's-length transactions who are not in a position to refer to one another.... *The amount of documentation that will be sufficient to confirm* FMV ... *will vary depending on the circumstances in any given case; that is, there is no rule of thumb that will suffice for all situations.*[14] *[Emphasis added]*

15.3.2 Commercial Reasonableness

While there is no universal, explicit definition of *commercial reasonableness*, there is guidance available from several regulatory sources, which, when taken together, indicate what is meant by the term *commercially reasonable*. For example, the *U.S. Department of Health and Human Services* (HHS) has interpreted the term *commercially reasonable* to mean that an

[14] *Federal Register* 66 (January 4, 2001): 916 and 944.

TABLE 15.2 Definitions of Fair Market Value

Anti-Kickback Statute
"Fair market value in arm's-length transactions … not determined in a manner that takes into account the volume or value of any referrals or business otherwise generated between the parties for which payment may be made in whole or in part under Medicare or a State health care program."[1]
Stark Law
"*Fair market value means the value in arm's-length transactions, consistent with the general market value. 'General market value' means the price that an asset would bring as the result of bona fide bargaining between well-informed buyers and sellers who are not otherwise in a position to generate business for the other party, or the compensation that would be included in a service agreement as the result of bona fide bargaining between well-informed parties to the agreement who are not otherwise in a position to generate business for the other party, on the date of acquisition of the asset or at the time of the service agreement.*" [Emphasis added][2]
IRS
The IRS regulations define *reasonable compensation* as the *"amount that would ordinarily be paid for like services by the enterprises (whether taxable or tax-exempt) under like circumstances"*[3] and define the standard of Fair Market Value as the *"price at which property or the right to use property would change hands between a willing buyer and a willing seller, neither being under any compulsion to buy, sell, or transfer property or the right to use property, and both having reasonable knowledge of relevant facts."*[4]

[1] "Program Integrity; Medicare and State Health Care Programs; Permissive Exclusions," 42 CFR §1001.952(b)(5), (2009), p. 735.

[2] "Medicare and Medicaid Programs; Physicians' Referrals to Health Care Entities with Which They Have Financial Relationships (Phase III): Final Rule," *Federal Register* 72, no. 171 (September 5, 2007): 51081. The Stark Law (as stated in the U.S. code) also equates the terms *Fair Market Value* and *General Market Value*, to wit: "The term 'fair market value' means the value in arm's length transactions, consistent with the general market value." From "Limitation on Certain Physician Referrals," 42 U.S.C. §1395nn (April 4, 2012).

[3] Section 53.4958–4(b)(ii)(A).

[4] Section 53.4958–4(b)(i).

arrangement appears to be "a sensible, prudent business agreement, from the perspective of the particular parties involved, even in the absence of any potential referrals,"[15] while the *Stark II, Phase II* commentary suggested that "an arrangement will be considered 'commercially reasonable' in the

[15] *Federal Register* 63 (January 9, 1998): 1700.

absence of referrals if the arrangement would make commercial sense if entered into by a reasonable entity of similar type and size and a reasonable physician of similar scope and specialty, even if there were no potential [designated health services] DHS referrals"[16] In an attempt to interpret the definition of *commercial reasonableness,* it has been suggested that if a healthcare provider collects revenues from a physician's direct and ancillary services that meet or exceed his compensation, the arrangement will appear to meet the *commercial reasonableness* threshold.[17] However, if the physician's compensation significantly exceeds the revenue he is generating, the arrangement should be more carefully analyzed to ensure that the *commercial reasonableness* standard is met.[18]

Significantly, both *services* ***and*** *payments* should be considered *commercially reasonable* for the arrangement to survive scrutiny.[19] For example, if a *specialized physician* is receiving compensation within the *higher range of FMV* to perform services that a *less skilled practitioner* could perform for *less compensation*, the arrangement may not be deemed to be *commercially reasonable*, despite the fact that it is within the range of FMV for that specialist. In such situations, there tends to be a *presumption of fraud*, unless the healthcare provider can show that using a physician of that specialty

Commercial Reasonableness

Defined by HHS as an arrangement that is "a sensible, prudent business agreement, from the perspective of the particular parties involved, even in the absence of any potential referrals."

"Medicare and Medicaid Programs; Physicians' Referrals to Health Care Entities with Which They Have Financial Relationships," 42 CFR § 411,42463 Federal Register *1700 (January 9, 1998); "Medicare Program; Physicians' Referrals to Health Care Entities with Which They Have Financial Relationships (Phase II)," 42 CFR § 411 and 424 (March 26, 2004).*

[16] "Group Practice," *Federal Register* 69 (March 26, 2004): 16107.

[17] John R. Boettiger and Jennifer H. Smith, "Setting Doctor Compensation Is Both Art and Science," *Healthcare Finance News* (July 1, 2007).

[18] Ibid.

[19] Robert A. Wade and Marci Rose Levine, HCPro, Inc., *Fair Market Value: Analysis and Tools to Comply with Stark and Anti-Kickback Rules*, audio conference, March 19, 2008, http://content.hcpro.com/pdf/content/207583.pdf (accessed October 8, 2008).

DESIGNATED HEALTH SERVICES (DHS)

Clinical laboratory services; radiology and certain other imaging services (including magnetic resonance imaging [MRI] services, computed tomography [CT] scans, and ultrasound); radiation therapy services and supplies; durable medical equipment and supplies; orthotics, prosthetics, and prosthetic devices; parenteral and enteral nutrients, equipment, and supplies; physical therapy, occupational therapy, and speech-language pathology services; outpatient prescription drugs; home health services and supplies; inpatient hospital services; and outpatient hospital services.

"Physician Self-Referral and Hospital Ownership Disclosure Provisions in the IPPS FY 2009: Final Rule," Centers for Medicare and Medicaid Services, August 4, 2008, http://www.cms.hhs.gov/apps/media/press/factsheet.asp?Counter=3226&intNumPerPage=10&checkDate=&checkKey=&srchType=1&numDays=3500&srchOpt=0&srchData=&keywordType=All&chkNewsType=6&intPage=&showAll=&pYear=&year=&desc=&cboOrder=date (accessed August 6, 2008).

was *reasonably necessary*, for example, the physician's specific *experience* or the position's requirements could not have been adequately equaled by a less-skilled practitioner. With regard to compensation for *medical directorships*, the *commercial reasonableness* standard requires that medical director activities be fully *documented* in writing and closely *monitored* to ensure that the services of the physicians in those roles are *actually needed* by the hospital and that they are *effectively fulfilling* the medical directorship duties.[20] In addition, the *Office of Inspector General* (OIG) has advised that hospitals should ensure that they do not have multiple arrangements with different physicians for the same services, "so that in the aggregate the items or services provided by all physicians exceed the hospital's actual needs (apart from generating business)."[21] Further, the OIG has cautioned that "payment for services (which may include consultations at the hospital) which require few, if any, substantive duties by the physician, or payment for services in excess of the FMV of services rendered," is potentially

[20] "OIG Supplemental Compliance Program Guidance for Hospitals," *Federal Register* 70 (January 31, 2005): 4867.

[21] Ibid.

Factoid

Compensation can be at Fair Market Value and still not be considered commercially reasonable.

"Medicare Program; Physicians Referrals to Health Care Entities with Which They Have Financial Relationships (Phase II)," Federal Register *69, no. 59 (March 26, 2004): 16107; "Successful Medical Practice Valuation," by Reed Tinsley,* Physicians News Digest*, July 2008, http://www.physiciansnews.com/business/708tinsley.html (accessed September 19, 2008).*

legally impermissible.[22] Additional guidance as to the definition and determination of commercial reasonableness can be found in the government expert's report in the *SCCI v. Houston* case. For an in-depth discussion of the threshold of *commercial reasonableness*, including those factors that the IRS considers in determining the *commercial reasonableness* of a physician compensation arrangement, as well as relevant case law regarding the courts' interpretation of the *commercial reasonableness* standard, see Section 3.3.3.8, "Commercial Reasonableness as Defined by Fraud and Abuse Laws," and Section 3.3.3.9, "Relevant Case Law Interpretations of Fair Market Value and Commercial Reasonableness," both in Chapter 3, "Regulatory Environment," as as well as Chapter 16, "The Threshold of Commercial Reasonableness."

Periodically, the question arises as to whether a hospital employing a physician and paying compensation to her for her *productivity* (e.g., *$ per work RVU*), in an *amount greater* than what the physician was able to achieve *historically* from her private practice earnings for the *same unit of production of services* (i.e., *$ per wRVU*), *prior to* the hospital/physician transaction will subject the compensation arrangement to *commercial reasonableness* scrutiny related to whether it makes "*prudent business sense*"

Factoid

Compensation arrangements must be at Fair Market Value and commercially reasonable.

[22] Office of the Inspector General, "Special Fraud Alert," Department of Health and Human Services, December 19, 1994, http://www.oig.hhs.gov/fraud/docs/alertsandbulletins/121994.html (accessed October 7, 2008).

SAFE HARBORS

Congress enacted safe harbors that detail specific regulatory criteria that must be met to shield an arrangement from liability under the Anti-Kickback Statute and are meant to protect practices unlikely to result in fraud or abuse.

"Criminal Penalties for Acts Involving Federal Health Care Programs," 42 U.S.C.A. § 1320a-7b(b).

for the hospital to pay a significantly higher *$ per work RVU rate* for acquiring the *production of the same unit of service*.

The analysis of the *commercial reasonableness* of physician compensation should first address the threshold issue of *FMV* related to the services to be rendered. Inherent in the definition of FMV is the notion of the *most probable price* at which a *particular property interest*, *good*, or *service* would *transact in the market* between a *willing buyer* and a *willing seller.* When establishing that physician service–related compensation is at FMV, a *market-based approach* is typically used, whereby the proposed compensation to be paid is compared to *applicable normative industry benchmark survey data*.

Typically the *mean* or *median* is the *point of central tendency* selected from this *normative industry benchmark data*, to obtain an indication of the *most probable price* that would be paid for a *similar unit of service*. These units of service may be measured on a *$ per wRVU* basis; a *$ per hour* basis; *$ salary for a specified period* (e.g., *per diem*, *monthly*, *annual*, etc.); or some other metric (see further discussion of compensation types, later).

Considering, from a statistical perspective, the question as to whether a *tax-exempt hospital* paying an *employed physician* a higher amount of compensation for the *post-practice transaction clinical related services* (e.g., $ per work RVU) than she was able to realize from her private practice, the establishment of a *measure of central tendency* from the industry normative benchmark data sample, requires that there be *observations both above and below* the specified point of central tendency, and in the case of the *median*, there would be an equal number of observations *both above and below.*[23] It is rational to assume that physicians who accept compensation levels above the amount they were able to generate from their own practice, would do so in pursuing the *level of remuneration* that *maximizes* their *individual compensation*, *wealth*, or *other measure of utility.* Additionally,

[23] William Hays and Robert Winkler, *Statistics: Probability, Inference, and Decision* (New York: Holt, Rinehart and Winston, 1971), pp. 268–275.

those physicians receiving compensation for their services at rates (e.g., $ per work RVU) above the most probable price (as set forth by the point of central tendency of the normative industry benchmark survey data) would also be acting in their own *rational economic self-interest* by not pursuing a transaction where they would be *paid less* for their services than what they are able to generate from their private practice.

According to the theory of *utility maximization*, *rational market participants* tend to make decisions in order to maximize their *own expected personal utility*, with further assumptions pertaining to each participant's decision-making criterion, to wit:

1. *Perfect rationality* (e.g., in that they prefer more benefit to less);
2. *Perfect self-interest* (i.e., the decisions people make are based solely on the consequences to themselves); and
3. *Perfect information* (i.e., an equivalency of knowledge between the parties of all information pertinent to the transaction—a key criteria in definition of FMV).[24]

According to this theory of *utility maximization*, it would make *prudent business sense* for an individual making *below the median compensation rate* for her services to pursue a transaction that would increase her compensation to the highest level, *bounded by* the exempt hospital's *restriction of not exceeding FMV*, that is, the *most probable amount* that those services would command in the open market. The concept of *utility maximization* includes both *extrinsic value*, for example, *financial gain*; and *intrinsic* value, such as *nonfinancial benefit*. This assumes that the *extrinsic value* derived from additional *cash compensation* would outweigh any *decrease* in *intrinsic value* associated with the transaction. This concept of *utility maximization* was described by Jeremy Bentham (regarded as the founder of modern utilitarianism) as being based on the premise *that utility derived from an object is its ability to*:

> *produce benefit, advantage, pleasure, good, or happiness or prevent the happening of mischief, pain, evil, or unhappiness to the party whose interest is considered.*[25]

---

[24] William Jevons, *The Theory of Political Economy*, 3rd ed. (original work published by Macmillan and Co., London, 1888, electronic version from Library of Economics and Liberty utilized), http://www.econlib.org/library/YPDBooks/Jevons/jvnPE3.html#Chapter3 (accessed September 13, 2012), p. 2.

[25] Jeremy Bentham, *Introduction to the Principles of Morals and Legislation* (Oxford: Clarendon Press, 1907), chap. I.4, http://www.econlib.org.

It should be noted that Bentham's interpretation of the concept of *utility maximization* expands on the definition of *utility* that might be expected from its reference in *Modern Portfolio Theory*, in which individuals, as *rational actors*, select investment portfolios that have *the highest return per level of risk* (based on mean-variance analysis), as that *return* applies to *wealth maximization only*, that is, the perception that an *increase in wealth* (money) is the *only* activity in which *utility* may be derived.

While the preceding paragraphs have discussed the question of the *commercial reasonableness* from the *seller's* perspective of a transaction scenario whereby a *tax-exempt* hospital pays an *employed physician* a higher amount of compensation for postpractice transaction *clinical related services* (e.g., $ per work RVU) than she was able to realize from her private practice, it is also worthwhile to consider the question from the *buyer's* perspective. For example, the economic *principle of substitution* states that the price of a *desired substitute*, or one of *equal utility*, sets the *ceiling of value* for a particular good or service. Under this principle, a potential *purchaser* of healthcare services would be *willing to pay up to the price* of a *desirable substitute*, and normative industry benchmark survey data can be used to determine the most probable price that the purchaser would expend for substitute services.

In addition, an assumption inherent in the definition of FMV is that the *hypothetical buyer* would have *access* to all *pertinent* information regarding the transaction, including the knowledge of the *level of return* on physician services that the current owner (seller) was able to generate (e.g., historical $ per work RVU). However, the *historical level of return* on physician services is strictly reflective of the outcome of the economic factors affecting the *operational performance* and *financial condition* of the physician's *prior practice*, including but not necessarily limited to, (1) the *respective marketing leverage* and *contract negotiating ability* of the practice to achieve *favorable reimbursement yields* and the revenue there from; (2) the *practice's operating expense structure*, in regard to its ability to achieve favorable *supply-side pricing* and *labor costs*; and (3) *reasonable access* to *financing from capital markets* at favorable terms, and does not take into account the *nonfinancial* factors (or *intrinsic value*) that the physician derives from her *autonomy.*

PRINCIPLE OF SUBSTITUTION

The price of a desired substitute, or one of equal utility, sets the ceiling of value for a particular good or service.

An alternative explanation as to why income levels from a physician's private practice may be lower than post-transaction employment income can be found in *behavioral finance*. According to the *theory of bounded rationality*, developed by Herbert Simon, a professor of psychology at Carnegie Mellon University and an influential author to the field of *behavioral economics*, *rational economic market participants* are *limited* by a *lack of ability* and *resources* (including *time*, *information*, *money*, and so on), causing them to use *heuristics* in order to simplify the complexities inherent in the decision-making process, which leads to "*satisficing*" (a combination of the words *suffice* and *satisfy*) in contrast to finding optimal solutions.[26] Examples of how these *behavioral aspects* can explain the phenomenon of historical compensation being significantly below the most *probable price* that should be paid for a particular set of services may include, but not necessarily be limited to (1) a potential *lack of information regarding other opportunities* to obtain higher compensation; (2) *using past experiences* (*heuristics*), which *may not be reflective of future economic market realities*, to determine the amount of *utility* one derives from *intrinsic sources* such as *personal autonomy* (and therefore one's willingness to accept lower extrinsic, financial reward); and (3) other *emotional biases* and/or *cognitive errors* affecting the level of remuneration deemed satisfactory by the recipient (e.g., *regret aversion* and/or *status quo biases* that prohibit a physician from trading autonomy for financial gain; *overconfidence bias*, causing a physician to overestimate her ability to achieve greater market leverage in private practice; and *endowment bias*, in that the practice asset is worth more to the physician because she owns it, and so on). However, the persistence of the economic outcome derived from a particular behavioral bias would be based on the type of *emotional bias* or *cognitive error* exhibited (e.g., knowledge of normative benchmark industry survey data, which reflects the *most probable compensation* rate for *a specific type of service* in a *particular geographic location*, that would generate a higher level of utility for the physician than what she was able to derive from both the intrinsic and extrinsic sources of her private practice, may influence the physician to seek higher compensation rates in order to maximize her expected utility).

Therefore, while it may be true that a potential purchaser, *bound* by the *FMV price* as a *ceiling*, would act to maximize his or her profit by acquiring physician services at the *lowest cost per unit*, that is not reflective of the *seller's* perspective, which is a requisite element of the *willing buyer*, *willing seller* concept inherent in FMV. From the *seller's* perspective, the *floor* of

[26] Herbert A. Simon, "A Behavioral Model of Rational Choice," *Quarterly Journal of Economics* 69, no. 1 (February 1955): 99–118.

SATISFICING

As opposed to finding optimal solutions, rational economic market participants are limited by a lack of ability and resources (including time, information, money, and so on), causing them to use heuristics in order to simplify the complexities inherent in the decision-making process.

"A Behavioral Model of Rational Choice," by Herbert A. Simon, Quarterly Journal of Economics *(1957): 99–118.*

value would be set by the level of income the physician was able to generate from his or her prior practice. The point where both parties will choose to transact would fall between the *ceiling* set forth by the regulatory restriction of FMV and the *floor* set forth by the historical earnings of the physician from his or her prior practice. The degree by which the final negotiated price is closer to the *point of utility maximization* for the *buyer* (i.e., the lowest available cost per unit) or to that of the *seller* (i.e., the highest possible price per unit) is determined by the trade-off between *autonomy* and *leverage* between the two parties, which is illustrated below, in Exhibit 15.1.

As detailed earlier, the more *value* physicians expect may be derived from the intrinsic and extrinsic utility that would be expected to result from their *autonomy*, the *higher the price* they would expect to receive in order for them to give up that *autonomy*, or, in other words, the *less willing* they would be to become *direct employees* (in contrast to operating as a private practice). As *negative economic forces* continue to affect solo practitioners and physicians in small group practices, for example, *decreased reimbursement rates* and *increased regulatory scrutiny* regarding their ownership in *higher-margin* ancillary services, it appears that a *tipping point* may have been reached, and that *autonomy* is increasingly being given up for the relative certainty and comfort that *employment* may bring (which a more in-depth discussion of the trend in hospital employment of physicians may be found in Chapter 12, "The Valuation of Outpatient Enterprises").

A detailed analysis of the healthcare industry is paramount to the determination of whether compensation for healthcare services is within the range of FMV and also whether the arrangement meets the threshold of *commercial reasonableness*. The analysis may be viewed through the framework of the four pillars: *regulatory, reimbursement, competition, and technology.*

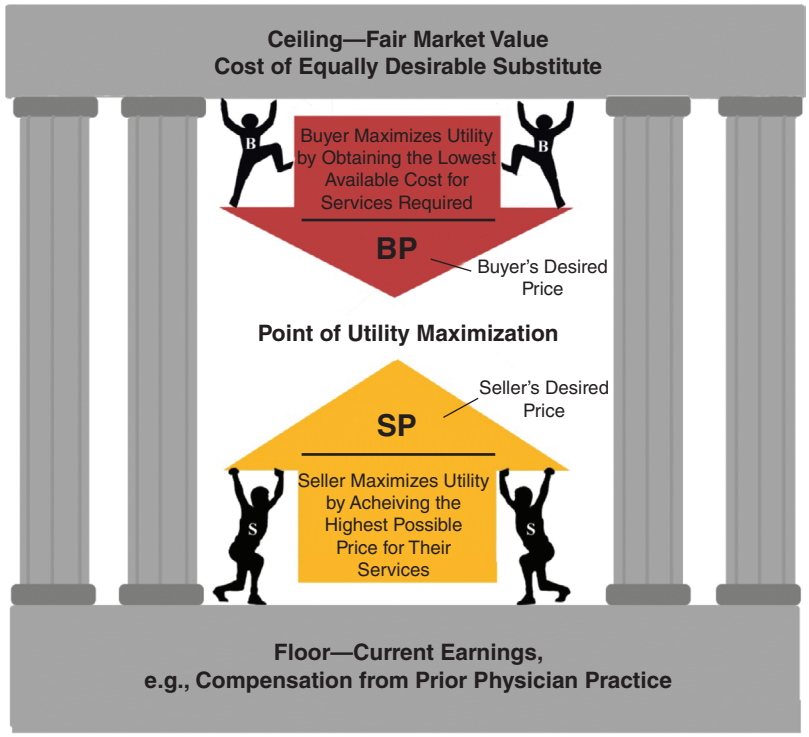


EXHIBIT 15.1 Fair Market Value and Commercial Reasonableness of Physician Compensation

15.4 FOUR PILLARS OF THE HEALTHCARE SERVICE INDUSTRY: REGULATORY, REIMBURSEMENT, COMPETITION, AND TECHNOLOGY

The *constantly evolving* nature of the healthcare industry, viewed through the context of the four pillars—*regulatory*, *reimbursement*, *competition*, *and technology*—continually affects the TDRAs that make up healthcare service positions and therefore the compensation paid to providers of those TDRAs. Generally, the compensation paid for *clinical-related services* is more sensitive to changes in the four pillars; however, as noted earlier, with the evolution of the *corporatization of medicine*, there has been an increase in the demand for *nonclinical-related services*, which may have an impact on the price paid for those services as well. This section gives a brief overview of the pertinent trends in the four pillars that are affecting the TDRAs of healthcare service positions.

Factoid

In March 2007, the IRS reported that of the 1,826 tax-exempt organizations involved in its Executive Compliance Initiative, 782 audits were conducted and $21 million in excise taxes was levied against 40 individuals and 25 different organizations.

"Executive Compensation Update for Tax-Exempt Hospitals and Health Systems," Drinker Biddle Gardner Carton, Health Law Practice Group Newsletter, *June 2007.*

One of the unique aspects of the healthcare industry in general is the regulatory environment (which is more fully discussed in Chapter 3, "The Regulatory Environment") that governs transactions of healthcare-related assets and services. In particular, transactions involving the acquisition of healthcare service providers are scrutinized under the *Anti-Kickback Statute* and *Stark Laws* that attempt to decrease fraud and abuse in the industry, which may result from the complex nature of the services provided and the lack of market controls on price and quality typically associated with the healthcare industry (for a more thorough discussion of the inelastic nature of the healthcare industry see Section 8.1.1.3.1, "Economic Trends," in Chapter 8, "Valuation Approaches and Methods").

In addition to the *Anti-Kickback Statute* and the *Stark Laws*, the IRS scrutinizes compensation arrangements involving tax-exempt organizations. Specifically, the IRS prohibits *excess benefit transactions* and *inurement of private benefits* between tax-exempt organizations and *disqualified persons.* A *disqualified person* is any person in a position to exercise *substantial influence* over the affairs of the *organization* at any time in the lookback period (five years) or family members of the *disqualified person.* To be a *disqualified person*, it is not necessary that the person actually exercise *substantial influence*, only that the person be in a position to exercise *substantial influence*.[27]

As set forth in Section 3.2.2.7, "IRS Determinants of 'Reasonable Compensation,'" in Chapter 3, "Regulatory Environment," an *excess benefit transaction* can be characterized as a transaction in which "the value of the economic benefit provided exceeds the value of the consideration received

[27] Lawrence M. Brauer, et al., "An Introduction to I.R.C. 4958 (Intermediate Sanctions)," 2002 Exempt Organization CPE Text, 2002; "Taxes on Excess Benefit Transactions," 26 U.S.C.A, Section 4958 (March 23, 2010).

Excess Benefit Transactions

As defined by the IRS, an excess benefit transaction is one in which the value of the economic benefit provided exceeds the value of the consideration received for providing the benefit.

"Excess Benefit Transaction," 26 CFR §53.4958–4(a)(1) (2012).

for providing the benefit."[28] In addition, the IRS defines *inurement of private benefit* as when an e*xempt organization* is "organized or operated for the benefit of private interests" and has explicitly stated that "[n]o part of the net earnings of a section 501(c)(3) organization may inure to the benefit of any private shareholder or individual[, whereby] a private shareholder or individual is a person having a personal and private interest in the activities of the organization."[29] However, prohibitions related to *excess benefits* and *inurement of private benefit* do not unilaterally prevent *tax-exempt organizations* from paying *financial incentives* (e.g., shared savings related to quality improvements or other *incentive compensation arrangements*) to physicians as part of the compensation package. For a more thorough discussion of the factors that the IRS considers when determining whether *incentive compensation arrangements* are in conflict with the IRS prohibitions against *excess benefit transactions* and *inurement of private benefits*, for example, whether

"ONE PURPOSE" TEST

In *United States v. Greber*, the court determined that if even one purpose of a remuneration arrangement is to induce referrals, it constitutes an illegal kickback under the Anti-Kickback Statute.

United States v. Greber, *760 F.2d 68 (3rd Cir. 1985).*

[28] "Excess Benefit Transactions," 26 CFR §53.4958-4(a)(1) (2012).

[29] Internal Revenue Service, "Inurement/Private Benefit—Charitable Organizations," February 2, 2012, http://www.irs.gov/charities/charitable/article/0,,id=123297,00.html (accessed August 7, 2012); "Exemption from Tax on Corporations, Certain Trusts, etc.," 26 USC §501(c)(3) (2012).

there is a *reasonable ceiling on the amount a physician may earn* included in the arrangement, see Section 3.2.2.7, "IRS Determinants of 'Reasonable Compensation,'" in Chapter 3, "Regulatory Environment."

In addition to the increased scrutiny of compensation arrangements under the *Fraud Enforcement and Recovery Act* (*FERA*) and the *Healthcare Enforcement Action Team* (*HEAT*), there has been increased concern related to reimbursement yield for healthcare services with the enactment of the 2010 *Patient Protection and Affordable Care Act* (*ACA*), in part, to control the rise in costs associated with healthcare services, while also improving health outcomes. Provisions in the ACA serve as a catalyst for other *reimbursement initiatives* aimed at compensating physicians based on *value*, rather than *volume*, by (1) implementing policies developed to increase the *coordination of care*, (2) *bundling of provider payments*, (3) pursuing *value-based purchasing initiatives*, and (4) allowing providers to receive a *share of the savings* attributable to *achieving the cost-cutting benchmarks* (for a more in-depth discussion of the provisions of the ACA, as well as other reimbursement trends affecting the TDRAs of healthcare service positions, see Chapter 2, "Reimbursement Environment").

Within this evolving *regulatory* and *reimbursement* environment, faced with emerging configurations of provider integrations and affiliations (e.g., *accountable care organizations*), the *competitive marketplace* in which *healthcare services* are delivered is likewise evolving and adapting to *physician manpower shortages*, as well as the *increased scope of services* provided by *midlevel providers*, such as nurse practitioners and physician assistants.

Further, the role of rapidly developing *therapeutic* and *process technologies* is also having a profound impact on the provision of *healthcare*

Factoid

In 2011, healthcare expenditures in the United States totaled $2.7 trillion, or 17.9 percent of the Gross Domestic Product (GDP) and are projected to surpass 20 percent of GDP by 2018.

"National Health Expenditure Projections 2011–2021," Centers for Medicare and Medicaid Services, January 2012, http://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/NationalHealthExpendData/Downloads/Proj2011PDF.pdf (accessed July 6, 2012).

Electronic Health Record

An electronic record of health-related information on an individual that comes to nationally recognized interoperability stands and that can be created, managed, and consulted by authorized clinicians and staff *across more than one health care organization.*

"Table 5: Electronic Health Records Definitions," within "Defining Key Health Information Technology Terms," by the National Alliance for Health Information Technology, to the National Coordinator for Health Information Technology—Department of Health and Human Services, April 28, 2008, p. 15.

services. It should be noted that the *labor productivity* of the healthcare services industry has been highly resistant to *automation*. Accordingly, *technological advancements* in the healthcare industry have failed, to date, to produce the *large shifts* in the *productivity curve* typically associated with innovation, as demonstrated in other industries (e.g., the creation of the automobile assembly line allowed higher output/productivity levels to be achieved, while simultaneously requiring lower amounts of labor hours).[30] The relegation of healthcare services to that of a *mass assemblage factory* is unlikely, at best, due to the *complexity* and *variability* in the types of

Computerized Physician Order Entry

A computer system that permits clinical providers to electronically order laboratory, pharmacy, and radiology services.

"Electronic Health Records Overview," National Institute of Health: National Center for Research Resources, April 2006, p. 7.

[30]The general level of output of either goods or services of a particular industry consists of two components: (1) the productive capacity of labor and (2) the amount of hours spent by labor producing output. Furthermore, the productivity of labor is a function of the level of capital employed (both physical capital and human capital), coupled with the ability to use that capital in increasingly efficient ways (also known as technological advancement). Michael Parkin, *Economics*, 8th ed. (Boston: Pearson Addison Wesley, 2008), pp. 559–561.

treatments and *procedures* performed, thereby resulting in an increased demand for a *highly skilled* and *knowledgeable workforce*. This phenomenon of comparatively lower productivity gains in the healthcare services industry is sometimes referred to as the "Baumoll Effect," or "cost disease," as more thoroughly discussed in Section 4.2.2, "Productivity Growth Rates of Healthcare Services," in Chapter 4, "Competition."

15.5 VALUATION OF HEALTHCARE SERVICES

The *fundamental economic facts* or *economic behavior* that will occur under certain conditions form the basis of the *economic laws* governing what will happen objectively in certain *economic situations* (as more fully discussed in Chapter 7, "Basic Valuation Tenets"). Recall that the principle of scarcity influences market participants to assign relative value to goods and services in order to choose between the limited amounts available.[31] Scarcity of goods and services leads to the concept that *economic value* derives from some form of *economic usefulness*, also termed *utility*, which arises from the *benefits* and/or *satisfaction* to be derived from the *use* or ownership of properties and services, the *use* of money in exchange for those properties or services, the *use* or consumption of goods, and the *use* of intangibles for investment purposes.[32]

COMPONENTS OF THE GENERAL LEVEL OF OUTPUT OF EITHER GOODS OR SERVICES OF A PARTICULAR INDUSTRY

The productive capacity of labor (function of the level of capital employed, in other words, both physical capital and human capital, coupled with the ability to use that capital in increasingly efficient ways, that is, for technological advancement) and the amount of hours spent by labor producing output.

Economics, *8th ed., by Michael Parkin (Boston: Pearson, 2008), pp. 559–561.*

[31] Michael Parkin, *Economics*, 8th ed. (Boston: Pearson Addison Wesley, 2008), p. 2.
[32] Richard Rickert, *Appraisal and Valuation: An Interdisciplinary Approach,* American Society of Appraisers (Washington, DC: International Valuation Sciences Institute, 1987).

The dynamics as to how *economic value* is created in this *use* and *exchange continuum* may be understood within the context of three additional basic principles related to the economic benefits to be derived from the *right to control* the *subject services* to be performed under the *contractual arrangement*. First, the *Principle of Substitution* posits that what normally sets the limit of what would be paid for property is the cost of an *equally desirable substitute* or one of *equal utility*. This principle is the basis for the decision as to whether to "*buy or build*" a product or service. Second, the *Principle of Investment Limits* (and its corollary the *Principle of Diminishing Marginal Utility*) posits that resources are not normally spent in pursuit of diminishing returns from property.[33] Third, and perhaps, most important, the *Principle of Anticipation* posits that the economic benefits of ownership of, or the contractual rights to control, the subject services to be performed under the contractual agreement are created from the *expectation of those benefits or rights* to be derived in the *future*; therefore, all economic value is *forward looking*.[34]

PRINCIPLE OF INVESTMENT LIMITS

A concept stating that resources are not normally spent in pursuit of diminishing returns from property.

PRINCIPLE OF ANTICIPATION

A concept stating that the economic benefits of ownership of, or the contractual rights to control, the subject services to be performed under the contractual agreement are created from the expectation of those benefits or rights to be derived in the future; therefore, all economic value is forward looking.

"Appraisal and Valuation: An Interdisciplinary Approach," *by Richard Rickert, American Society of Appraisers (Washington, DC: International Valuation Sciences Institute, 1987), 3-47.*

[33] Charles F. Kaiser and Amy Henchey "Q. Valuation of Medical Practices," *Internal Revenue Service 1996 Exempt Organizations Continuing Professional Education Text*, 1996.

[34] Richard Rickert, *Appraisal and Valuation: An Interdisciplinary Approach* American Society of Appraisers (Washington, DC: International Valuation Sciences Institute, 1987).

DIMINISHING MARGINAL UTILITY OF INCOME

A concept stating that the more compensation that an individual makes, the less the amount of utility he or she would derive from each successive amount of compensation received.

Principles of Economics, *8th ed., by Alfred Marshall (New York: Macmillan, 1948), pp. 92–96.*

Specifically, the *economic value* analysis for determining FMV should be focused on the *economic benefits reasonably expected to be derived* from the *use* or *utility* of the services *in the future*, bounded by the *cost of an equally desirable substitute*, or one of *equal utility*, for each of the elements of *economic benefit* (or *utility*) to be derived from the *right to control* the services to be performed.

15.5.1 Valuation of Clinical-Related Services

The *economic principles* of *substitution* and *utility* are determinants of the *economic value* that is inherent in *compensation arrangements* related to goods or services, including *clinical related services*, such as those provided by physicians and mid-level providers.

In developing the valuation analysis in regard to *clinical-related services*, the valuation analyst will need to obtain the requisite documents related to the proposed compensation arrangement(s), including:

1. The proposed agreement(s) for *clinical-related services* (including a detailed description of all *tasks*, *duties*, *responsibilities*, *and accountabilities* related to the services to be performed);
2. The time requirements, for example, the *number of hours* or *number of shifts* per week anticipated under the proposed agreement;
3. The *curriculum vitae for* the provider performing the clinical services;
4. *Documentation* as to the *board certification*, *qualifications*, *and tenure* of those providers performing the services;
5. *Medical staff bylaws* and *roster*;
6. *Agreements for other similar positions* at the employer entity, including the *scope of services to be performed* under each of those agreements; and

7. *Documentation* of *historical clinical productivity*, measured in *work RVUs*, *gross charges*, *net revenue*, or *count by CPT code* for an applicable time period to establish a relevant trend for forecasting purposes, typically the last two years or more, depending on the facts and circumstances.

Developing the valuation of the compensation arrangement uses this data to identify and classify the types and the amount of *tasks and duties*, along with the level of r*esponsibility and accountability*, associated with the subject agreement for services. It should be noted that there are a wide variety of compensation arrangements for providing remuneration to providers for the utility derived from their *clinical-related services*. Accordingly, the valuation analysis should include a detailed review of the subject compensation arrangement and each of the elements of the services being provided under the compensation plan being proposed. Two examples of the application of the valuation of clinical-related services can be found online at http://www.wiley.com/go/healthcarevaluation.

15.5.1.1 Types of Compensation Plans for Clinical-Related Services The various types of compensation plans for *clinical-related services* may include, but are not limited to, combinations of the following elements:

1. *Base salary*, that is, equal compensation paid to each physician;
2. *Productivity-based* compensation (e.g., cap compensation and a given productivity percentile by specialty);
3. Compensation based on a *per wRVU* method;
4. *Incentive bonus* based on *productivity*;[35]
5. An *annual stipend* for performance of *administrative services*, for example, medical directorships, departmental management, and oversight;
6. *Incentive payments* based on *achieving quality* of *patient and beneficial outcomes* gauged by agreed-on measures and benchmarks;
7. *Incentive payments* based on *specified legally permissible gainsharing arrangements*, for example, *achieving certain cost savings and efficiencies*; and
8. *Incentive payments* based on the *contributions* and *economic input* of the employed physician(s) to achieve *specified enhancement of the performance of the enterprise*, for example, development of a "Center of

[35] It should be noted the compensation based on productivity (wRVUs), even if not directly tied to an "incentive bonus," may be viewed by the IRS as an "incentive compensation arrangement" as it can vary based on performance (see Section 3.2.2.5, "Prohibition against Excess Benefit Transactions and 'Inurement of Private Benefit'," in Chapter 3, "Regulatory Environment").

Excellence."[36] Two examples of the application of types of compensation plans for clinical related services can be found online at http://www.wiley.com/go/healthcarevaluation.

It should be noted that when considering elements of a compensation arrangement that are *productivity-based*, careful attention should be paid to whether the compensation is based on a (1) *percentage of collections*, (2) *percentage of gross charges*, or (3) *per wRVU basis*. While compensation based on gross charges has the benefit of not being based on the *patient payor mix*, the employer's gross charges may not necessarily be aligned with collections, and the physician's compensation may fluctuate significantly, depending on the employer's increase or decrease in gross charges.[37] However, if compensation is based on an employer's *collections*, there may be a high incentive for physicians to treat patients with higher-paying payors, in contrast to treating Medicaid or indigent patients, which may result in a misalignment with the objectives and stated purpose of the organization.[38] In those compensation arrangements where compensation is based on a *per wRVU basis*, there is the benefit of the compensation being based on the *physician's productivity*, that is, *work effort*, regardless of the employer's *payor mix* or *collection rate*.

In the event that the compensation plan is based on a *per wRVU basis*, special caution should be taken to ensure that the amount of *compensation per wRVU* reflects an amount that is solely related to the production of wRVUs. The production of non-wRVU services may be present and desired by a potential purchaser, for example, medical directorship services and/or profit from ASTC revenue streams; however, these activities are *separate* and *distinct services* from the production of wRVUs, and, therefore, the remuneration for these non-wRVU producing activities should not be disguised as an increased wRVU compensation rate.

Similarly, when a compensation plan proposes paying above the indicated, most probable price set forth by applicable benchmark survey data (even after the *homogenous badges of economic contribution* composing the subject services have been identified and separated from one another), an appropriate justification should be documented, supported, and explained. Recall that the *mean* or *median* compensation metric observed in a survey data population typically sets forth the most probable payment amount for the specific type of service. Those "*special circumstances*" that typically warrant paying above the most probable payment rate for the particular service may include

---

[36] Robert A. Wade, Esq., and Marcie Rose Levine, Esq., *Fair Market Value: Analysis and Tools to Comply With Stark and Anti-Kickback Rules*, audio conference, HC Pro, Inc. (March 19, 2008), p. 61.

[37] Ibid., pp. 13–15.

[38] Ibid., p. 58.

(1) the unique and, accordingly, scarce skill set of the particular provider; (2) additional *tasks*, *duties*, *responsibilities*, and *accountabilities* required of the subject provider, above those of the typical providers in comparable positions, reported in the benchmark survey data; (3) the *quality of the wRVU* generated by a particular provider *is higher* in relation to the wRVUs generated by the providers included in the benchmark survey data; (4) the provider produces a similar quality wRVU but at a lower cost per unit; or (5) other special circumstances regarding the wRVUs produced by a particular provider.

Of note, since the publication of the Tuomey case some legal counsel have interpreted the guidance provided by the various depositions and reports in that case, related to the range of legally permissible physician compensation levels, and some have asserted that the compensation arrangements that propose paying the employed physician an amount above the 75th percentile level of compensation, established by applicable, normative industry benchmarking sources, may fail to meet the regulatory thresholds of *FMV* and *commercial reasonableness* (see Section 3.3.3.9, "Relevant Case Law Interpretations of Fair Market Value and Commercial Reasonableness," both in Chapter 3, "Regulatory Environment").[39] However, as mentioned

SPECIAL CIRCUMSTANCES JUSTIFYING PRODUCTIVITY-BASED COMPENSATION SET ABOVE THE POINT OF CENTRAL TENDENCY

Physicians with unique or scarce abilities, additional responsibilities (above the most probable amount of responsibilities), and other specialized tasks and duties, as compared to the benchmark tasks and duties, may be paid above the most probable amount for a particular set of services, but compensation for unlike services (e.g., comparing clinical services to teaching) should be bifurcated from the specific service under consideration.

Factoid

Benchmarking compensation should be done between homogenous badges of comparability.

[39] *U.S. ex rel. Drakeford v. Tuomey Healthcare System, Inc.*, 3:05–CV–02858–MJP (D.C.S.C), July 13, 2010. It should be noted that this ruling was appealed on March 30, 2012; see *U.S. ex rel. Drakeford v. Tuomey Healthcare System, Inc.*, 675 F.3d 394, 4th Cir.(S.C.), March 30, 2012.

earlier, there may be "*special circumstances*" that warrant paying above the 75th percentile level of compensation.

In addition, compensation plans that include remuneration based on the ability of the provider to produce services at a progressively lower cost per unit can be considered gainsharing arrangements, and the proposed compensation plan may need review by legal counsel to ensure that it meets legal permissibility thresholds. "*Gainsharing*" is defined by CMS to be an arrangement "under which a hospital gives physicians a share of the reduction in the hospital's costs (that is, the hospital's cost savings) attributable in part to the physician's efforts."[40] The most common form of gainsharing arrangement often relates to services furnished within a single clinical specialty.

Historically, gainsharing arrangements have sometimes been found to have violated the Civil Monetary Penalty Statute (prohibiting a hospital from knowingly making a payment directly or indirectly to a physician as an inducement to reduce or limit items or services furnished to Medicare of Medicaid beneficiaries, and a physician from knowingly accepting such payment) and the Anti-Kickback Statute (if one purpose of the cost-savings payment is to influence referrals of federal healthcare program business), despite potential cost-saving benefits of well-structured arrangements.[41] By 2005, however, the OIG began to approve gainsharing arrangements in light of their cost-saving and quality-improving potential. In arrangements it approved, the OIG looked for three types of safeguards: (1) measures that promote accountability and transparency, (2) adequate quality controls, and (3) controls on payments related to referrals.[42]

More recently, in the CY 2009 Physician Fee Schedule Proposed Rule, CMS proposed a new exception to Stark for certain incentive payments to physicians (Pay for Performance) and shared savings programs, including gainsharing arrangements. Despite the CMS's concern that "improperly designed or implemented programs pose [a high risk of program or patient abuse]," and that "additional risk is posed by shared [gainsharing arrangements] that reward physicians based on overall cost savings without accountability for specific cost reduction measures," CMS recognized the fact that "successful programs often result in improved quality outcomes or cost savings (or both) for the hospital sponsoring the program."[43]

---

[40] *Federal Register* 73 (April 30, 2008): 23692.

[41] Ibid.

[42] Ibid. p. 23693.

[43] *Federal Register* 73 (July 7, 2008): 38548, 38550.

15.5.1.2 Tiered Compensation for Clinical-Related Services Another notable issue regarding *productivity-based compensation plans* relates to paying a *variable rate* based on "*tiered*" structures, for example, paying a specific rate for productivity amounts in a certain range (or tier) and then paying a higher rate for productivity amounts that are in a higher "*tier*." The anticipated response to paying an increased rate for higher provider productivity is increased reimbursement received by the employer of the provider. As mentioned in previous chapters, *economic operating income* has two (2) distinct types of cost burdens associated with its production: an *economic operating cost burden* and an *economic capital cost burden*. Further, the *economic operating cost burden* is split between fixed and variable expenses. As productivity increases, thereby causing an increase in *economic operating income* (which also may be increased by reimbursement yield increases), the *fixed portion* of the *economic operating cost* stays the same, while the *variable portion* increases in an incremental amount proportionate to the amount of increase in productivity; in essence, the revenue produced is done so by a *smaller percentage of economic operating cost*. Since the employer of the provider would benefit from reduced *economic operating costs per unit of productivity*, structuring the compensation plan in "*tiers*" can be construed as a *gainsharing arrangement*. Due to this potential contravening factor, legal counsel should be consulted to ensure that a compensation plan that includes a "*tiered*" structure is in compliance with the various regulatory requirements of the healthcare services industry (which are more fully discussed in Chapter 3, "Regulatory Environment").

It should be noted that from an *economic perspective*, compensation plans that include a "*tiered*" structure methodology may seem to violate the principle that a productivity unit of a healthcare service (e.g., a work RVU) should be treated as a fungible commodity and that each unit should command the same price (as discussed in Section 4.6.3, "Commoditization of Healthcare," in Chapter 4, "Competition"). However, recall that according to the economic principle of the *Diminishing Marginal Utility of Income* (see Section 15.5.1.4.1, "Time"), the more compensation that an individual makes, the less the amount of utility he or she would derive from each successive amount of compensation received.[44] Therefore, the inherent incentive of a *productivity-based* compensation model (i.e., the higher the rate of productivity, the more compensation received) may need to be supplemented with an *additional incentive* (e.g., a higher compensation rate for services provided above a certain threshold amount), in order to induce the service provider to *increase* his or her productivity above a certain rate. Potential

[44] Alfred Marshall, *Principles of Economics*, 8th ed. (New York: Macmillan, 1948), pp. 92–96.

Tiered Productivity–Based Compensation

Paying a specific rate for productivity amounts in a certain range (or tier) and then paying a different rate for productivity amounts that are in a higher tier.

issues associated with the "*tiered*" structure model are in the determination of the productivity "*tiers*," where additional incentives would be warranted to generate sufficient motivation to increase productivity, as well as whether the "*tiers*" should or would change over time.

15.5.1.3 POD Compensation Plan Example Another noteworthy compensation arrangement that may be used by certain physician "*group practices*" is the "*POD compensation model*." While FMV is a requirement for the *compensation-related exceptions* under *Stark*, FMV is *not* a requirement for compensation paid to "*group practices*" under the "*ancillary services exception*," which is one of the *general exceptions* to the *Stark Law*. This is an important distinction, as compensation paid to a "*group practice*" under the "*ancillary services exception*" has fewer regulatory restrictions related to distributing compensation to members of the "*group practice*." (See Section 3.3.2.1, "Stark Law Exceptions," in Chapter 3, "Regulatory Environment.") The *Stark Law* defines a "*group practice*" as:

> *a group of 2 or more physicians legally organized as a partnership, professional corporation, foundation, not-for-profit corporation, faculty practice plan, or similar association—*
>
> i. in which each physician who is a member of the group provides substantially the full range of services which the physician routinely provides . . . [;]
>
> ii. in which substantially all of the services of the physicians who are members of the group are provided through the group and are billed under a billing number assigned to the group . . . [;]
>
> iii. in which the overhead expenses of and the income from the practice are distributed in accordance with methods previously determined[;]
>
> iv. in which no physician who is a member of the group directly or indirectly receives compensation based on the volume or value of referrals by the physician[;]

> v. in which members of the group personally conduct no less than 75 percent of the physician-patient encounters of the group practice [; and]
>
> vi. in which meets such other standards as the Secretary may impose by regulation.[45]

As specified in the regulations promulgated to enforce *Stark*, CMS, stated that a "*group practice*" must be:

> *a* unified business *having at least the following features: (i) Centralized decision-making by a body representative of the group practice that* maintains effective control *over the group's assets and liabilities (including, but not limited to, budgets, compensation, and salaries); and (ii)* Consolidated billing, accounting, and financial reporting. *[Emphasis added]*[46]

The *Stark* regulations related to compensation arrangements within a "*group practice*," which include elements of *profit sharing* among members of the "*group practice*," state,

> *Overall profits should be divided in a reasonable and verifiable manner that is* ***not directly related to the volume or value*** *of the physician's referrals of DHS.[*[47]*]The share of overall profits will be* **deemed** ***not to relate directly to the volume or value of referrals*** *if* ***one*** *of the following conditions is met: (i) The group's profits are divided per capita (for example, per member of the group or per physician in the group). (ii) Revenues derived from DHS are distributed based on the distribution of the group practice's revenues attributed to services that are not DHS payable by any Federal health care program or private payer. (iii) Revenues derived from DHS constitute less than 5 percent of the group practice's total revenues, and the allocated portion of those revenues to each physician in the group practice constitutes 5 percent or less of his or her total compensation from the group. [Emphasis added]*[48]

---

[45] 42 USC §1395nn(h)(4)(A).

[46] 42 CFR §411.352(f)(1).

[47] Defined by the Stark Law as "the group's entire profits derived from DHS payable by Medicare or Medicaid or the profits derived from DHS payable by Medicare or Medicaid of any component of the group practice that consists of at least five physicians." 42 CFR §411.352(h)(2).

[48] 42 CFR §411.352(h)(2).

In addition, the "*overall profits*" of a "*group practice*" may be allocated among "any component of the group practice that consists of at least five physicians," based on several other methodologies (e.g., location, specialty/subspecialty, productivity levels, and so on).[49] This ***subset*** of "*at least five physicians*" of the "*group practice*" has commonly been referred to as "*pools*," "*pools of doctors,*" or, most commonly in the healthcare industry, as "*PODs.*"[50] Significantly, however, while there may be *greater flexibility* in regard to regulatory scrutiny under *Stark* and *Anti-Kickback* related to compensation arrangements with physicians who are members of a

Inurement of Private Benefits

An exempt organization is organized or operated for the benefit of private interests. The IRS has stated that "[n]o part of the net earnings of a section 501(c)(3) organization may inure to the benefit of any private shareholder or individual[, whereby] a private shareholder or individual is a person having a personal and private interest in the activities of the organization."

"Inurement/Private Benefit—Charitable Organizations," Internal Revenue Services, February 2, 2012, http://www.irs.gov/charities/charitable/article/0,,id=123297,00.html (accessed August 7, 2012); "Exemption from Tax on Corporations, Certain Trusts, etc.," 26 USC §501(c)(3) (2012).

[49] Ibid.; Alice G. Gosfield, *Medicare and Medicaid Fraud and Abuse*, 2012 Edition (St. Paul, MN: West, 2012) p. §3:9.; Alice G. Gosfield, Esq., "Physician Compensation: Stark and the New Quality, Value Environment," *Compliance Today*, Health Care Compliance Association, September 2012, pp. 24–29.

[50] American Medical Association, "The Stark Law Rules of the Road" (2011), p. 30; Peter R. Kongstvedt, *Essentials of Managed Health Care*, 6th ed. (Burlington, MA: Jones & Bartlett Learning, 2013), p. 665. Alice G. Gosfield, Esq., "Physician Compensation: Stark and the New Quality, Value Environment," *Compliance Today*, Health Care Compliance Association, September 2012, pp. 24–29. For the purposes of this book, the utilization of the acronym "POD" refers to the distribution of overall profits of a group practice to a subset of at least five physicians of the group practice, as set forth in the Stark Law (see 42 CFR §411.352[h][2]). It should be noted that the acronym "POD" is also used to describe "Physician Owned Distributors," which refers to physicians who have an ownership interest in a medical device entity that provides medical devices to their physician practice. For more information regarding the recent scrutiny of "Physician Owned Distributors," see the June 2011 Inquiry by the Senate Finance Committee Minority Staff on the subject.

"*POD*," those "*PODs*" that distribute compensation derived from a *tax-exempt organization* must nevertheless also comply with the I.R.C. 501(c)(3) requirements related to the prohibitions against *excess benefit transactions* and *inurement of private benefit*, in order to avoid *intermediate sanctions* or a *loss of exempt status*.

A summary example of one type of "*POD*" *compensation structure*, whereby a *Captive Professional Corporation* is formed in order to compensate newly integrated physicians into the "*POD*," is set forth in Exhibit 15.2.

Note that as discussed earlier and set forth in the Stark Law, the "*POD*" *must contain* ***at least five physicians*** in order to share the "*overall profits*" of the "*group practice*" that is the *Captive Professional Corporation* in this example). The professional corporation typically bills for the physicians' professional services, and the reimbursement collected from third-party payors is funneled into a *pool* or *fund* to be distributed among the "*POD*" *physicians*.

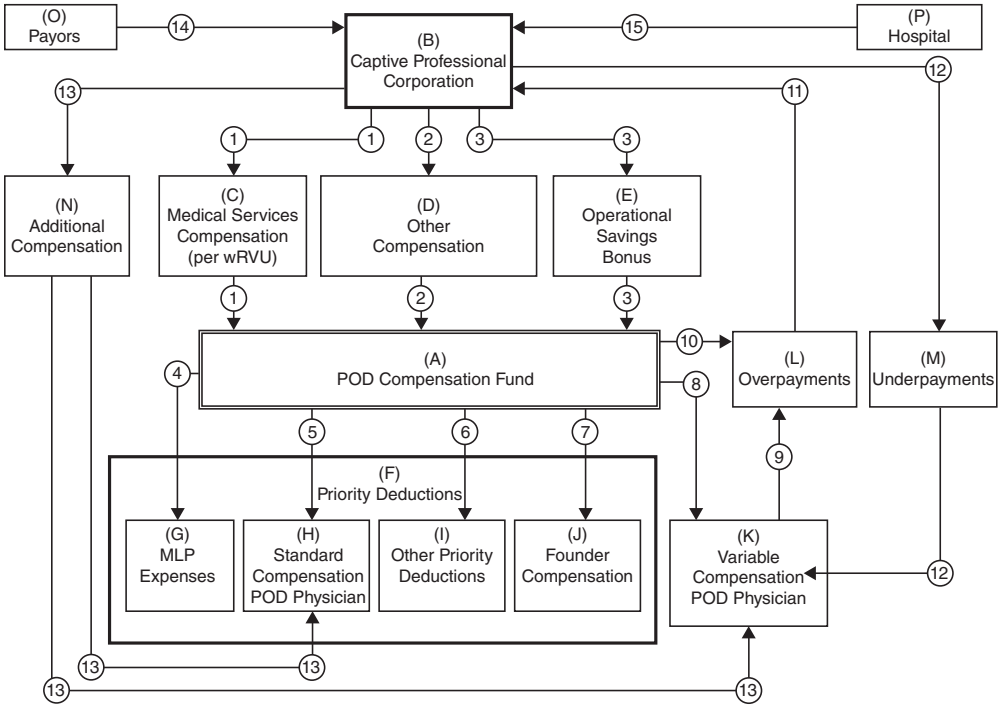


EXHIBIT 15.2 POD Compensation Flow of Funds Schematic

Parties and Entities

(A) **POD Compensation Fund.** POD Compensation for a *Service Period* means the sum of (1) FMV $ per wRVU multiplied by each wRVU that a *POD Physician* generates performing *Patient Services* for the *Captive Professional Corporation* during that *Service Period*, (2) other compensation that the *Captive Professional Corporation* pays to a *POD Physician* (e.g., directorship fees) that a *Physician Employment Agreement* or *other agreement* directs the *Captive Professional Corporation* to pay to the *POD Compensation Fund* related to that *Service Period*, and (3) a *Savings Bonus* with respect to that *Service Period*.

(B) **The Captive Professional Corporation.**

(C) **Medical Services** are reimbursed at the FMV $ per wRVU for each wRVU that a *POD Physician* generates performing *Medical Services* for the *Captive Professional Corporation* during the *Service Period*.

(D) **Other compensation** that the *Captive Professional Corporation* pays to a *POD Physician* (e.g., directorship fees) that a *Physician Employment Agreement* or *other agreement* directs the *Captive Professional Corporation* to pay to the *POD Compensation Fund* related to that *Service Period*.

(E) **Medical Practice Operational Savings Bonus.** For example, the *Captive Professional Corporation* shall pay to the *POD Compensation Fund* an annual bonus of 50 percent of the operational savings of the *POD* from the annual costs of the *POD* prior to the *Effective Date*.

(F) **Other payment** the *Captive Professional Corporation* is obligated to pay a *POD Physician* that pursuant to the *Physician Employment Agreement* with that *POD Physician* is to be deducted from the *POD Compensation Fund*.

(G) **"MLP Expenses" for a Service Period** means the expenses the *Captive Professional Corporation* incurs related to that *Service Period* that generated *compensable wRVUs* for a *POD Physician* arising from the *Captive Professional Corporation's* billing (at the direction of a POD Physician) of the *midlevel provider's services* on an *incident-to basis*.

(H) **The Standard-Compensated POD Physicians will be paid their *fixed compensation* for that *Service Period*.** This compensation is paid out of the *POD Compensation Fund* prior to the *Variably Compensated POD Physician* compensation.

(I) Any other priority deductions the *Captive Professional Corporation* is obligated to pay a *POD Physician* that is to be deducted from the *POD Compensation Fund*

(J) **Founder Compensation** is the *annual*, *fixed amount* paid to the *identified founder physicians*. This payment is made from the *POD Compensation Fund* as a *Priority Deduction*.

(K) **Each Variably Compensated POD Physician shall be paid out of the *POD Compensation Fund*** his or her "***Actual Variable Compensation***." A *Variably Compensated POD Physician*'s "***Actual Variable Compensation***" for *Services* performed during a *Service Period* shall be equal to the actual amount of the *POD Compensation Fund* minus the *Priority Deductions* for that *Service Period*, and then multiplied by the decimal representing such *Variably Compensated POD Physician's Member Percentage* for that *Service Period*.

(L) If a *Variably Compensated POD Physician's Actual Variable Compensation* for a calendar quarter is less than the aggregate amount of *Estimated Quarterly Variable Physician Compensation* for that calendar quarter, then the *difference* (the "***Overpayment***"), if undisputed, shall be reconciled by:

1. **Offset.** If the *Employment Term* for that *Variably Compensated POD Physician* has not expired or terminated *as of the date* of the reconciliation and the *Estimated Variable Physician Quarterly Compensation* for the succeeding calendar quarter equals, or exceeds, the undisputed *Overpayment*, then the *Estimated Quarterly Variable Physician Compensation* and the Actual Variable Compensation for that *Variably Compensated POD Physician* for the succeeding calendar quarter shall both be decreased by the amount of the undisputed *Overpayment*; or
2. **Repayment.** If the *Employment Term* for that *Variably Compensated POD Physician* has expired or terminated *as of the date* of the reconciliation or the amount of *Estimated Quarterly Variable Physician Compensation* for the succeeding calendar quarter is less than the undisputed *Overpayment*, then that *Variably Compensated POD Physician* shall pay the *Captive Professional Corporation* the amount of the *Overpayment* (adjusted to reflect prior withholding) within ten (10) days after the *Captive Professional Corporation* delivers notice to that *Variably Compensated POD Physician* identifying the undisputed *Overpayment* and the undisputed adjustments.

(M) In the event that the advancements paid to the Variable Compensation POD Physician are less than the Actual Variable Compensation for that period, the Capitve Professional Corporation shall pay difference to the Variable Compensation POD Physician

(N) **Additional Compensation for Outreach, Administrative Duties, Teaching, and Research.** For specific circumstances, a *Voting Super-Majority of the Captive Professional Corporation Board* may award additional compensation in the form of wRVUs, or otherwise, to the *Physician* for *outreach, administrative duties, teaching, and research* performed for the

Captive Professional Corporation, at the *Captive Professional Corporation's* request, that have a material adverse effect on the *Physician's* ability to provide *Patient Services*. The *additional wRVUs* shall reflect the amount of *time, effort, and lost wRVU-generating opportunities* associated with the provision of these other services.

(O) **Payors pay the Captive Professional Corporation** for the *professional component* of medical services provided by the *POD Physicians*.

(P) **The Hospital will provide support payments** to the *Captive Professional Corporation*, in the event that the *Captive Professional Corporation* is *insolvent*. *Hospital* will also provide the *funds necessary* to *purchase other assets* (tangible or intangible) owned by the *Physician's practice*.

Flow of Funds

1. The Captive Professional Corporation will pay into the POD Compensation Fund for Medical Services performed by POD Physicians at a rate of FMV $ per wRVU for wRVUs generated by a POD Physician.
2. At the election of the POD Physician, other compensation that the Hospital or the Captive Professional Corporation is obligated to pay to a POD Physician (e.g., directorship fees) related to that Service Period will be paid by the Captive Professional Corporation into the POD Compensation Fund.
3. The Captive Professional Corporation will pay into the POD Compensation Fund the Operational Savings Bonus.
4. In each Service Period, the Captive Professional Corporation shall pay midlevel provider expenses related to incident-to billing supervised by a POD Physician.
5. In each Service Period, the Captive Professional Corporation shall pay the prorated portion of the annual compensation of the Standard-Compensated POD Physician.
6. Other payment the Captive Professional Corporation is obligated to pay a POD Physician that is to be deducted from the POD Compensation Fund.
7. In each Service Period, the Captive Professional Corporation shall pay the Founder Compensation applicable to the Service Period.
8. The Variably Compensated POD Physicians will be paid their estimated quarterly variable compensation out of the POD. This compensation is paid after the MLP Expenses, the Standard-Compensated POD Physicians and other payment the Captive Professional Corporation is obligated to pay a POD Physician. It is a residual payment.
9. If an Overpayment results from the estimated quarterly variable compensation, the Variably Compensated POD Physician can make a direct payment to the Captive Professional Corporation.

10. If an Overpayment results from the estimated quarterly variable compensation, the Variably Compensated POD Physician can offset the overpayment with a reduction in the flow of funds to the POD Compensation Fund.
11. The Captive Professional Corporation will receive the overpayments.
12. The Captive Professional Corporation will pay the Variably Compensated POD Physician for underpayments resulting from the estimated quarterly variable compensation.
13. The Captive Professional Corporation can pay additional compensation to a physician based on a super-majority vote of the Board of Directors.
14. Payors pay the Captive Professional Corporation for the professional component of medical services provided by the POD Physicians.
15. The Hospital will provide support payments to the Captive Professional Corporation in the event that the Captive Professional Corporation is insolvent. The Hospital will also provide the funds necessary to purchase other assets (tangible or intangible) owned by the physician's practice.

Regardless of the type of compensation plan being used, compensation for *clinical-related services* will vary, based on (1) *the provider's specialty,* (2) *the method of valuing productivity* (e.g., percentage of collections, percentage of gross charges, or per RVU), (3) the *hourly rate* (if applicable), and (4) *full-time equivalency* (FTE) status.

Once the requisite documents and information have been gathered, and the proposed compensation arrangement has been specified, consideration of the *most probable* remuneration for the services provided should include an analysis of the pertinent *value drivers*, that is, the underlying elements of *clinical productivity.*

15.5.1.4 Value Drivers of Clinical Productivity The value of services rendered should consider the four provider-specific *drivers of clinical productivity*, that is, (1) *time*, (2) *efficiency*, (3) *volume*, and (4) *quality performance*, which are used in the benchmarking process, either in comparison to internal sources or outside industry normative data, in developing the FMV analysis.[51]

15.5.1.4.1 Time The amount of *time* a provider dedicates to clinical activity will work to establish the *bounds* of that provider's *volume* of clinical productivity. In so much as in accordance with the *Principle of*

[51] Bruce A. Johnson and Deborah Walker Keegan, "Measuring Physician Work and Effort," in *Physician Compensation Plans: State-of-the-Art Strategies*, Medical Group Management Association, 2006.

VALUE DRIVERS OF CLINICAL PRODUCTIVITY

The value of services rendered should consider the four practitioner-specific drivers of clinical productivity: time, efficiency, volume, and quality performance, which are particularly useful benchmarks when determining FMV.

Physician Compensation Plans: State-of-the-Art Strategies*, by Bruce A. Johnson and Deborah Walker Keegan, Medical Group Management Association, 2006.*

Substitution, the provider has a finite limitation on both the number of hours and the volume of *clinical-related services* per hour he or she can provide. As typically much of *external benchmarking* for clinical productivity is performed using *normative industry data*, on the basis of a *full-time equivalent* "*norm*," regardless of what other *measures* of *work* and *effort* are taken into consideration when establishing a method of compensation, the *amount of time* worked will, inevitably, affect how a provider is compensated.[52] However, a growing emphasis is being placed on *academic*, *administrative*, *executive*, *volunteer,* and *other nonclinical activities* in measuring a provider's performance and compensating providers for the work performed.[53] Because *time* is a *depleting resource*, the amount of time contributed to these various other tasks directly affects the amount of time available for clinical activities. Further, the *Principle of Diminishing Marginal Utility of Income* (a corollary of the *Principle of Investment Limits*) provides the conceptual framework that physicians and other clinical providers, as the sellers of services, will perceive a *diminishing level of value* for the units of time expended performing *clinical-related services*,

[52] M. Catherine Higgins and Theresa M. Raczak, "Designing an Effective Physician Compensation Program," in Kenneth M. Hekman, *Physician Compensation: Models for Aligning Financial Goals and Incentives* (Dubuque, IA: Kendall/ Hunt Publishing Company , 2000), p. 86.

[53] Daniel K. Zismer and David A. Kaplan, "The Effects of Consolidation on Physician Compensation: Expectations and Future Challenges," in Daniel K. Zismer, *Physician Compensation Arrangements* (Gaithersburg, MD: Aspen Publishers, 1999), pp. 6–8; Bruce A. Johnson and Deborah Walker Keegan, "Measuring Physician Work and Effort," in *Physician Compensation Plans: State-of-the-Art Strategies* (Englewood, CO: Medical Group Management Association, 2006), pp. 114–115.

beyond that horizon that *separates* the perceived utility derived from the financial gain of performing additional clinical productivity from the perceived utility to be gained from the time expended on other pursuits, for example, family or leisure activities.

15.5.1.4.2 Efficiency The *level of efficiency* in providing clinical services will also contribute to a provider's *level of productivity* and, accordingly, her level of compensation, that is, the amount of time spent performing clinical tasks is not the only factor in determining the *total amount of clinical throughput*—the *volume produced per unit of time* should also be taken into consideration.[54] Variances in the *level of provider efficiency* typically account for *differences in total volume* once adjustments for the incongruity introduced by *nonclinical time worked*, as well as for the variability introduced by *less hours worked by part-time providers*, have been accounted for. The valuation analyst should also consider the implications of the *degree/type* of *provider specialization*, as well as the degree of difficulty and/or type of work that each specialty entails, when comparing and contrasting the services performed by various providers.[55] In addition to *time*, the provider's level of experience may also have a positive or negative impact on his or her efficiency, which would affect the volume of clinical productivity produced, for example, wRVUs.[56]

15.5.1.4.3 Volume *Volume*, that is, the amount of clinical productivity possible, may be limited by the *time* spent on *nonclinical activities*, in a

[54] Paul M. Schyve, MD, "The Joint Commission's Perspective," in Stephen C. Schoenbaum, *Measuring Clinical Care: A Guide for Physician Executives* (Tampa, FL: American College of Physician Executives, 1995), p. 57; Bruce A. Johnson and Deborah Walker Keegan, "Measuring Physician Work and Effort," in *Physician Compensation Plans: State-of-the-Art Strategies* (Englewood, CO: Medical Group Management Association, 2006), pp. 114–115.

[55] J. Gray Tuttle, "Fee-for-Service Models," in Kenneth M. Hekman, *Physician Compensation: Models for Aligning Financial Goals and Incentives* (Dubuque, IA: Kendall/Hunt Publishing Company, 2000), pp. 49–50; Bruce A. Johnson and Deborah Walker Keegan, "Measuring Physician Work and Effort," in *Physician Compensation Plans: State-of-the-Art Strategies* (Englewood, CO: Medical Group Management Association, 2006), pp. 114–115.

[56] Norman (Chip) Harbaugh Jr., "Pay for Performance: Quality- and Value-Based Reimbursement," *Pediatric Clinics of North America* 56, no. 4 (2009): 997–998; Bruce A. Johnson and Deborah Walker Keegan, "Measuring Physician Work and Effort," in *Physician Compensation Plans: State-of-the-Art Strategies* (Englewood, CO: Medical Group Management Association, 2006), pp. 114–115.

manner similar to that of *time* and *efficiency*. Therefore, the extent to which *volume* of clinical production is limited should be taken into consideration when calculating *productivity*. Also, as with *efficiency*, the *specialization* of the provider will likely have an impact on the *volume* of patient throughput, as more complex areas of practice will require more *time* and therefore may appear on their face less "*efficient*."[57]

15.5.1.4.4 Quality The fourth—and final—*value driver of clinical productivity* is the *quality of care* administered to a patient. *Quality metrics* are playing an increasingly important role in measuring a provider's performance for purposes of determining FMV compensation.[58] The rise in the importance of the *quality metric* as a *value driver of clinical productivity* is manifested in the movement toward *value-based reimbursement* (*VBR*), set forth in the provisions of the recently enacted ACA. This new paradigm of healthcare value metrics, that is, *value equals cost plus quality*, is a foundation of current healthcare reform efforts (for more information regarding *quality metrics* having an increased impact on compensation for healthcare services, see Section 2.7, "Emerging Reimbursement Trends and the Impact of Healthcare Reform," in Chapter 2, "Reimbursement Environment," and for more information regarding the quality initiatives included in the recent efforts for healthcare reform, see Section 6.7, "Conclusion: Future of U.S. Healthcare Delivery in an Era of Reform," in Chapter 6, "Healthcare Reform").

15.5.1.5 Importance of Including Benefits in Compensation Analysis Another component of a compensation plan that should be considered by the valuation analyst when assessing the FMV of the *total compensation* to be paid for a particular set of healthcare services is the amount of *benefits* included within the *total compensation arrangement*. As set forth in the definitions of the Stark Law, *any remuneration*, whether in *cash* or *in kind*, is considered

---

[57] Daniel K. Zismer, "The Broad Perspective—Physician Compensation Issues across Different Practice Settings," in Daniel K. Zismer, *Physician Compensation Arrangements* (Gaithersburg, MD: Aspen Publishers, 1999), pp. 20–21; Bruce A. Johnson and Deborah Walker Keegan, "Measuring Physician Work and Effort," in *Physician Compensation Plans: State-of-the-Art Strategies* (Englewood, CO: Medical Group Management Association, 2006), pp. 114–115.

[58] Norman (Chip) Harbaugh Jr., "Pay for Performance: Quality- and Value-Based Reimbursement," *Pediatric Clinics of North America* 56, no. 4 (2009): 997–998; Bruce A. Johnson and Deborah Walker Keegan, "Measuring Physician Work and Effort," in *Physician Compensation Plans: State-of-the-Art Strategies* (Englewood, CO: Medical Group Management Association, 2006), pp. 114–115.

to be *compensation* for the purpose of determining *FMV* and *commercial reasonableness*.[59]

Types of *benefit*s that are often part of a compensation arrangement include (1) *contributions to retirement plans*, (2) *payment* of *automobile expenses*, (3) *compensation* for *continuing medical education*, (4) *reimbursement* for *business-related travel and entertainment*, and (5) *payment of malpractice insurance coverage*. The valuation analyst should compare the *level of benefits* in the compensation package to those of *applicable*, normative benchmark industry survey data, and if the *amount of benefits to be provided* is *significantly above* those reported by the benchmark surveys, an *adjustment* should be made to add the *excess benefit amount* as *cash compensation* being paid to the *provider*. Note that in this event, the excess benefit amounts have the potential to cause the *level of cash compensation* to *exceed* either the threshold of *FMV* or *commercial reasonableness*. One often overlooked benefit that should be considered in the determination of *FMV* and *commercial reasonableness* of a compensation arrangement is the payment of not only malpractice insurance coverage by the purchaser of the subject services, but the agreement that would require the employer to be liable for *prior claims* from services rendered by the physician during the malpractice insurance premium period from previous employment, referred to as "*prior acts coverage*."

The *economic cost burden* (i.e., the *insurance premium*) related to *prior acts professional liability insurance coverage* (commonly referred to as "*nose*" *coverage*) is most often *incurred* (paid) in a *subsequent period* from which the *reimbursement* for the *provision* of the given medical service (i.e., the *malpractice expense component* of the *total Relative Value Unit*) is realized. As such, there may be an *economic revenue/expense mismatch* between the *premium cost* associated with the coverage and the *reimbursement* received for the services rendered. The *economic cost burden* associated with *malpractice claims* that may be brought against a provider in the *future* for *services rendered after his current employment has terminated* is referred to as *tail risk*. *Occurrence malpractice insurance* coverage protects against *tail risk*; however, "*claims made*" *policies* cover the provider from the risk of malpractice lawsuits *only during the coverage period*. Therefore, a provider with *claims made insurance*, who becomes an employee of another provider, may have *liability risk* from *prior acts* that would require an additional *nose coverage* policy.

Since *payment of prior acts insurance coverage* by an outside party would relieve the provider from incurring the *cost burden* associated with

[59] 42 CFR §411.351.

Tail/Nose Coverage

Professional liability insurance coverage related to future services rendered after employment has terminated, or covering prior acts, respectively.

protecting against the legal liability of malpractice claims from *prior acts*, for which underlying service he was already paid for by the malpractice RVU, it should be classified as an *economic benefit accruing to the physician* and, as such, should be included in the amount of *total compensation* received when determining whether the total consideration paid to the provider is within the range of *FMV* and is *commercially reasonable*. Several of the significant differences between *nose coverage* and *tail coverage* are set forth in Table 15.3.

15.5.1.6 Clinical-Related Services Compensation Benchmarking Once the four *value drivers of clinical productivity* have been assessed (see Section 15.5.1.2, "Tiered Compensation for Clinical-Related Services," for further discussion of the *value drivers of clinical productivity*, that is, *time*, *efficiency*, *volume*,

TABLE 15.3 Tail/Nose Coverage

		Assumes Liability Event Occurs During Current Coverage		
Coverage		Before Employment	During Employment	After Employment
Standard	Occurrence	✗	✓	✓
	Claims Made	✗	✓	✗
Standard with Nose (Prior Acts)	Occurrence	✓	✓	✓
	Claims Made	✓	✓	✗
Standard with Tail	Occurrence	✗	✓	✓
	Claims Made	✗	✓	✓
Standard with Nose and Tail	Occurrence	✓	✓	✓
	Claims Made	✓	✓	✓
			Symbols	
			Covered	✓
			Not Covered	✗

and quality), the proposed compensation arrangement (including the level of benefits to be included) should be compared to applicable, normative benchmark industry sources reflecting similar TDRAs, in order to determine whether the compensation arrangement meets the regulatory thresholds of FMV and commercial reasonableness. This "*benchmarking analysis*" should include the following steps to ensure that the most relevant external benchmarking data is used for comparison purposes:[60]

1. Determination of the arrangement specific characteristics, including, but not necessarily limited to,
   a. Specialty/subspecialty of the provider;
   b. Applicable job training and education level of the provider, relevant to the position;
   c. Amount of experience of the provider;
   d. Site of service (e.g., hospital-based practice, office-based practice, etc.);
   e. Geographic location where the subject services are to be provided; and
   f. Nature of the revenue stream that produces the income available for *clinical-related services* compensation (e.g., determination of whether ancillary services and technical component (ASTC) data is included/excluded in the subject services, determination of whether Nonphysician Provider data is included/excluded in the subject services, etc.).
2. Establish the *homogenous units of economic contribution* to be used as the *metric(s) of comparability*, which may include the following:
   a. Productivity components, for example, charges, collections, RVU, and so on; and/or
   b. Time components, such as annual, monthly, hourly, full-time equivalent, and so on.
3. Development of the range of applicable, normative benchmark industry data, which should include *measures within the range*, (e.g., 10th percentile, 25th percentile, 75th percentile, 90th percentile, etc.), as well as *measures of central tendency*, (e.g., mean, median, etc.) and *measures of dispersion* (e.g., standard deviation). The *range of normative benchmark industry data* is typically compiled by taking a weighted average of the selected external benchmark data sources that report the specified *metric(s) of comparability.* The percentage of consideration assigned to each data source used to compile the *range of normative benchmark*

[60] Robert A. Wade, Esq., and Marcie Rose Levine, Esq., *Fair Market Value: Analysis and Tools to Comply with Stark and Anti-Kickback Rules*, audio conference, HC Pro, Inc. (March 19, 2008), p. 55.

industry data should include contemplation of the following statistical and descriptive survey characteristics:

a. *Size* of the data population sample included in the external benchmark survey;

b. *Dispersion* of the data; it should be noted that a useful metric for comparing the relative dispersion between data sets for the purposes of determining an applicable weight of consideration in calculating a range of applicable, normative benchmark industry data is the *coefficient of variation* (calculated as the sample set mean divided by the sample set standard deviation);

c. *Geographic proximity* in relation to the area in which the subject services will be provided; and

d. Other elements of comparability between the external benchmark data sources and the subject services (e.g., whether the external benchmark data source includes information specific to the specialty/subspecialty of the provider, the date the external benchmark data was compiled in relation to the valuation as of date, etc.).

A listing of typical compensation surveys used for benchmarking *clinical-related services* compensation can be found in Table 15.4. An example of the application of clinical-related services compensation benchmarking can be found online at http://www.wiley.com/go/healthcarevaluation.

While normative benchmark industry survey data can be used to establish FMV compensation rates, further analysis should be performed in order to meet the related threshold of *commercial reasonableness*. Typically, the following factors outlined by the IRS serve as a guide in determining whether compensation for *clinical-related services* is commercially reasonable:[61]

1. The specialized training, reputation, and experience of the provider of the services;
2. The nature of duties performed and the amount of responsibility;
3. Actual time spent performing tasks and duties;
4. Size of the organization;
5. The level of interdependence between an organization and the performance of the subject services that enable the organization to fulfill its mission and/or obtain stated goals;
6. National and local economic conditions;

[61] Daniel K. Zismer, *Physician Compensation Arrangements*, (Gaithersburg, MD: Aspen Publishers, 1999), p. 204; Charles F. Kaiser, Phyllis D. Haney, and T. J. Sullivan, "Integrated Delivery Systems and Joint Venture Dissolutions Update," *1995 EO CPE Text*, Internal Revenue Service, 1995.

TABLE 15.4 Clinical-Related Services Compensation Benchmarking Sources

Source Title	Source Publisher
All Health Care Salary Survey	Abnott, Langer Association
Healthcare Associations and Disciplines Salary Survey	Abbott Langer Association
Integrated Health Networks Compensation Survey	William M. Mercer, Inc.
Medical Group Compensation and Financial Survey	American Medical Group Association
Northwest Health Care Industry Salary Survey	Milliman
Physician Compensation and Production Survey	Medical Group Management Association
Physician Compensation and Productivity Survey Report	Sullivan Cotter and Associates, Inc.
Physician Compensation Report	Hay Group
Physician Compensation Survey	National Foundation for Trauma Care
Physician Placement Starting Salary Survey	Medical Group Management Association
Physician Salary Survey Report: Hospital-Based Group HMO Practice	John R. Zabka Associates
Physician Starting Salary Survey	The Health Care Group, Inc.
Survey of Health Care Clinical & Professional Personnel Compensation	Watson Wyatt Data Services

7. Time of year when compensation is determined;
8. Whether compensation is in part or in whole payment for services provided; and
9. Compensation ranges for equally qualified providers.

These factors set the foundation for whether the purchaser of healthcare services is entering into a transaction exhibiting sound business judgment in light of the organization's size, its mission, the number of patients treated, and the medical needs of those patients.[62]

[62] *U.S. v. SCCI Hospital Ventures, Inc.*: Plaintiff U.S., Designation of Expert Witness, Civil Action No. H-99-1031 (July 12, 2005).

Another element of the transaction that should be considered in regard to the *commercial reasonableness* of the compensation arrangement is whether the purchaser could have obtained the same services from nonreferral providers at a less expensive rate or under more favorable terms (for more information pertaining to the commercial reasonableness threshold, see Section 15.3.2, "Commercial Reasonableness," and also Section 3.3.3.8, "Commercial Reasonableness as Defined by Fraud and Abuse Laws," in Chapter 3, "Regulatory Environment").

15.5.1.7 Valuation of Physician On-Call Services Similar to the valuation of other *clinical-related services*, the *economic value* analysis for determining FMV for *physician on-call services* should be focused on the *economic benefits* reasonably expected to be derived from the *use* or *utility* of the services *in the future*, bounded by the *cost* of an *equally desirable substitute*, or one of *equal utility*, for *each of the elements* of *economic benefit* (or *utility*) to be derived from the *right to control* the services to be performed.

As set forth in the May 2009 Advisory Opinion by the Office of the Inspector General, compensation for *physician on-call services* should be based on *services actually rendered.*[63] Furthermore, reliance on the physician's "lost opportunity cost" as the sole basis for determining *physician on-call services* compensation may not be considered an efficacious methodology for determining whether a compensation arrangement meets the regulatory thresholds of FMV and commercial reasonableness (for further discussion of the regulatory scrutiny of compensation arrangements related to *physician on-call services*, see Section 3.3.3.9.8, "OIG Guidance Regarding Coverage and Call Compensation," in Chapter 3, "Regulatory Environment").

In developing the valuation analysis related to *physician on-call services,* the valuation analyst will need to obtain the requisite documents related to the proposed compensation arrangement(s), including:

1. **The proposed agreement(s)** for on-call services (including a detailed description of all TDRAs related to the services to be performed);
2. **The time requirements**, for example, the *number of hours* or *number of shifts* per week anticipated under the proposed agreement;
3. **Number of times** the current (specialty specific) on-call physician was (a) *paged* and (b) *required to be present* at the hospital for the last two years;
4. **The curriculum vitae for the physician** performing the on-call services;

[63] "OIG Advisory Opinion No. 09-05," May 14, 2009, p. 9.

5. **Documentation** as to the *board certification*, *qualifications*, and *tenure* of those providers performing *on-call services* under similar agreements;
6. **Medical staff bylaws** and roster;
7. **Agreements for other similar positions** at the employer entity, including the *scope of services* to be performed under each of those agreements;
8. **Size of the employer**, *number of patients*, *acuity levels of patients*, and the *specific needs* related to the organization; and
9. **Documentation of historical clinical productivity**, measured in *wRVUs*, *gross charges*, *net revenue*, or *count by CPT code* for an applicable time period to establish a relevant trend for forecasting purposes, typically the last two years or more, depending on the facts and circumstances.

Developing the valuation analysis of the compensation arrangement uses this data and to identify and classify the types and amount of tasks and duties, along with the level of responsibility and accountability, associated with the subject agreement for services.

15.5.1.7.1 Physician On-Call Compensation Benchmarking Similar to *clinical-related services*, once the TDRAs for the *physician on-call services* to be provided are established, the proposed compensation arrangement should be compared to applicable, external benchmarking sources reflecting similar TDRAs, in order to assess whether the compensation arrangement meets the regulatory thresholds of FMV and commercial reasonableness. This "*benchmarking analysis*" for *physician on-call services* should include the following steps to ensure the most relevant external benchmarking data is used for comparison purposes:

1. Determine the arrangement specific characteristics, including but not necessarily limited to,
   a. Specialty/subspecialty of the provider;
   b. Applicable job training and education level of the provider, relevant to the position;
   c. Number of years of experience and reputation of the provider;
   d. Site of service (e.g., hospital emergency department, hospital obstetrical department, etc.); and
   e. Geographic location where the subject services are to be provided;
2. Establish the *homogenous units of economic contribution* to be used as the *metric(s) of comparability.* Typically, compensation arrangements for *on-call services* are based on time metrics, such as annual, monthly, hourly, and so on; and
3. Develop the range of applicable, normative benchmark industry data, which should include *measures within the range* (e.g., 10th percentile,

25th percentile, 75th percentile, 90th percentile, etc.), as well as *measures of central tendency* (e.g., mean, median, etc.) and *measures of dispersion* (e.g., standard deviation). The *range of normative benchmark industry data* is typically compiled by taking a weighted average of the selected external benchmark data sources that report the specified *metric(s) of comparability.* The percentage of consideration assigned to each data source, used to compile the *range of normative benchmark industry data*, should include contemplation of the following statistical and descriptive survey characteristics:

a. **Size** of the data population sample included in the external benchmark survey;
b. **Dispersion** of the data; it should be noted that a useful metric for comparing the relative dispersion between data sets for the purposes of determining an applicable weight of consideration in calculating a range of applicable, normative benchmark industry data is the *coefficient of variation* (calculated as the sample set mean divided by the sample set standard deviation);
c. **Geographic proximity** in relation to the area in which the subject services will be provided; and
d. **Other areas of comparability** between the external benchmark data source and the subject services (e.g., whether the external benchmark data source includes elements of compensation not present in the subject *on-call services*, the date the external benchmark data was compiled, etc.). An example of the application of physician on-call compensation benchmarking can be found online at http://www.wiley.com/go/healthcarevaluation.

As alluded to earlier, it should be noted that some compensation arrangements for *on-call services* allow the physician to be compensated for the *on-call services* provided, as well as to *bill and collect for* the *professional clinical services provided* while "*on-call*." Other compensation arrangements for *on-call services* compensate the physician *only* for the *on-call services component*, while the *entity location bills and collects for the professional services*. This may be particularly true of *hospital-employed physicians* (e.g., *radiologists*, *anesthesiologists*, *pathologists*, *emergency room department providers*, and *hospitalists*) who do not receive compensation based on a productivity formula. Because some industry benchmark survey data reports compensation levels based on the ability of the physician *to bill and collect* for his or her professional services while performing *on-call services*, adjustments may be necessary to the benchmark data when comparing on-call arrangements where the physician is not entitled to collect for the professional services provided.

TABLE 15.5 Physician On-Call Services Compensation Benchmarking Sources

Physician On-Call Services Compensation Benchmarking Sources	
Name	**Publisher**
Physician On-Call Pay Survey	Sullivan Cotter and Associates, Inc.
Medical Dictatorship and On-Call Compensation Survey	MGMA
Salary Profile Report	American Association of Physician Assistants
Survey of Exempt and Nonexempt On-Call Pay Practices	N.E. Fried & Associates

Table 15.5 sets forth various industry benchmark sources that may be used to determine FMV compensation for *physician on-call services*.

While normative benchmark industry survey data can be used to establish FMV compensation rates, further analysis should be performed in order to meet the related threshold of *commercial reasonableness*. Additional elements that should be considered when determining whether an arrangement meets the threshold of *commercial reasonableness* are set forth in Section 15.3.2, "Commercial Reasonableness," and are also in Section 3.3.3.8, "Commercial Reasonableness as Defined by Fraud and Abuse Laws," in Chapter 3, "Regulatory Environment."

15.5.2 Valuation of Nonclinical-Related Services

The economic value analysis for determining the *FMV* of *administrative*, *management*, *and executive services* is governed by the *economic principles* of *Utility* and *Substitution*.

Similar to compensation arrangements that include *physician on-call services*, in the past, compensation for *administrative*, *management*, *and executive services* performed by physicians may have been based on the physician's *historical clinical practice earnings*.[64] However, there is increasing concern that compensating physician administrators based on a lost "*opportunity cost*" may not meet regulatory scrutiny under the *Stark Law* and rather should be based on the *actual services performed* (for further information regarding the implications of the fraud and abuse laws, including recent case law regarding the legal permissibility of

[64] Peter R. Kongstvedt, MD, *The Managed Health Care Handbook*, 3rd ed. (Gaithersburg, MD: Aspen Publishers, 1996), p. 159.

OPPORTUNITY COST

The cost of acquiring an asset (i.e., accepting an employment position) measured by the value of an alternate investment that is forgone (i.e., an alternate position).

Black's Law Dictionary, *9th ed., edited by Bryan A. Garner (St. Paul, MN: West, 2009), p. 398.*

compensation for *nonclinical-related services*, see Chapter 3, "Regulatory Environment").[65]

While in most circumstances the *opportunity cost* of a physician provider of *clinical-related services* should not serve as the *sole* basis for determining physician executive compensation for the performance of *administrative*, *management*, *and/or executive services*, it is nevertheless important for the valuation analyst providing an opinion as to the FMV and commercial reasonableness of an *administrative*, *management*, *and/or executive* compensation arrangement to appropriately apply the *economic concepts* found in the *Principle of Substitution* and the *Principle of Utility* in performing the analysis. It should be noted that compensation for *nonclinical-related* services performed by nonphysicians should also be based on the *actual services performed* (which are distinguished by the TDRAs related to each position).

PRINCIPLE OF UTILITY

A concept stating that "An object can have no value unless it has utility."

Principles of Economics, *by Frank W. Taussig (New York: Macmillan, 1918), p. 120.*

[65] Michael W. Paddock, "Beyond Anti-Mark-Up: 'Stand in the Shoes' and Other Practical Implications," Crowell & Moring LLP, February 2008, http://www.crowell.com/documents/Stark-Phase-III_Anti-Markup-Rules_Mike-Paddock.pdf (October 14, 2008); Hanesboone, "Health Law: 2007 Highlights and Reminders for 2008," *Health Care Alert*, 2008, p. 3.

In developing the certified opinion of value related to *nonclinical-related services*, the requisite documents related to the proposed compensation arrangement(s) should be obtained, including:

1. **The proposed agreement(s) for administrative, management, and executive services** (including a detailed description of all *tasks*, *duties*, *responsibilities*, *and accountabilities* related to the services to be performed);
2. **Agreements for other similar positions** at the employer entity, including the *scope of services* to be performed under each of those agreements;
3. **Documentation as to the board certification, qualifications, and tenure** of those individuals performing the services *under similar agreements*;
4. **Documentation of offers** made to *previous* (*or other, current*) *professionals/executives* for similar positions;
5. **Documentation as to the medical staff's need for administrative direction** (based on the scope of the organization's activities, research efforts, community outreach programs, etc.);
6. **Employer's medical staff bylaws and roster**;
7. **Employer's administrative/management/executive agreement(s)**, with *annual hour requirements* and *annual compensation* paid to each professional/executive;
8. **Time sheet records** documenting the *actual time spent* and *actual work performed* by the individual on each administrative function and service subject to the position;
9. **Size of the employer**, *number of patients*, *acuity levels of patients*, and the *specific needs* related to the organization;
10. **Number of committees/meetings** that require the professional/executive's involvement and/or attendance, as well as the average *frequency* and *duration* of each committee/meeting;
11. **Documentation that the employer (at least) annually assesses** the *effectiveness* of the professional/executive in performing the specified *tasks*, *duties, responsibilities, and accountabilities*; and
12. **Description of quality programs**, including *Centers of Excellence* and "*Never Event*" *Committees* that the individual may participate in.[66]

[66] As reported by a May 18, 2006, media release titled "Eliminating Serious, Preventable and Costly Medical Errors—Never Events," CMS, http://www.cms.hhs.gov/apps/media/press/release.asp?Counter=1863 (accessed August 20, 2007). "Never events" are errors in medical care that are clearly identifiable, preventable, and serious in their consequences for patients, thereby indicating a serious problem in the safety and credibility of the healthcare provider. In addition, CMS indicated that such "never events like surgery on the wrong body part or mismatched blood transfusion, cause serious injury or death to beneficiaries, and result in increased costs to the Medicare program to treat the consequences of the error."

Once the requisite documentation is collected, a detailed examination of the *attributes* of the subject *nonclinical position* should be undertaken, with each element of the attributes of the role first *identified* as to their *existence* and then *classified* as to the *specific factors* and *traits* (i.e., the *tasks*, *duties*, *responsibilities*, and *accountabilities*) related to each attribute. This classification would exhibit the means by which the subject services would reasonably be expected to provide *utility* to the hospital contracting for the professional/executive services to be performed *going forward*. An example of the application of the valuation of nonclinical-related services can be found online at http://www.wiley.com/go/healthcarevaluation.

15.5.2.1 Nonclinical-Related Services Compensation Benchmarking After the *administrative*, *management*, *and/or executive* TDRAs to be provided are established, the *proposed compensation arrangement* should be compared to applicable, external benchmarking sources reflecting similar TDRAs, in order to determine whether the compensation arrangement meets the regulatory thresholds of FMV and commercial reasonableness. This "*benchmarking analysis*" for *nonclinical-related services* should include the following steps to ensure that the most relevant external benchmarking data is used for comparison:

1. Determine the arrangement specific characteristics, including but not necessarily limited to:
   a. Applicable job training and education level of the professional/executive that is relevant to the position;
   b. Number of years of experience and reputation of the provider;
   c. Size of the organization (e.g., revenue, number of employees, etc.);
   d. Site of service (e.g., hospital, office-based physician practice, hospital service line, *ambulatory surgery center*, etc.); and
   e. Geographic location where the subject services are to be provided.
2. Establish the *homogenous units of economic contribution* to be used as the *metric(s) of comparability*, for example, annual, monthly, hourly, per employee, per dollar of revenue, and so on.
3. Develop the range of applicable, normative benchmark industry data, which should include *measures within the range*, (e.g., 10th percentile, 25th percentile, 75th percentile, 90th percentile, etc.), as well as *measures of central tendency* (e.g., mean, median, etc.) and *measures of dispersion* (e.g., standard deviation). The *range of normative benchmark industry data* is typically compiled by taking a weighted average of the selected external benchmark data sources that report the specified *metric(s) of comparability*. The percentage of consideration assigned to each data source, used to compile the *range of normative benchmark*

industry data, should include contemplation of the following statistical and descriptive survey characteristics:

a. **Size** of the data population sample included in the external benchmark survey;
b. **Dispersion** of the data; it should be noted that a useful metric for comparing the relative dispersion between data sets for the purposes of determining an applicable weight of consideration in calculating a range of applicable, normative benchmark industry data is the *coefficient of variation* (calculated as the sample set mean divided by the sample set standard deviation);
c. **Geographic proximity** in relation to the area in which the subject services will be provided; and
d. **Other areas of comparability** between the external benchmark data source and the subject services (e.g., whether the external benchmark data source includes/excludes information specific to the subject *nonclinical-related services* position, the date the external benchmark data was compiled, etc.). An example of the application of nonclinical-related services compensation benchmarking can be found online at http://www.wiley.com/go/healthcarevaluation.

Table 15.6 sets forth various industry benchmark sources that may be used to determine FMV compensation for administrative, management, and/or executive services.

As previously discussed, while normative benchmark industry survey data can be used to establish FMV compensation rates, further analysis should be performed in order to meet the related threshold of *commercial reasonableness* (see Section 15.3.2, "Commercial Reasonableness"). Significantly, even though a proposed compensation amount for *administrative*, *management*, *and/or executive services* may be deemed to be within the range of FMV, the related *administrative*, *management*, *and/or executive* TDRAs should be analyzed to determine whether they are duplicate or redundant. *Duplicate* TDRAs are those that are *exactly* the same as TDRAs already being provided to the organization, the presence of which may *not* meet the threshold of being *commercially reasonable*. *Redundant* TDRAs are those that may be *similar* to TDRAs already being provided to the organization, *but may be justified* in those circumstances in which the *size* and *scope* of the organization require that *higher level* of service. Other factors that should be considered when determining whether an arrangement meets the threshold of *commercial reasonableness* are set forth in Section 15.3.2, "Commercial Reasonableness," and are also in Section 3.3.3.8, "Commercial Reasonableness as Defined by Fraud and Abuse Laws," in Chapter 3, "Regulatory Environment."

TABLE 15.6 Nonclinical-Related Services Compensation Benchmarking Sources

Name	Publisher
Medical Group Compensation and Financial Survey	American Medical Group Association
Physician Compensation and Productivity Survey Report	Sullivan Cotter and Associates, Inc.
Physician Executive Compensation Survey	American College of Physician Executives
Physician Salary Survey Report: Hospital-Based Group HMO Practice	John R. Zabka Associates
Survey Report on Hospital and Healthcare Management Compensation	Watson Wyatt Data Services
Healthcare Executive Compensation Survey	Integrated Healthcare Strategies
Management Compensation Survey	Medical Group Management Association
Survey of Manager and Executive Compensation in Hospitals and Health Systems	Sullivan Cotter and Associates, Inc.
Executive Compensation Assessor	Economic Research Institute
Top Management and Executive Salary	Abbott Langer Association, Economic Research Institute, and Salaries Review
Executive Pay in the Biopharmaceutical Industry	Top 5 Data Services, Inc.
Executive Pay in the Medical Device Industry	Top 5 Data Services, Inc.
Hospital Salary & Benefits Report	John R. Zabka Associates, Inc.
US IHN Health Networks Compensation Survey Suite	Mercer, LLC
Medical Directorship and On-Call Compensation Survey	Medical Group Management Association
Physician Compensation Report	Hay Group
Staff Salary Survey	The Health Care Group, Inc.
Integrated Health Networks Compensation Survey	William M. Mercer, Inc.

(*continued*)

TABLE 15.6 Nonclinical-Related Services Compensation Benchmarking Sources (*continued*)

Name	Publisher
Compensation Survey for Not-for-Profit Organizations	Compensation Resources
U.S. Director Compensation and Board Practices Report	Matteo Tonello and Judit Torok, for the Conference Board
Medical Director Survey	Integrated Healthcare Strategies
Director Compensation Report	National Association of Corporate Directors, with Pearl Meyer & Partners
Allied Health & Physician Compensation & Benefits Survey	Warren Surveys, a division of DeMarco & Associates
All Health Care Salary Survey	Abnott, Langer Association
Healthcare Associations and Disciplines Salary Survey	Abbott Langer Association
ERI Electronic Compensation Survey	Economic Research Institute
Northwest Health Care Executive Compensation Survey	MEDTECH
Medical Group Executive Compensation Survey	Sullivan Cotter and Associates, Inc.
Survey of Health Care Clinical & Professional Personnel Compensation	Watson Wyatt Data Services
Northwest Management and Professional Salary Survey	Milliman
Modern Healthcare Physician Compensation Review	Milliman
Executive Compensation Survey of Privately Held Organizations	Compensation Resources

Factoid

Depending on the size and scope of an organization, redundancy in services may be necessary; however, duplication of exact services is not tolerable.

15.6 CONCLUSION

A certified opinion as to whether the proposed compensation is both within the range of FMV and *commercially reasonable*, prepared by an *independent*, certified valuation professional, working with competent healthcare legal counsel as to the pertinent regulatory thresholds, and supported by adequate due diligence and documentation, will significantly enhance the efforts of healthcare providers to establish a defensible position that the proposed compensation arrangement is in compliance. This is particularly important in the heightened and ever-changing regulatory environment in which healthcare providers operate, with the potential severity of penalties, as well as related business consequences for entering into transactions and arrangements that may subsequently be found to be legally impermissible.

15.7 KEY SOURCES

A National Study of Resource-Based Relative Value Scales for Physician Services

A Harvard University study performed by William C. Hsiao and a team of researchers leading to the development of the Resource Based Relative Value Scale.

A National Study of Resource-Based Relative Value Scales for Physician Services, by William C. Hsiao, et al., Health Care Financing Administration, 1988

Internal Revenue Service (IRS)

Under the Department of the Treasury, the IRS aims to help the large majority of compliant taxpayers with the tax law, while ensuring that the minority who are unwilling to comply pay their fair share.

"The Agency, Its Mission and Statutory Authority," U.S. Internal Revenue Service, http://www.irs.gov/uac/The-Agency,-its-Mission-and-Statutory-Authority (accessed September 18, 2012)

http://www.irs.gov/

IRS Exempt Organizations (TE/GE) Hospital Compliance Project Final Report

A report issued by the IRS pertaining to the "community benefit" offered by tax-exempt hospitals.

IRS Exempt Organizations (TE/GE) Hospital Compliance Project Final Report, February 12, 2009, www.irs.gov/pub/irs-tege/frepthospproj.pdf (accessed November 2, 2012)

Principles of Economics

A two-volume treatise covering the topics of labor, production, banking, trade, the distribution of wealth, wages, problems in economics, and taxes.

Principles of Economics, by Frank W. Taussig (New York: Macmillan, 1918)

Fair Market Value: Analysis and Tools to Comply with Stark and Anti-Kickback Rules

A transcription of an audio conference covering the determination of Fair Market Value and Commercial Reasonableness while complying with Stark Law, the Anti-Kickback Statute, and other fraud and abuse considerations.

Fair Market Value: Analysis and Tools to Comply With Stark and Anti-kickback Rules, by Robert A. Wade and Marcie Rose Levine, audio conference, HC Pro, Inc., March 19, 2008

15.8 ACRONYMS

Acronym	Full Title
ACA	Patient Protection and Affordable Care Act
ACO	Accountable Care Organization
ASC	Ambulatory Surgery Center
ASTC	Ancillary Services and Technical Component
CMS	Centers for Medicare and Medicaid Services
CPOE	Computerized Physician Order Entry
DHS	Designated Health Services
EHR	Electronic Health Record
FERA	Fraud Enforcement and Recovery Act
FMV	Fair Market Value
FTE	Full-Time Equivalency
GDP	Gross Domestic Product
HCFA	Health Care Financing Administration
HEAT	Healthcare Enforcement Action Team
HHS	The U.S. Department of Health and Human Services
IRS	Internal Revenue Service
NPP	Nonphysician Provider
NRP	National Research Program
OIG	Office of Inspector General
POD	Pool of Doctors
RBRVS	Resource-Based Relative Value Scales
RVU	Relative Value Unit
TDRA	Tasks, Duties, Responsibilities, and Accountabilities
VBR	Value-Based Reimbursement

CHAPTER 16

The Threshold of Commercial Reasonableness

For decades, with the enactment of tax code provisions for exempt organizations in 1954 and the enactment of Anti-Kickback Statutes in 1972, the valuation standard of *Fair Market Value* has been an important threshold of regulatory scrutiny of healthcare transactions.[1] Accordingly, valuation professionals have been called to develop appraisals and render opinions as to the *Fair Market Value* of healthcare enterprises, assets, and services.

Beginning in the late 1980s with the promulgation of the *Stark I* laws, a second threshold, referred to as *Commercial Reasonableness*, emerged as a focus of regulatory scrutiny for healthcare transactions, an activity

[1] "Exemption form Tax on Corporations, Certain Trusts, etc.," 26 Code of Federal Regulations 501(s), (1954); "Exclusion of Certain Individuals and Entities from Participation in Medicare and State Health Care Programs," 42 USC 1320a-7 (January 3, 2012).

Fair Market Value

The most probable price that the subject interest should bring if exposed for sale on the open market, as of the valuation date, but exclusive of any element of value arising from the accomplishment or expectation of the sale.

that has recently seen significant growth.[2] Consequently, the development and rendering of *Commercial Reasonableness* opinions are an increasingly important service offered by healthcare valuation professionals. Rendering a *Commercial Reasonableness* opinion requires that a specific set of *core competencies* be mastered by the valuation analyst, *apart from*, but *related to*, the more traditional *knowledge*, *skill set*, and *experience* required in providing the more traditional appraisal activity of rendering *fair market value* opinions related to the appraisal of the *enterprises, assets*, and/or *services* being transacted.

Factoid

Stark I laws were initially enacted in 1989, after the OIG reported that physician-owned clinical labs received 45 percent more lab referrals than clinical labs in general.

CRS Report for Congress: Medicare: Physician Self-Referral, *by Jennifer O'Sullivan, to Members and Committees of Congress, Washington, DC, Congressional Research Service, September 27, 2007, p. 2.*

[2]The *Stark I* laws were promulgated in the *Omnibus Budget Reconciliation Act of 1989* and, at the onset, applied only to physician self-referrals to clinical laboratories. Currently, under *Stark II, Phase IV* there are 35 exceptions that apply to physician referrals for designated health services (DHS). See Section 3.3.2, "Stark Law," in Chapter 3, "Regulatory Environment," for a detailed discussion on the *Stark Law*. Jennifer O'Sullivan, "Medicare: Physician Self-Referral ('Stark I and II')," Congressional Research Service, September 27, 2007, p. 1; "Exclusions from Medicare and Limitations on Medicare Payment," 42 Code of Federal Regulations 411.355-411.357 (October 1, 2012). See Chapter 9, "Costs and Sources of Capital," Chapter 12, "The Valuation of Outpatient Enterprises," and Chapter 13, "The Valuation of Other Healthcare-Related Enterprises," for in-depth discussions on the growth of the healthcare transactions.

16.1 DEFINITION OF COMMERCIAL REASONABLENESS

A healthcare *Commercial Reasonableness* opinion has been likened to an activity more widely known in the *financial community* as a *fairness opinion*. Since the 1985 Delaware Supreme Court Case of *Smith v. Van Gorkom*, valuation professionals have been called on to express *fairness opinions*, which state "a view as to whether the consideration offered in a deal is within the range of what would be considered 'fair.'"[3] The healthcare *Commercial Reasonableness* opinion, which has been an evolving concept during the last two decades, has several similarities to the more traditional financial *fairness opinion*, for example, each contains a description of "the necessary qualifications of persons . . . and, the process . . . [used in] the valuation analysis."[4] However, *fairness opinions*, the content of which is derived from decades of case law and the performance of which is informed by securities statutes, are distinct from the concept of healthcare *Commercial Reasonableness* thresholds, which are informed by the evolving guidance derived from *healthcare-related statutes*, *rules*, and *regulatory pronouncements*, as well as some minimal indications, to date, from pertinent *case law* (see Table 16.1 and Table 16.2).[5]

The Department of Health and Human Services (HHS) has interpreted the term *commercially reasonable* to mean that an arrangement that appears to be "a sensible, prudent business agreement, from the perspective of the

---

[3] *Smith v. Van Gorkom*, 1985 Delaware Lexis 421, Supreme Court of Delaware 488 A.2d 858, January 29, 1985; "Self-Regulatory Organizations: National Association of Securities Dealers, Inc. (n/k/a Financial Industry Regulatory Authority, Inc.): Notice of Filing of Amendment Number 4 and Order Granting Accelerated Approval of Proposed Rule Change as Modified by Amendment Numbers 1, 2, 3, and 4, Relating to Fairness Opinions," *Federal Register* 72 (October 19, 2007): 59318.

[4] Financial Industry Regulatory Authority, "Regulatory Notice 07-54: Fairness Opinions," November 2007, p. 7.

[5] For example, see *Smith v. Van Gorkom*, 1985 Delaware Lexis 421, Supreme Court of Delaware 488 A.2d 858, January 29, 1985; *In re Netsmart Technologies, Inc., Shareholders Litigation*, Court of Chancery of Delaware, 924 A.2d 171, March 14, 2007; *In re Checkfree Corporation Shareholders Litigation*, 2007 Westlaw 3262188, Court of Chancery of Delaware 3193-CC, November 1, 2007; "Regulatory Notice 07-54: Fairness Opinions," Financial Industry Regulatory Authority, November 2007, p. 7. Some limited guidance from case law is given at present (e.g., *U.S. v. SCCI Hospital Houston Central*—see Table 16.2). Further guidance from case law is expected as the regulatory enforcement of the *Commercial Reasonableness* threshold evolves.

Fairness Opinion

A view as to whether the consideration offered in a deal is within the range of what would be considered "fair."

"Self-Regulatory Organizations: National Association of Securities Dealers, Inc. (n/k/a Financial Industry Regulatory Authority, Inc.): Notice of Filing of Amendment Number 4 and Order Granting Accelerated Approval of Proposed Rule Change as Modified by Amendment Numbers 1, 2, 3, and 4, Relating to Fairness Opinions," Federal Register *72 (October 19, 2007): 59318.*

particular parties involved, even in the absence of any potential referrals" is *Commercially Reasonable* (see Section 3.3.6 , "Racketeer Influenced and Corrupt Organizations Act [RICO]," in Chapter 3, "Regulatory Environment").[6]

The *Stark II, Phase II* commentary also suggests that "An arrangement will be considered 'commercially reasonable' in the absence of referrals if the arrangement would make commercial sense if entered into by a reasonable entity of similar type and size and a reasonable physician of similar scope and specialty, even if there were no potential DHS referrals."[7]

Some guidance in defining *Commercial Reasonableness* may be derived from IRS pronouncements on *reasonable compensation*, including:

1. The *1993 Exempt Organizations Continuing Professional Education* text titled "Reasonable Compensation," which states "reasonable compensation is . . . the amount that would ordinarily be paid for like services by like organizations in like circumstances."[8]
2. Chapter 2, titled "Employees' Pay," of Publication 535, titled *Business Expenses*, which states "reasonable pay is the amount that a similar business would pay for the same or similar services."[9]
3. Section 53.4958-4 of the Internal Revenue Code, containing the federal regulations on "Excess Benefit Transactions," which states, "reasonable

[6] "Medicare and Medicaid Programs: Physicians' Referrals to Health Care Entities with Which They Have Financial Relationships," *Federal Register* 63 (January 9, 1998): 1700.

[7] "Medicare Program: Physicians' Referrals to Healthcare Entities with which They Have Financial Relationships (Phase II)," *Federal Register* 69 (March 26, 2004): 16093.

[8] Jean Wright and Jay H. Rotz, "Reasonable Compensation," Exempt Organizations Continuing Professional Education (1993), p. 3, http://www.irs.gov/pub/irs-tege/eotopici93.pdf (accessed September 4, 2012).

[9] Internal Revenue Service, Publication 535—*Business Expenses*, March 4, 2013, p. 6, http://www.irs.gov/pub/irs-pdf/p535.pdf (accessed April 1, 2013).

> compensation [is] . . . the amount that would ordinarily be paid for like services by like enterprises (whether taxable or tax-exempt) under like circumstances."[10]

Excess Benefit Transactions

> As defined by the IRS, an excess benefit transaction is one in which the value of the economic benefit provided exceeds the value of the consideration received for providing the benefit.
>
> *"Excess Benefit Transaction," 26 CFR §53.4958–4(a)(1) (2012).*

While none of the IRS pronouncements that were set forth for addressing *reasonable compensation* specifically address *Commercial Reasonableness* in the healthcare industry, these factors provide indications as to the manner of assessing *Commercial Reasonableness* thresholds in an anticipated healthcare transaction.

Additionally, although there is no single, universally accepted definition for *Commercial Reasonableness*, guidance in defining this threshold may be found in statutory and regulatory sources, including those listed in Table 16.1.

In addition to the *statutory* and *regulatory* sources noted earlier, guidance as to the application of the *Commercial Reasonableness* threshold in healthcare transactions may also be found in relevant case law, including that listed in Table 16.2.

Further guidance as to the healthcare *Commercial Reasonableness* threshold may also be found in other sources, for example, commentary published by the 2006 American Law Institute, to which:

> *Each financial and contractual connection between hospitals and physicians should be scrutinized to ensure that goods or services changing hands are being provided at fair market value, and at* a level no more than necessary for the business purposes of the arrangement.[11] *[Emphasis added]*

---

[10] "Excess Benefit Transaction," 26 CFR Section 53.4958-4(ii) (2012). It should be noted that, in making a determination as to the "reasonableness" of compensation, compensation based on productivity (wRVUs), even if not directly tied to an "incentive bonus," may be viewed by the IRS as an "incentive compensation arrangement" as it can vary based on performance (see Section 3.2.2.5, "Prohibition against Excess Benefit Transactions and 'Inurement of Private Benefit'," in Chapter 3, "Regulatory Environment").

[11] Alson R. Martin, "Healthcare Joint Ventures," American Law Institute, SM047 ALI-ABA 1093 (2006).

TABLE 16.1 Statutory and Regulatory Guidance Related to Commercial Reasonableness

Date	Commonly Referred to as	Source	Term Defined	Definition
January 9, 1998	Stark II, Phase I, ProposedRules	"Medicare and Medicaid Programs: Physicians' Referrals to Health Care Entities with Which They Have Financial Relationships," 63 *Federal Register* 1700 (January 9, 1998).	Commercial Reasonableness	*"a sensible, prudent business arrangement from the perspective of the particular parties involved, even in the absence of potential referrals."*
March 26, 2004	Stark II, Phase II, Interim Rules	"Medicare Program: Physicians' Referrals to Health Care Entities with Which They Have Financial Relationships," 69 *Federal Register* 16093 (March 26, 2004).	Commercially Reasonable	*"in the absence of referrals . . . the arrangement would make commercial sense if entered into by a reasonable entity of similar type and size and a reasonable physician of similar scope and specialty, even if there were no potential DHS referrals."*
January 23, 2002	Internal Revenue Code	"Excess Benefit Transaction," 26 CFR Section 53.4958–4(ii) (2012).	Reasonable Compensation	*"the amount that would ordinarily be paid for like services by like enterprises (whether taxable or tax-exempt) under like circumstances."*
March 4, 2013	Publication 535	Publication 535—*Business Expenses*, Internal Revenue Service, March 4, 2013, p. 6, http://www.irs.gov/pub/irs-pdf/p535.pdf (accessed April 1, 2013).	Reasonable Compensation	*"the amount that a similar business would pay for the same or similar services."*
January 4, 2001	Start II, Phase I, Final Rule	"Medicare and Medicaid Programs: Physicians' Referrals to Health Care Entities with Which They Have Financial Relationships," 66 *Federal Register* 944 (January 4, 2001).	Commercially Reasonable	*"comparable to what is ordinarily paid for an item or service in the location at issue, by parties at arm's length transactions who are not in a position to refer business to one another."*

November 19, 1999	Anti-Kickback Regulations, Final Rule	"Medicare and State Health Care Programs: Fraud and Abuse: Clarification of the Initial OIG Safe Harbor Provisions and Establishment of Additional Safe Harbor Provisions Under the Anti-Kickback Statute," 64 *Federal Register* 63525 (November 19, 1999).	Commercially Reasonable	*"the space and equipment leased or the services purchased have intrinsic commercial value to the lessee or purchaser."*
November 19, 1999	Anti-Kickback Regulations, Final Rule	"Medicare and State Health Care Programs: Fraud and Abuse: Clarification of the Initial OIG Safe Harbor Provisions and Establishment of Additional Safe Harbor Provisions Under the Anti-Kickback Statute," 64 *Federal Register* 63525 (November 19, 1999).	Commercially Reasonable	*"the purpose must be reasonably calculated to further the business of the lessee or purchaser."*
November 19, 1999	Anti-Kickback Regulations, Final Rule	"Medicare and State Health Care Programs: Fraud and Abuse: Clarification of the Initial OIG Safe Harbor Provisions and Establishment of Additional Safe Harbor Provisions Under the Anti-Kickback Statute," 64 *Federal Register* 63525 (November 19, 1999).	Commercially Reasonable	*"the rental or purchase must be of space, equipment, or services that the lessee or purchaser needs, intends to utilize, and does utilize in furtherance of its . . . business objectives."*
September 30, 1986	Public Health Code	"Principles of Reasonable Cost Reimbursement: Payment for End-Stage Renal Disease Services, Optional Prospectively Determined Payment Rates for Skilled Nursing Facilities," 42 CFR Section 413.106(c)(2) (October 1, 2012).	Reasonable Cost of Services	*"the amount determined by taking into account the number of hours of services furnished . . . , the adjusted hourly salary equivalency amount appropriate for the particular [service] in the geographical area in which the services are furnished."*

(*continued*)

TABLE 16.1 Statutory and Regulatory Guidance Related to Commercial Reasonableness (*continued*)

Date	Commonly Referred to as	Source	Term Defined	Definition
September 30, 1986	Public Health Code	"Principles of Reasonable Cost Reimbursement: Payment for End-Stage Renal Disease Services, Optional Prospectively Determined Payment Rates for Skilled Nursing Facilities," 42 CFR Section 413.102(b)(2)(i) (October 1, 2012).	Reasonable Compensation	*"an amount as would ordinarily be paid for comparable services by comparable institutions."*
January 29, 1992	OIG Authorities	"Subpart C: Permissive Exclusions—Exceptions," 42 CFR Section 1001.952 (2012).	Commercially Reasonable	*"the aggregate services contracted do not exceed those which are reasonably necessary to accomplish the commercially reasonable business purpose of the service."*
September 27, 2007	OIG Advisory Opinion 07-10	"OIG Advisory Opinion Number 07-10," Office of Inspector General, September 27, 2007, p. 6.	Commercially Reasonable	*"the aggregate services contracted for do not exceed those which are reasonably necessary to accomplish the commercially reasonable business purpose of the services."*

Note: "Commonly referred to as" column obtained from *CRS Report for Congress: Medicare: Physician Self-Referral*, by Jennifer O'Sullivan, to Members and Committees of Congress, Washington, DC, Congressional Research Service, September 27, 2007, pp. 10–11.

TABLE 16.2 Case Law Guidance Related to Commercial Reasonableness

Date	Case Name	Source	Key Points
July 11, 2005	*U.S. ex rel. Kaczmarczyk, et. Al. v. SCCI Hospital Houston Central, et al.*; Designation of Expert Witness Report	"Fair Market Valuation of Medical Director of Program Director Services," by Kathy McNamara, Mayer Hoffman McCann PC, 7/12/05, in *United States ex rel. Kaczmarczyk, et. al. v. SCCI Hospital Houston Central, et al.*	An analyst *"generally considers . . . (1) size of facility, number of patients, patient activity levels, and patient needs; (2) the quality of medical staff; (3) the number of regular committees and meetings; and (4) the quality of management and interdisciplinary coordination"* in determining whether a lessee or purchaser needs medical director services. Lessees or purchasers should *"conduct a regular assessment of the duties performed by the medical director . . . [that make it] clear how effective[ly] the medical director is doing his assigned job and if there is a need for continuing the services."* *"The responsibilities of the medical director should not be part of his/her customary duties as a treating physician nor should they mirror the required responsibilities outlines in the hospital's medical staff bylaws."*
January 4, 2001	*U.S. v. Joseph Campbell, MD*—Motion for Summary Judgment	*US v. Joseph Campbell, MD—Motion for Summary Judgment*, 2011 Lexis 1707, p. 7.	Healthcare entities should monitor employees to ensure they *"actually perform the duties outlined in their contract."*
January 21, 2009	*U.S. ex rel. Ted Kosenske, MD, v. Carlisle HMA, Inc., and Health Managements Associates, Inc.*	*U.S. ex rel. Ted Kosenske, MD, v. Carlisle HMA, Inc., and Health Managements Associates, Inc.*, 07–4616 US District Court 05-cv-02184, January 21, 2009, p. 18.	Healthcare entities should monitor whether the current *"consideration given and received [is paid] under materially different circumstances"* than when the contract was entered.

While s*eparate* and *distinct* from the *regulatory* threshold related to the standard of *Fair Market Value*, the threshold of *Commercial Reasonableness* is *critical* to establish the legal permissibility of a subject healthcare transaction and may be subject to a similar level of scrutiny by the IRS and the OIG. Significantly, the *Commercial Reasonableness* threshold applies (in most cases) to both *discrete elements* (i.e., property interest related to an individual enterprise, asset, or service) and to *all elements,* which comprise the *overall* structure of the *entire* healthcare integration transaction *in the aggregate.* Healthcare valuation professionals seeking guidance for this duality should review (1) the *Stark II, Phase I, Final Rule* commentary, which states that the analyst must provide "evidence that the compensation is comparable to what is ordinarily paid for **an** item or service," and (2) the OIG commentary that states a determination should be made that:

> *(1) "[T]he* **aggregate** *space, equipment, or services contracted for not exceed that which is reasonable to accomplish the commercially reasonable business purpose of the party renting the space or equipment or purchasing the services"*[12] *and if (2) "in the* **aggregate***, the items or services provided by all [employees] exceed the hospital's actual needs (apart from generating business).*"[13] *[Emphasis added]*

Further guidance indicating that above and beyond the *individual transaction elements*, the *entirety* of a *subject transaction* should be reviewed in the *aggregate* (inclusive of *all elements* for which consideration is given), may be found in the *Personal Services* exception of the *Stark Law*, which requires that "The aggregate services contracted for do not exceed those that are reasonable and necessary for the legitimate business purposes of the arrangement(s)."[14]

Commonly referred to as a "*wrap around*" *Commercial Reasonableness* opinion, this type of analysis includes and considers *all elements* of the integration transaction in the *aggregate*, subsequent to the determination that

---

[12] "Medicare and State Health Care Programs: Fraud and Abuse: Clarification of the Initial OIG Safe Harbor Provisions and Establishment of Additional Safe Harbor Provisions," *Federal Register* 64 (November 19, 1999): 63525.

[13] "OIG Supplemental Compliance Program Guidance for Hospitals," *Federal Register* 70 (January 31, 2005): 4866.

[14] "Exclusions from Medicare and Limitations on Medicare Payment," 42 CFR §411.357(d)(1)(iii), (October 1, 2012).

each discrete, individual element of the transaction meets the thresholds of the standard of *Fair Market Value* and *Commercial Reasonableness*. With complex acquisitions involving multiple property interests, a "*wrap around*" *Commercial Reasonableness* analysis provides a foundation on which to establish and defend that the healthcare transaction is legally permissible and will withstand government scrutiny.

16.1.1 Relationship of the Threshold of Commercial Reasonableness to the Standard of Fair Market Value

While the analysis of the threshold of *Commercial Reasonableness* is separate and distinct from the development of a *Fair Market Value* analysis, requiring consideration of different aspects of the property interest included in the transaction, they are *related* thresholds, and the consideration and analysis of one threshold does *not* preclude the analysis of the other threshold. For example, a necessary condition in order for an anticipated transaction to be *Commercially Reasonable* is that each element of that transaction must not exceed *Fair Market Value*. However, even in the event that each element of an anticipated transaction does not exceed *Fair Market Value* and meets that threshold, the anticipated transaction may still *not* be *Commercially Reasonable*, in that it does not meet the remaining analytical hurdles (see Exhibit 16.1). Note that

EXHIBIT 16.1 The Commercial Reasonableness Opinion: Hurdling the Analytical Thresholds

a finding that an enterprise, an asset or a service meets the *Fair Market Value* threshold is not, in and of itself, *sufficient* to establish *Commercial Reasonableness*.

A further distinction between a *Commercial Reasonableness* analysis and the development of a *Fair Market Value* opinion is that the *Commercial Reasonableness* thresholds include consideration of the "value to the entity paying for" the enterprise, assets, or services being transacted, while the *Fair Market Value* opinion requires that a *universe of hypothetical buyers*, *sellers*, *owners*, and *investors* be considered (see Section 16.2.1.2, "Business Purpose," and Section 16.2.1.3, "Necessity of the Property Interest").[15] For example, consider the acquisition of 10 linear accelerators by a purchaser. If the purchaser has need of only 1 linear accelerator, the purchase of 10 linear accelerators, even at a *Fair Market Value* price, would not meet the *necessity of the assets purchased* threshold of the *Commercial Reasonableness* analysis.

16.2 COMMERCIAL REASONABLENESS ANALYSIS

A *Commercial Reasonableness* analysis should contain both a *qualitative* and a *quantitative* analysis of the elements of the anticipated transaction of the subject enterprise, asset, or service. It should be noted that the *qualitative* and *quantitative* factors described next are not intended to be considered in *isolation*; rather, the valuation analyst should consider both the *individual merits* of each factor and the *interaction* between the factors in assessing the *Commercial Reasonableness* of the anticipated transaction. As illustrated in Exhibit 16.1, the thresholds of the *Commercial Reasonableness* analysis are analogous to hurdles that the anticipated transaction must overcome before reaching the finish line, that is, being deemed *Commercially Reasonable*. An example of the application of a commercial reasonableness analysis can be found online at http://www.wiley.com/go/healthcarevaluation.

16.2.1 Qualitative Analysis

A qualitative analysis is undertaken to better understand the facts and circumstances pertinent to the anticipated transaction. A process for analyzing the various *qualitative* factors related to the *Commercial Reasonableness* threshold is illustrated in Exhibit 16.2.

[15] "Medicare and State Health Care Programs: Fraud and Abuse: Clarifications of the Initial OIG Safe Harbor Provisions and Establishment of Additional Safe Harbor Provisions Under the Anti-Kickback Statute," *Federal Register* 64 (November 19, 1999): 63526.

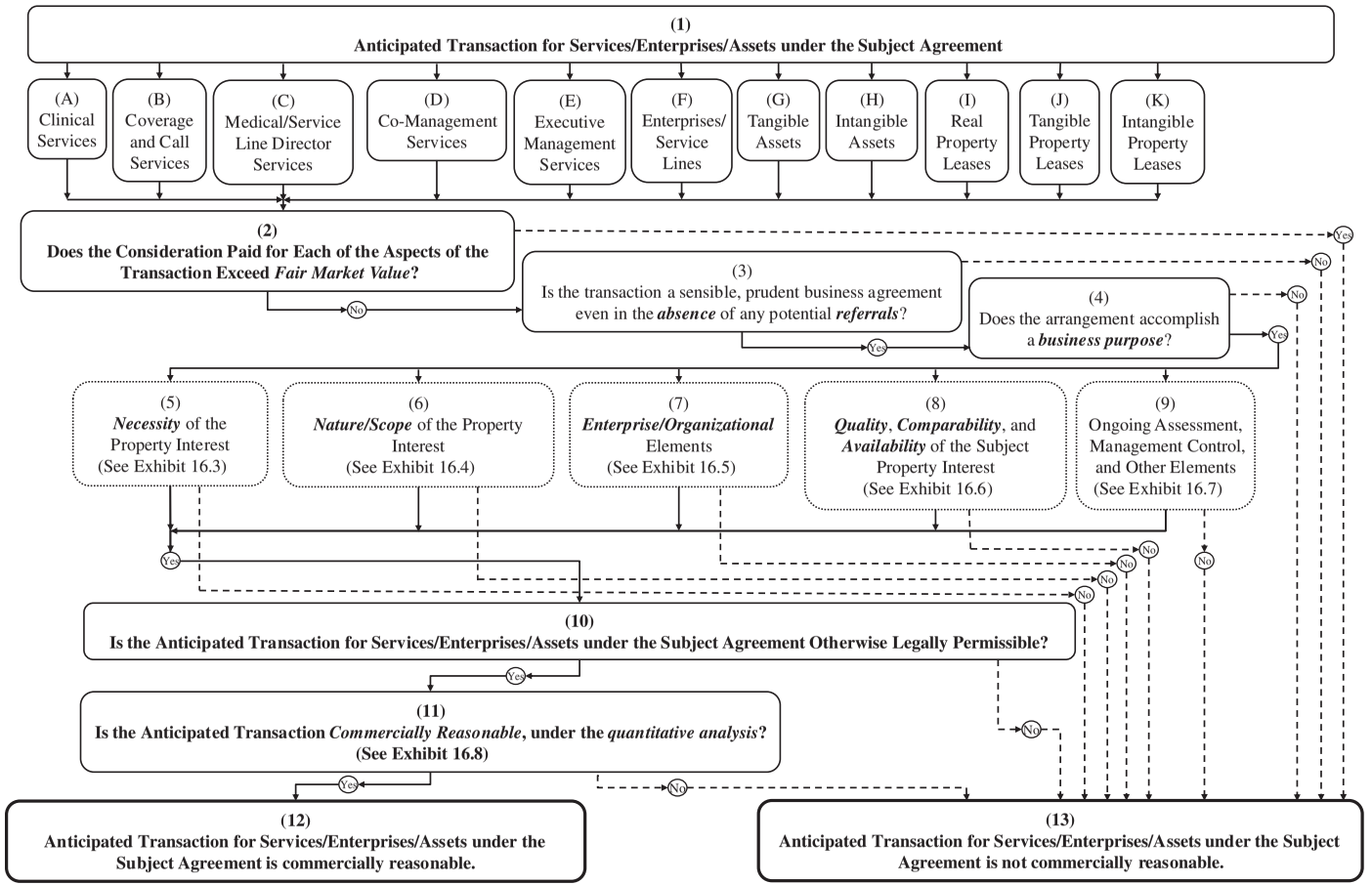


EXHIBIT 16.2 Qualitative Analytical Steps in the Commercial Reasonableness Threshold

16.2.1.1 Sensible, Prudent Business Agreement in the Absence of Referrals One of the first of these analytical *Commercial Reasonableness* hurdles that must be surmounted is the determination of whether the anticipated transaction is "a sensible, prudent business agreement, from the perspective of the particular parties involved, even in the absence of any potential referrals."[16] Under the Stark II Statutes (see Section 3.3.2.1.1, "Ownership/Investment Interests and Compensation Arrangement Exceptions," and Section 3.3.2.1.3, "Compensation Arrangement Exceptions," in Chapter 3, "Regulatory Environment"), Congress explicitly states that the *Commercial Reasonableness* statute applies "in the absence of referrals" to the following types of transactions involving physicians:

1. Rental of office space;
2. Rental of equipment;
3. Bona fide employment relationships;
4. Personal service arrangements;
5. Physician incentive plans;
6. Physician recruitment;
7. Isolated transactions, such as a one-time sale of property; and
8. Certain group practice arrangements.[17]

The Office of the Inspector General (OIG) has interpreted this statute to include any financial arrangement that may induce a physician to change his or her referral pattern, such as:

1. Arrangements [to] promote overutilization and . . . unnecessarily lengthy stays," (e.g., "per patient, per click, [or] per order arrangements).[18]
2. Payments to induce physicians . . . to reduce or limit services to . . . patients (e.g., "gainsharing arrangements").[19]

Accordingly, a transaction that considers "the value or volume of referrals" will not meet the regulatory thresholds of a *Commercial Reasonableness* analysis.[20]

---

[16] "Medicare and Medicaid Programs: Physicians' Referrals to Health Care Entities with Which They Have Financial Relationships," *Federal Register* 63 (January 9, 1998): 1700.

[17] Charles Oppenheim, "Stark Law Update," Hooper Lundy & Bookman, May 13, 2009; "Limitation on Certain Physician Referrals," 42 USC 1395nn (January 3, 2012).

[18] "OIG Advisory Opinion Number 03-8," Office of the Inspector General (April 3, 2003).

[19] "Publication of the OIG Special Advisory Bulletin on Gainsharing Arrangements and CMPs for Hospital Payments to Physicians to Reduce or Limit Services to Beneficiaries," *Federal Register* 64 (July 14, 1999): 37985.

[20] "Limitation on Certain Physician Referrals," 42 USC 1395nn (January 3, 2012).

16.2.1.2 Business Purpose Once a determination has been made that the anticipated transaction does not (1) exceed *Fair Market Value* and (2) take into consideration "the value or volume of referrals," the valuation analyst must then further determine whether the transaction is "a sensible, prudent business agreement," in that it fulfills a "business purpose" for the purchaser or lessee.[21] This concept has been expressed within certain rules and regulations published by the OIG and the IRS, including:

1. The commentary for the Anti-Kickback Regulations considers transactions to have a business purpose if they can be "reasonably calculated to further the business of the lessee or acquirer."[22]
2. The IRS defines business activities as those "carried on for the production of income from the sale of goods or the performance of services."[23]

A transaction that does not meet a *business purpose* fails to meet the regulatory threshold of a *Commercial Reasonableness* analysis.

16.2.1.2.1 For-Profit Organizations While there is no single factor that defines a sensible, prudent business arrangement, one element is the anticipated profitability resulting from the enterprise, assets, and/or services acquired or leased. The primary purpose of for-profit enterprises is to generate positive net economic benefits that accrue to the owners/investors in the subject enterprise. Examples of some metrics of positive net economic benefits include "net operating profits, net income before tax, net income after tax, operating cash flow, cash flow before tax, cash flow after tax, or net cash flow available for distribution to owners (e.g., dividends)."[24] This aspect of the Commercial Reasonableness analysis may be quantified in a post-transaction financial feasibility analysis, as discussed in Section 16.2.2, "Quantitative Analysis."

---

[21] Ibid.; "Medicare and Medicaid Programs: Physicians' Referrals to Health Care Entities with Which They Have Financial Relationships," *Federal Register* 63 (January 9, 1998): 1700; "Medicare and State Health Care Programs: Fraud and Abuse: Clarification of the Initial OIG Safe Harbor Provisions and Establishment of Additional Safe Harbor Provisions under the Anti-Kickback Statute," *Federal Register* 64 (November 19, 1999): 63525.

[22] "Medicare and State Health Programs: Fraud and Abuse: Clarification of the Initial OIG Safe Harbor Provisions and Establishment of Additional Safe Harbor Provisions under the Anti-Kickback Statute," *Federal Register* 64 (November 19, 1999): 63525.

[23] "Unrelated Business Activity," 26 USC 513 (January 3, 2012).

[24] Shannon Pratt, *Valuing a Business: The Analysis and Appraisal of Closely Held Companies*, 5th ed. (New York: McGraw-Hill, 2008), p. 175.

HIGHEST AND BEST USE

That use among possible alternatives which is legally permissible, socially acceptable, physically possible, and financially feasible, resulting in the highest economic return.

"The Principles and Concepts of Valuation: Theory of Utility and Value, Value Influences, and Value Concepts," by Richard Rickert, Appraisal and Valuation: An Interdisciplinary Approach, Volume I *(Washington, DC: American Society of Appraisers, 1987), p. 55.*

It should be noted that while the historical performance of the enterprise, assets, or services may not have provided sufficient economic benefit to support the invested capital of the subject property interest, the enterprise, assets, or services included in the anticipated transaction may not have, historically, been put to their highest and best use (see Section 7.2.2.2, "Highest and Best Use," in Chapter 7, "Basic Valuation Tenets"), which in this instance, may be for the existing owner to exchange the assets for a different property interest (e.g., cash) or service.[25] The valuation analyst should consider this concept of highest and best use when assessing the historical performance of a subject enterprise, asset, or service during a Commercial Reasonableness analysis.

Note that the *net economic benefits* generated from the *invested capital* of the business may not be the sole *business purpose* of the anticipated transaction. Additional considerations may include:

1. Expansion into new geographic areas.[26]
2. Expansion into new business lines.[27]
3. Augmenting existing service lines (e.g., orthopedic practices and physical therapy clinics).[28]

[25] Richard Rickert, "Chapter 3—Principles, Influences, and Concepts of Value," in *Appraisal and Valuation: An Interdisciplinary Approach, Volume I* (Washington, DC: American Society of Appraisers, 1987), p. 7.

[26] Larry Scanlan, *Hospital Mergers: Why They Work, Why They Don't* (Chicago: Health Forum, 2010), p. 27.

[27] Patrick Gaughan, *Mergers, Acquisitions, and Corporate Restructurings* (Hoboken, NJ: John Wiley & Sons, 2011), p. 14.

[28] Kenneth Marks, et al., *Middle Market M&A: Handbook for Investment Banking and Business Consulting* (Hoboken, NJ: John Wiley & Sons, 2012), p. 28.

4. Diversification benefits (e.g., diversifying payor mix, geographically, etc.).[29]
5. Avoiding costs of "establishing offices and facilities, management, and other resources, in place" "(as an alternative to a 'greenfield investment' or in-house start-up)."[30]
6. Operating expense reductions (e.g., *economies of scale and scope*).[31]
7. Increased asset utilization.[32]
8. Reduced cost of capital and greater access to capital.[33]
9. Horizontal integration (e.g., hospital outpatient departments acquiring an ASC).[34]
10. Vertical integration (e.g., hospital acquiring an SNF).[35]
11. Management and care protocols.[36]
12. Increased access to technology and innovation.[37]
13. Improved research and development.[38]
14. Tax motivation (e.g., loss carryforwards, unused tax credits, etc.).[39]

---

[29] Patrick Gaughan, *Mergers, Acquisitions, and Corporate Restructurings* (Hoboken, NJ: John Wiley & Sons, 2011), p. 15.

[30] Ibid., p. 126; Kenneth Marks, et al., *Middle Market M&A: Handbook for Investment Banking and Business Consulting* (Hoboken, NJ: John Wiley & Sons, 2012), p. 28.

[31] Larry Scanlan, *Hospital Mergers: Why They Work, Why They Don't* (Chicago: Health Forum, 2010), p. 27; Reed Tinsley and Joe Havens, "Physician Practice Mergers," American Medical Association, 2011, p. 2.

[32] Ross Stromberg and Carol Boman, *Joint Ventures for Hospitals and Physicians: Legal Considerations* (Chicago: American Hospital Publishing, 1986), p. 5.

[33] Patrick Gaughan, *Mergers, Acquisitions, and Corporate Restructurings* (Hoboken, NJ: John Wiley & Sons, 2011), p. 135; Reed Tinsley and Joe Havens, *Physician Practice Mergers* (Chicago: American Medical Association, 2011), p. 3.

[34] Patrick Gaughan, *Mergers, Acquisitions, and Corporate Restructurings* (Hoboken, NJ: John Wiley & Sons, 2011), p. 156.

[35] Ibid.

[36] Reed Tinsley and Joe Havens, *Physician Practice Mergers* (Chicago: American Medical Association, 2011), p. 3.

[37] Kenneth Marks, et al., *Middle Market M&A: Handbook for Investment Banking and Business Consulting* (Hoboken, NJ: John Wiley & Sons, 2012), p. 28.

[38] Patrick Gaughan, *Mergers, Acquisitions, and Corporate Restructurings* (Hoboken, NJ: John Wiley & Sons, 2011), p. 175.

[39] Carla Hayn, "Tax Attributes as Determinants of Shareholder Gains in Corporate Acquisitions," *Journal of Financial Economics* 23, no. 1 (June 1989): 148.

These *synergistic* gains to a specific *owner* or *investor*, which would likely not be considered when performing a *fair market value* analysis, may be significant in establishing that a transaction is *Commercially Reasonable*.

16.2.1.2.2 Not-for-Profit Organizations/Charitable Mission A tax-exempt 501(c)(3) organization must be "organized and operated exclusively for an exempt purpose," such as "charitable, religious, educational, scientific,… [or] public safety" objective.[40] The IRS further clarified Section 501(c)(3) of the IRC, in Revenue Ruling 69–545, as it relates to healthcare enterprises, stating, "In the general law of charity, the promotion of health is considered to be a charitable purpose. […] A nonprofit organization whose purpose and activity are providing hospital care is promoting health and may, therefore, qualify as organized and operated in furtherance of a charitable purpose."[41]

This charitable mission provides the basis for the healthcare enterprise's *tax-exempt* status. Presumably, in *lieu* of a *financial return benefit*, the *tax-exempt* organization will, in the service of its *stated charitable mission*, generate a *social benefit* for the community it serves. For example, a *tax-exempt* hospital may, in performing its *charitable mission*, provide *indigent care* to the community in which it operates. This provision of *indigent care* may provide the *social benefit* of improved public health, a benefit that accrues to all members of the community. Designating an enterprise with *tax-exempt status* is a method that governments may be willing to use in subsidizing and supporting the generation of this *social benefit*. Another method might be direct transfer payments, which may be equally effective but would require the tax collection and wealth distribution costs that are avoided by using the *tax-exempt status* method.

In addition, *tax-exempt, not-for-profit* entities may also, in the accomplishment of their charitable mission, provide *nonmonetary* benefits to the "*owners/investors*" in the charitable organization, that is, taxpayers who act as the *charitable benefactors*, in paying higher taxes as a type of subsidy to finance the *tax-exempt* enterprise's operations. As such, it is likely that in furtherance of their *charitable mission*, these *tax-exempt, not-for-profit* organizations may generate ongoing *financial losses*, which losses may be offset by the *nonmonetary economic benefits* accruing to the community provided by the *tax-exempt, not-for-profit* organizations.

---

[40] Exemption Requirements–Section 501(c)(3) Organizations, http://www.irs.gov/charities/charitable/article/0,,id=96099,00.html (accessed February 9, 2012); "Exempt Purposes," Internal Revenue Code Section 501(c)(3), http://www.irs.gov/charities/charitable/article/0,,id=175418,00.html (accessed February 9, 2012).

[41] "Exemption from Tax on Corporations, Certain Trusts, etc.," 26 USC 501(c)(3), (1954); IRS Revenue Ruling 69-545, 1969-2 C.B. 117.

Tax-Exempt, Not-for-Profit Organization

An exempt organization is organized or operated for the benefit of private interests. The IRS has stated that "[n]o part of the net earnings of a section 501(c)(3) organization may inure to the benefit of any private shareholder or individual [,whereby] a private shareholder or individual is a person having a personal and private interest in the activities of the organization."[42]

"Medicare and Medicaid Programs; Physicians' Referrals to Health Care Entities with Which They Have Financial Relationships," 42 CFR § 411,42463 Federal Register *1700 (January 9, 1998); "Medicare Program; Physicians' Referrals to Health Care Entities with Which They Have Financial Relationships (Phase II)," 42 CFR § 411 and 424 (March 26, 2004).*

These *financial losses* may be the result of the *tax-exempt*, *not-for-profit* organization choosing a patient mix (e.g., providing greater levels of *indigent* and *Medicaid care*) that is less profitable than would be selected in the absence of the *charitable mission*. The *net economic benefit* accruing to those individuals and organizations who underwrite the charitable mission of the *tax-exempt*, *not-for-profit* organization is not measured in *dollars*, but in the *utility* generated by the accomplishment of their *stated charitable mission*. Therefore, the financial reports of that *tax-exempt*, *not-for-profit* organization, as related to the results of the subject transaction, may fail to capture the entirety of the *net economic benefits* that are generated by the enterprise.

In the event that the healthcare enterprise is a *tax-exempt*, *not-for-profit* organization, the financial *profits* generated by the enterprise or the assets or services purchased or leased may have reduced importance in the determination of whether the arrangement serves a *commercially reasonable business purpose*. Nonetheless, in tax-exempt healthcare organizations, as prescribed in the well-known healthcare aphorism, the directive remains, "*No margin, no mission.*"[43]

---

[42] Internal Revenue Service, "Inurement/Private Benefit—Charitable Organizations," February 2, 2012, http://www.irs.gov/charities/charitable/article/0,,id=123297,00.html (accessed August 7, 2012); "Exemption from Tax on Corporations, Certain Trusts, etc.," 26 USC § 501(c)(3).

[43] Monica Langley, "Money Order: Nuns' Zeal for Profits Shapes Hospital Chain, Wins Wall Street Fans—But as Daughters of Charity Builds $2 Billion Reserve, Some Question Its Goals," *Wall Street Journal*, January 7, 1998, p. A1.

16.2.1.3 Necessity of the Property Interest The next hurdle that must be overcome in performing a *Commercial Reasonableness* analysis is a determination as to whether "the items and services obtained . . . [are] necessary to achieve a legitimate business purpose of the [employer] (apart from obtaining referrals)."[44] The IRS requires that the analyst make a determination as to whether the consideration paid for the subject property interest is "*ordinary*," i.e., "*common and accepted in trade or business*;" and "*necessary*," i.e., "*helpful and appropriate [to the purshaser or lessesee] for the trade or business*" in light of the "*volume of business handled*" by the organization. For example, considerations related to the "*volume of business*" might include the number of "*beds, admissions, or outpatient visits*;" "*the complexities of the business*;" and/or, the "*size of the organization*."[45]

A process for analyzing the *necessity* of the various elements of the subject transaction, for example, the services to be provided and the assets and enterprises to be acquired, is illustrated in Exhibit 16.3.

The *Federal Public Health Code*, Title 42 of the Code of Federal Regulations, requires that analysts consider whether the transaction elements are "pertinent to the operation and sound conduct of the institution."[46]

In the *U.S. v. SCCI Hospital Houston* case, the government's expert witness stated that an analyst "generally considers . . . size of facility, number of patients, patient acuity levels, and patient needs" in determining whether a purchaser or lessee needs the property interest being acquired (see Section 3.3.3.9.5, "*U.S. v. SCCI Hospital Houston*," in Chapter 3, "Regulatory Environment").[47]

---

[44] "OIG Supplemental Compliance Program Guidance for Hospitals," *Federal Register* 70 (January/ 31, 2005): 4866.

[45] "Trade or Business Expenses for Itemized Deductions for Individuals and Corporations for the Computation of Taxable Income for Normal Taxes and Surtaxes," 26 USC Section 162 (January 3, 2012); "Deducting Business Expenses," Internal Revenue Service, January 2, 2013, http://www.irs.gov/Businesses/Small-Businesses-&-Self-Employed/Deducting-Business-Expenses (accessed February 26, 2013); Internal Revenue Service, Publication *535—Business Expenses*, 2011, http://www.irs.gov/publications/p535/ch02.html (accessed February 25, 2013); Internal Revenue Service, *IRS Exempt Organizations Hospital Compliance Project: Final Report*, November 7, 2008, p. 136; Daniel Zismer, *Physician Compensation Arrangements: Management and Legal Trends* (Gaithersburg, MD: Aspen Publishers, 1999), p. 204.

[46] "Principles of Reasonable Cost Reimbursement; Payment for End-Stage Renal Disease Services; Optional Prospectively Determined Payment Rates for Skilled Nursing Facilities," 42 CFR 413.102(b)(2)(ii) (October 1, 2012).

[47] Kathy McNamara, "Fair Market Valuation of Medical Director of Program Director Services," Mayer Hoffman McCann PC, July 12, 2005, in *United States ex rel. Kaczmarczyk, et al. v. SCCI Hospital Houston Central, et al.*

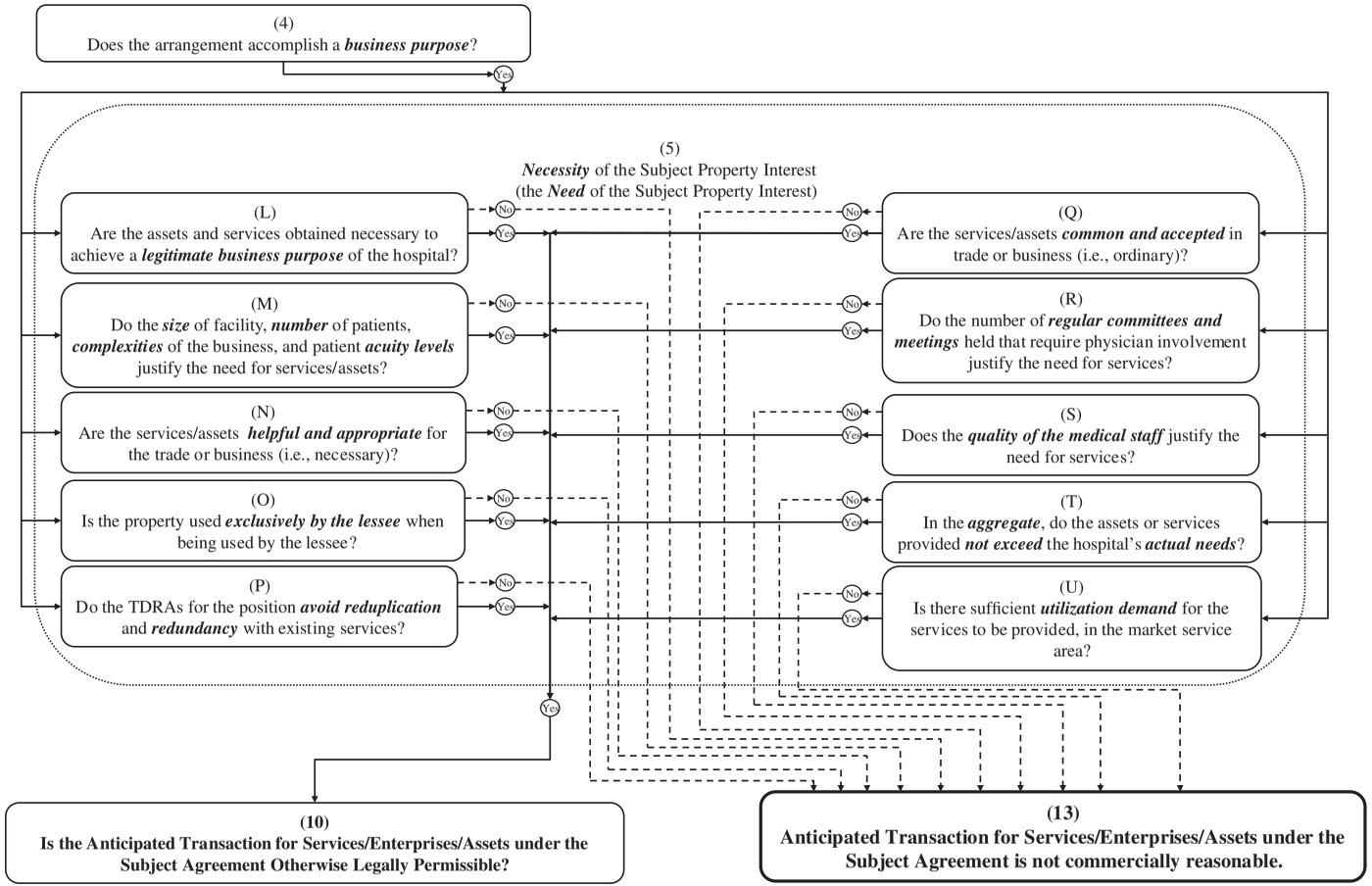


EXHIBIT 16.3 Analytical Processes for Assessing the Necessity of the Subject Property Interest

Further guidance, from the *Federal Public Health Code*, suggests that the analyst specifically consider whether:

1. The space rented or leased does not exceed that which is reasonable and necessary for the legitimate business purposes of the lease or rental and is used exclusively by the lessee;
2. The equipment rented or leased does not exceed that which is reasonable and necessary for the legitimate business purposes of the lease or rental and is used exclusively by the lessee when being used by the lessee; and
3. The aggregate services contracted for do not exceed those that are reasonable and necessary for the legitimate business purposes of the arrangement.[48]

As described earlier (in Section 16.1, "Definition of Commercial Reasonableness"), in addition to considering each element of the transaction in isolation, the OIG advises analysts to determine that

1. The **aggregate** space, equipment, or services contracted for not exceed that which is reasonable to accomplish the commercially reasonable business purpose of the party renting the space or equipment or purchasing the services.[49]
2. Whether "in the **aggregate**, the items or services provided by all [employees] exceed the hospital's actual needs (apart from generating business)."[50]

In addition, the *Personal Services* exemption requires that *all* services in the *aggregate* must be *Commercially Reasonable*, above and beyond the consideration of *each individual transaction element* (see Section 16.1, "Definition of Commercial Reasonableness").

Certain service transactions (e.g., *medical directorships*, *management agreements*, etc.) should be further scrutinized to determine *necessity* based on:

1. The number of regular committees and meetings held that require physician involvement.[51]
2. The quality of the medical staff.[52]

---

[48] "Limitation on Certain Physician Referrals," 42 USC 1395nn (January 3, 2012).

[49] "Medicare and State Health Care Programs: Fraud and Abuse: Clarification of the Initial OIG Safe Harbor Provisions and Establishment of Additional Safe Harbor Provisions," *Federal Register* 64 (November 19, 99): 63525.

[50] "OIG Supplemental Compliance Program Guidance for Hospitals," *Federal Register* 70 (January 31, 2005): 4866.

[51] Ibid.

[52] Ibid.

3. To ensure that "the duties performed by the employee . . . [do not] overlap with the duties" performed by other employees.[53]

REDUPLICATION

The occurrence of a duplicate instance of the same thing or system.

"Duplication," Dictionary.com, 2013, http://dictionary.reference.com/browse/duplication (accessed March 19, 2013).

This overlap concern can be separated into two analytical categories, related to the tasks, duties, responsibilities, and accountabilities (TDRAs) of a medical directorship: (1) *reduplication*, the occurrence of a duplicate instance of the same TDRA, and (2) *redundancy*, characterized by a superabundance of medical directorships providing similar TDRAs (see Section 15.5.2.1, "Nonclinical-Related Services Compensation Benchmarking," in Chapter 15, "Healthcare Services").[54] A careful analysis of the *nature*, *size*, and *scope* of services, the *organizational structure*, the *span of management*, and other elements for which the medical directorship services will be rendered are *essential* to the analysis in addressing this overlap concern. *Utilization demand*, based on the market service area's demographic profile, as well as its incidence and prevalence of specific disease groups, may further speak to a healthcare enterprise's capacity to meet or exceed its needs as part of the *Commercial Reasonableness* analysis.[55]

REDUNDANCY

Characterized by a superabundance of similar things or systems.

"Redundancy," Dictionary.com, 2013, http://dictionary.reference.com/browse/redundancy?s=t (accessed March 19, 2013).

[53] "OIG Advisory Opinion Number 06-02," Office of the Inspector General, March 21, 2006.

[54] "Duplication," Dictionary.com, 2013, http://dictionary.reference.com/browse/duplication (accessed March 19, 2013); "Redundancy," Dictionary.com, 2013, http://dictionary.reference.com/browse/redundancy?s=t (accessed March 19, 2013).

[55] Demographic profiles are "based on factors such as family income, age, sex, race [occupation], and [level of education] that explain difference in . . . consumption of different" healthcare services. Luis Pareras, *Innovation and Entrepreneurship in the Healthcare Sector: From Idea to Funding to Launch* (Phoenix, MD: Greenbranch Publishing, 2011), p. 347.

Task, Duties, Responsibilities, and Accountabilities

The specific tasks and duties to be performed by a person and the area of the organization or processes for which that person is responsible and accountable to management.

16.2.1.4 Nature and Scope of the Property Interest The analyst must make a determination as to whether the *nature* and *scope* of the subject services, assets, or enterprises meet the *needs* of the purchaser or the lessee. The IRS has advised that the *nature* and *scope* of services provided should be analyzed to determine whether their cost is: (1) a "cost of carrying on a trade or business," (2) undertaken "for the production of income from the sale of goods or the performance of services," (3) "paid or incurred during the taxable year" (i.e., the same year as the anticipated transaction), (4) "reasonable in terms of the responsibilities and activities . . . assumed under the contract," and (5) "reasonable in relation to the total services received."[56] Further guidance from the OIG commentary on the Anti-Kickback Statute suggests that analysts determine how the "space, equipment, or services" meet the "lessee or purchaser needs, intents to utilize, and . . . commercially reasonable business objectives."[57]

A process for analyzing the *nature* and *scope* of the various elements of the subject transaction, for example, the services to be provided and the assets and enterprises to be acquired, is illustrated in Exhibit 16.4.

In addition, when analyzing the *nature* and *scope* of services to be provided for a *Commercial Reasonableness* threshold, the IRS pronouncements on *reasonable compensation* for tax purposes offer some guidance as to

[56] "Deducting Business Expenses," Internal Revenue Service, January 2, 2013, http://www.irs.gov/Businesses/Small-Businesses-&-Self-Employed/Deducting-Business-Expenses (accessed February 26, 2013); "Unrelated Trade or Business," in "Taxation of Business Income of Certain Exempt Organizations," 26 USC Section 513 (January 3, 2012); "Trade or Business Expenses for Itemized Deductions for Individuals and Corporations for the Computation of Taxable Income for Normal Taxes and Surtaxes," 26 USC Section 162 (January 3, 2012); "IRS Revenue Ruling 69-383, 1969-2 CB 113," Internal Revenue Service, 1969; Janet Gitterman and Marvin Friedlander, *Health Care Provider Reference Guide*, Internal Revenue Service, 2004, p. 19.

[57] "Medicare and State Health Care Programs: Fraud and Abuse: Clarification of the Initial OIG Safe Harbor Provisions and Establishment of Additional Safe Harbor Provisions under the Anti-Kickback Statute," *Federal Register* 64 (November 19, 1999): 63525.

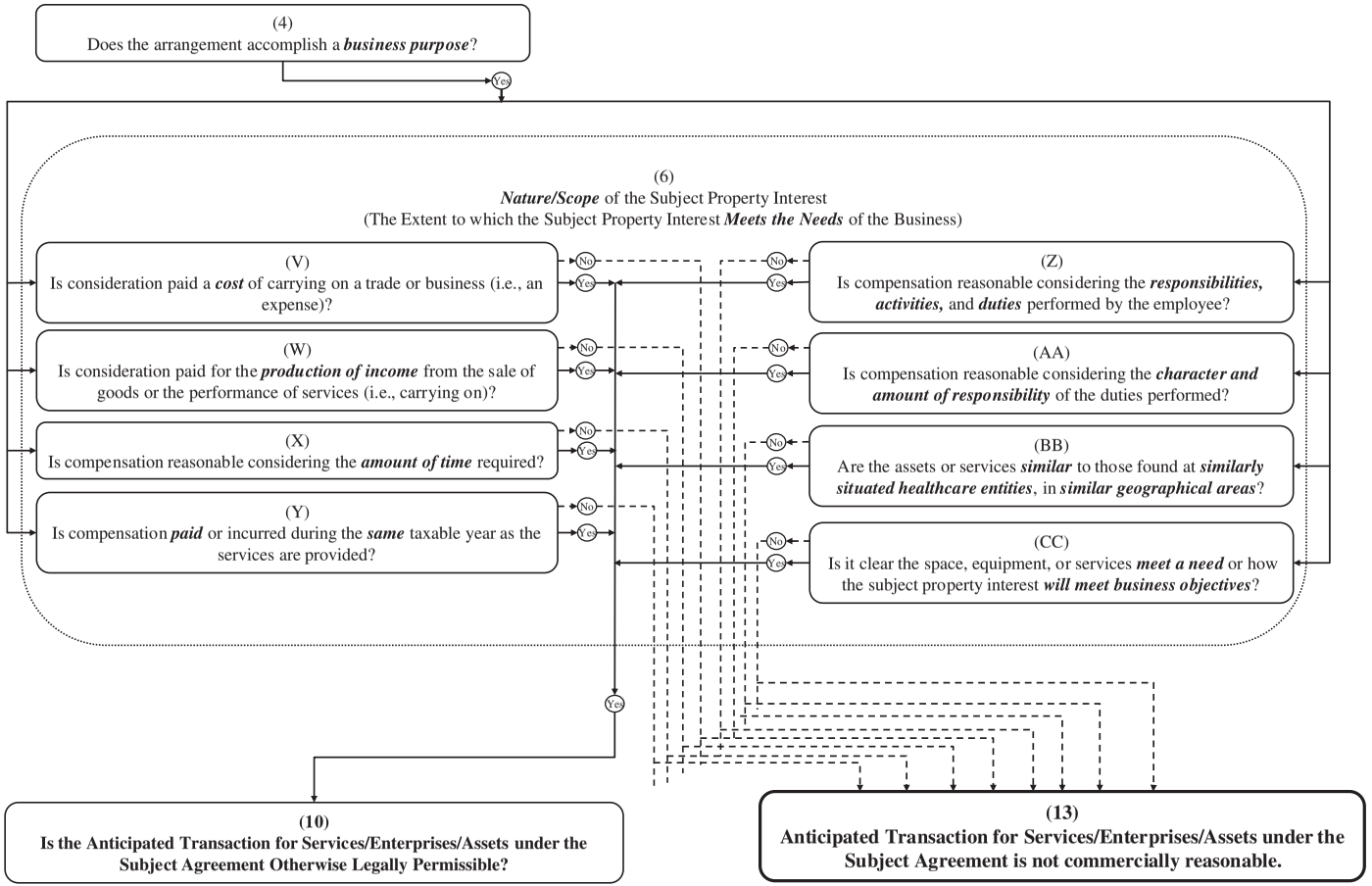


EXHIBIT 16.4 Analytical Processes for Assessing the Nature and Scope of the Subject Property Interest

(1) "the amount of time required" for the services to be rendered, (2) "the duties performed by the employee," (3) "the character and amount of responsibility" of the position, and (4) the similarity "to contracts of other organizations providing similar services at similarly situated health care entities."[58] The Code of Federal Regulations requires analysts to consider "the number of hours of services furnished . . . in the geographical area in which the services are furnished."[59] The types of services provided to healthcare enterprises and the *tasks*, *duties*, *responsibilities*, and *accountabilities* (TDRAs) associated with them are discussed further in Chapter 15, "Healthcare Services."

16.2.1.5 Enterprise and Organizational Elements The IRS pronouncements on *reasonable compensation* for tax purposes offer analysts guidance that a determination should be made as to whether the *consideration paid* for the subject property interest is "a sensible, prudent business agreement" within the context of (1) "the pay compared with the gross and net income of the business"; (2) "business policy regarding pay for all employees"; and (3) "the cost of living in the locality," based on an analysis of the "national and local economic conditions," including whether the acquirer or lessee is located in a "rural, suburban, or urban" area.[60]

In addition, the analyst should make a determination as to whether the tax status of the acquirer or lessee affects the *Commercial Reasonableness* of the anticipated transaction (see Section 16.2.1.2, "Business Purpose").

A process for analyzing the *enterprise* and *organizational* elements of the anticipated transaction is described in Exhibit 16.5.

16.2.1.6 Quality, Comparability, and Availability of the Subject Property Interest Based on the *nature* and *scope* of the services provided, the analyst should

[58] Internal Revenue Service, Publication 535—*Business Expenses*, 2011, http://www.irs.gov/publications/p535/ch02.html (accessed February 25, 2013); Janet Gitterman and Marvin Friedlander, *Health Care Provider Reference Guide*, Internal Revenue Service, 2004, p. 28.

[59] "Principles of Reasonable Cost Reimbursement: Payment for End-stage Renal Disease Services; Optional Prospectively Determined Payment Rates for Skilled Nursing Facilities," 42 CFR 413.106(c)(2) (October 1, 2012).

[60] "Medicare and Medicaid Programs: Physicians' Referrals to Health Care Entities with Which They Have Financial Relationships," 63 *Federal Register* 63 (January 9, 1998): 1700; Internal Revenue Service, Publication 535—*Business Expenses*, 2011, http://www.irs.gov/publications/p535/ch02.html (accessed February 25, 2013); Daniel Zismer, *Physician Compensation Arrangements: Management and Legal Trends* (Gaithersburg, MD: Aspen Publishers, 1999), p. 204; Internal Revenue Service, *IRS Exempt Organizations: Hospital Compliance Project—Final Report*, November 7, 2008, p. 3.

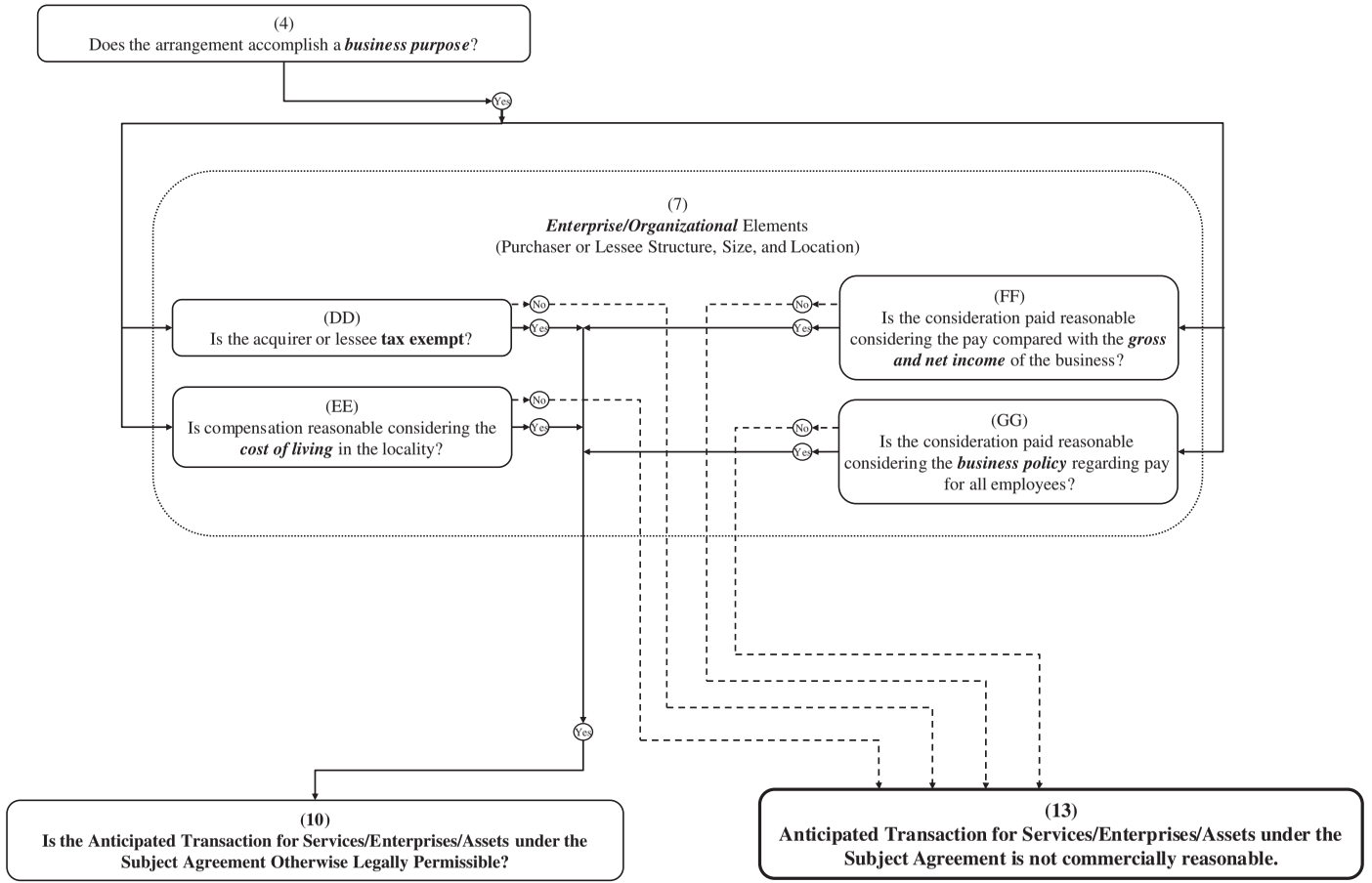


EXHIBIT 16.5 Analytical Processes for Assessing the Enterprise and Organizational Elements Availability of the Subject Property Interest

determine those attributes that speak to the *nature* and *quality* of the services, assets, and enterprises included in the anticipated transaction. The IRS pronouncements on *reasonable compensation* for tax purposes advise analysts to consider "the ability and achievements of the individual performing the service," including "education," "specialized training and experience of the" individual, "the history of pay for the employee," and "the availability of similar services in the geographic area."[61] The OIG advises that analysts consider "the skill level and experience reasonably necessary to perform the contracted services," especially if "the services [could be obtained] from a non-referral source at a cheaper rate or under more favorable terms."[62] The Code of Federal Regulations specifies that analysts should consider "the type, expected life, condition…and market conditions in the area…[for] facilities or equipment," as well as whether "adequate alternative facilities or equipment that would serve the purpose are not or were not available at lower costs."[63] The OIG echoed the "reasonably necessary" requirement in a subsequent Advisory Opinion stating, *"the aggregate services contracted for do not exceed those which are reasonably necessary to accomplish the commercially reasonable business purpose of the services."*[64]

A process for analyzing the *nature* and *quality* of the various elements of the subject transaction, for example, the *service provider* and the *assets* to be acquired, is illustrated in Exhibit 16.6.

It should be noted that as discussed in Chapter 5, "Technology," the healthcare industry's technology is constantly and quickly evolving. This could *potentially* lead to the creation and availability of *adequate alternative facilities or equipment that would serve the purpose* at a lower cost, either through a *lower price per unit* or *higher productivity.* The existence and availability of new technology related to the subject property interest, which may cause

---

[61] Internal Revenue Service, Publication 535—*Business Expenses*, 2011, http://www.irs.gov/publications/p535/ch02.html (accessed February 25, 2013); Internal Revenue Service, *IRS Exempt Organizations: Hospital Compliance Project—Final Report*, November 7, 2008, p. 136; Daniel Zismer, *Physician Compensation Arrangements: Management and Legal Trends* (Gaithersburg, MD: Aspen Publishers, 1999), p. 204. Note that the commentary offers justification for paying physicians at higher rates per unit of productivity than they historically earned in private practice. "Failure by Certain Charitable Organizations to Meet Certain Qualification Requirements: Taxes on Excess Benefits," *Federal Register* 63 (August 4, 1998): 41493.

[62] "OIG Supplemental Compliance Program Guidance for Hospitals," *Federal Register* 70 (January 31, 2005): 4866.

[63] "Principles of Reasonable Cost Reimbursement; Payment for End-Stage Renal Disease Services' Optional Prospectively Determined Payment Rates for Skilled Nursing Facilities," 42 CFR 413.130(b)(2)(i) (October 1, 2012).

[64] "OIG Advisory Opinion Number 07-10," Office of Inspector General, September 27, 2007, p. 6.

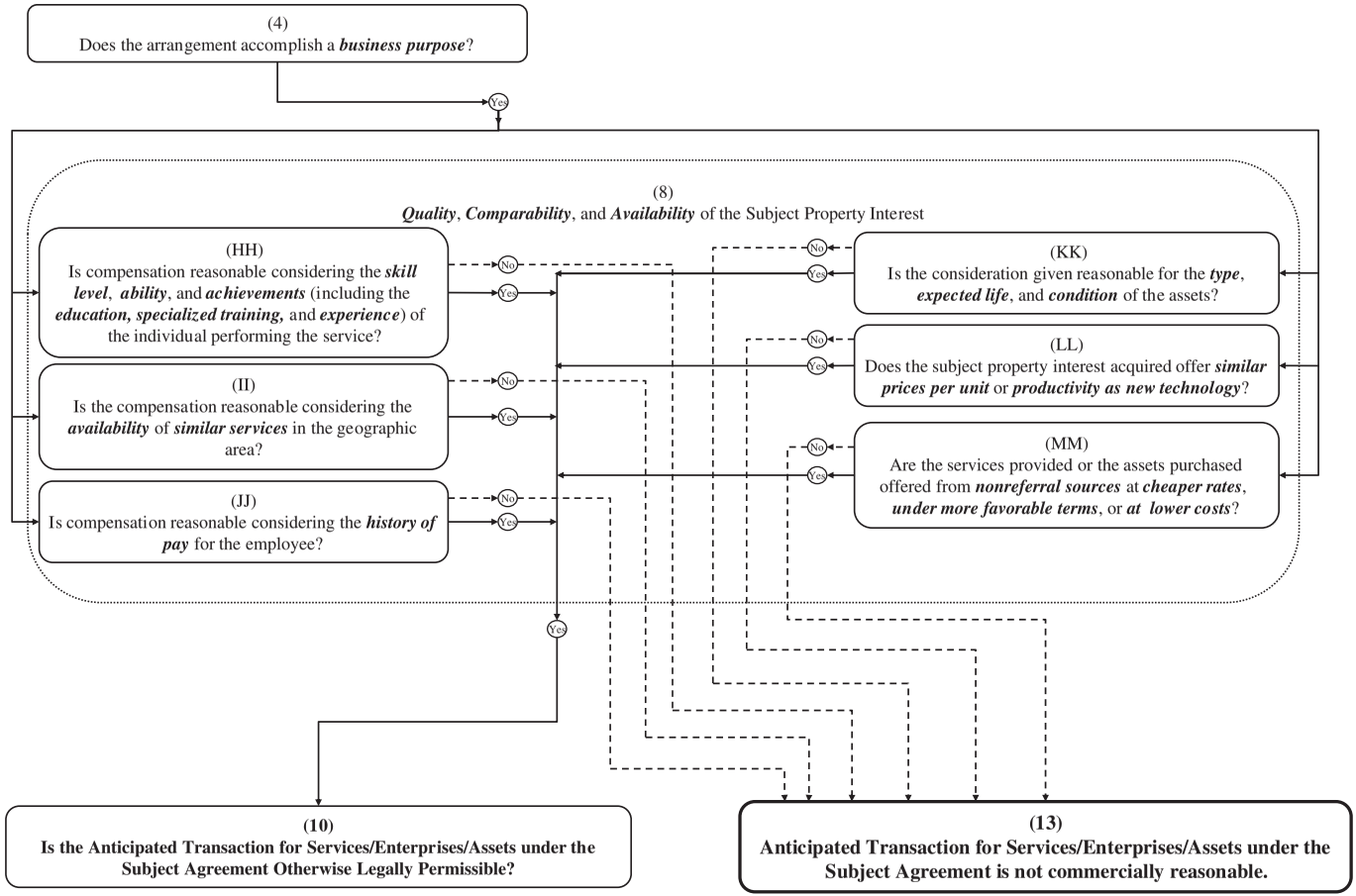


EXHIBIT 16.6 Analytical Processes for Assessing the *Quality*, *Comparability*, and *Availability* of the Subject Property Interest

older technology to be become *obsolete* or certain employees to be become *redundant*, should be considered in any *Commercial Reasonableness* analysis. In this scenario, the purchase of the obsolete equipment or the hiring/retention of the redundant employees would ***not*** be *Commercially Reasonable.*

The anticipated transaction may require that healthcare entities purchasing physician services to compensate those physicians at *a higher rate per unit of productivity* (e.g., per wRVU) than the physicians *historically* earned in their private practice for providing the same services. Recall that as discussed in more detail in Section 15.3.2, "Commercial Reasonableness" (in Chapter 15, "Healthcare Services"), a physician's compensation per unit of productivity in private practice may be lower than market survey data–derived measures of *Fair Market Value* for several reasons, including:

1. According to the theory of *utility maximization*, physicians would only pursue compensation levels above the amount they were able to generate from their own practice in *maximizing* their *individual compensation*, *wealth*, or *other measure of utility.* Further, those physicians receiving compensation for their services above the market survey–derived measures of *Fair Market Value* would not be acting in their own *rational economic self-interest* by pursuing a transaction where they would be *paid less* for their services than what they are able to generate from their private practice.
2. Under the economic *principle of substitution*, a potential *purchaser* of healthcare services would be *willing to pay up to the price* of a *desirable substitute*, and normative industry benchmark survey data can be used to determine the *most probable price* that the purchaser would *likely* expend for *substitute services*.
3. The *historical level of return* on the subject services is strictly reflective of the outcome of the economic factors affecting the *operational performance* and *financial condition* of the use of that property interest in the physician's *prior practice*, which may not be reflective of the market as a whole.
4. Purchasers or lessees of physician services, *bound* by *Fair Market Value* as a *ceiling price*, act to maximize their profit by acquiring at the *lowest total cost*, while sellers, *bound* by the *floor* set by the level of income they generated for their services from their prior physician practice, act to maximize their profit by selling the subject property interest at the *highest total price*. The point where both parties will choose to transact would fall between the *ceiling* set forth by the regulatory restriction of *Fair Market Value* and the *floor* set forth by the historical earnings of the physician from their prior practice. The degree by which the final negotiated price is closer to the *point of utility maximization* for the *buyer* (i.e., the lowest total cost) or to that of the *seller* (i.e., the highest total price) is determined, in great part, by the trade-off between

leverage and *negotiating skill* between the two parties (see Exhibit 15.1 in Chapter 15, "Healthcare Services").

5. In addition to maximizing their financial benefits, physicians may derive utility from *intrinsic* sources, such as the personal autonomy afforded to a physician owner of a practice, in contrast to an employed physician.
6. The equivalency of knowledge between buyers and sellers may not be fully reflected in the bargain, as physicians, more typically highly trained in clinical subjects than in financial economics, may use and rely more heavily on *their past personal experiences*, which are not necessarily reflective of *future economic market realities*, in decision making.

16.2.1.6 Management Control, Ongoing Assessment, and Other Elements Analysts should consider certain other elements of the transaction that may not fit neatly into the previously discussed categories, for example, (1) the *necessity* of the property interest, (2) the *nature* and *scope* of the property interest, (3) the *enterprise* and *organizational* elements, and (4) the *nature* and *quality* of the property interest. For example, in assessing the *Commercial Reasonableness* of certain medical directorships, the government's expert witness, in the *U.S. v. SCCI Hospital Houston* case, considered the "quality of management and interdisciplinary coordination" (see Section 3.3.3.9.5, "*U.S. v. SCCI Hospital Houston*," in Chapter 3, "Regulatory Environment").[65] In addition to assessing the needs at the beginning of the contract, the government's expert witness report suggested that healthcare entities should conduct "a regular assessment of the actual duties performed by the [employee] . . . [and] it should be clear how effective the [employee] is doing his assigned job and if there is a bona fide need for continuing the services."[66]

A process for analyzing the *management control*, the *ongoing assessment*, and other elements of the subject transaction is illustrated in Exhibit 16.7.

Further guidance from case law on this topic was provided in the *U.S. v. Joseph Campbell, MD*, case, where Judge Susan Wigenton ruled that healthcare entities should monitor employees to ensure they "actually perform the duties outlined in their contract," "conform to written policies, are properly recorded, [continue to] reflect reasonable payments for goods and services, [and continue to] further the corporation's . . . purposes."[67]

---

[65] Kathy McNamara, "Fair Market Valuation of Medical Director of Program Director Services," Mayer Hoffman McCann PC, July 12, 2005, in *United States ex rel. Kaczmarczyk, et al. v. SCCI Hospital Houston Central, et al.*

[66] Ibid.

[67] *U.S. v. Joseph Campbell, MD—Motion for Summary Judgment*, 2011 Lexis 1207, p. 7; Janet Gitterman and Marvin Friedlander, *Health Care Provider Reference Guide*, Internal Revenue Service, 2004, pp. 33–34.

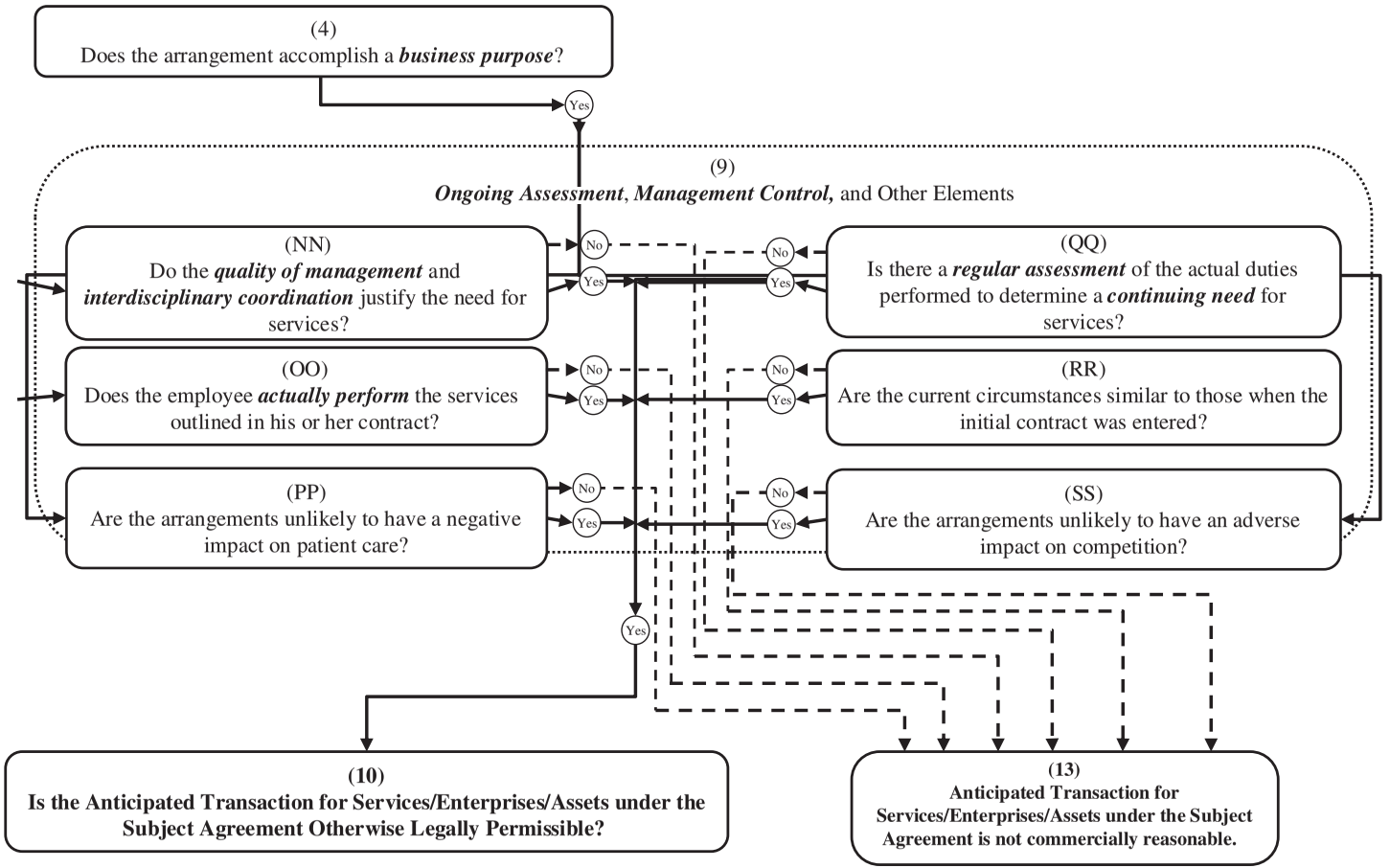


EXHIBIT 16.7 Analytical Processes for Assessing the Ongoing Assessment, the Management Control, and Other Elements

In the *U.S. v. Carlisle HMA, Inc.*, case, Judge Christopher Conner ruled that healthcare entities need to make a determination as to whether the current "consideration given and received [is paid] under materially different circumstances" than when the contract was entered.[68] Finally, the OIG advises consultants to review anticipated transactions to determine if:

1. The arrangements flow from an open, competitive request for proposal process.
2. The risk that the arrangements will result in an appropriate utilization is low.
3. The arrangements are . . . likely to have a negative effect on patient care.
4. The arrangements . . . have an adverse impact on competition.[69]

16.2.1.6.1 Antitrust Considerations Additional factors to consider when assessing the *legal permissibility* of the anticipated transaction may be found in antitrust pronouncements by the Federal Trade Commission (FTC), which advise:

1. The anticipated transaction "is likely to produce significant efficiencies."[70]
2. "These efficiencies include the provision of services at a lower cost or the provision of services that would not have been provided absent" the anticipated transaction.[71]
3. The efficiencies achieved as a result of the anticipated transaction "will benefit consumers."[72]
4. The anticipated transaction will help "monitor and control costs . . . while assuring quality of care."[73]
5. The anticipated transaction "appears likely, on the balance, to be pro-competitive or competitively neutral."[74]

---

[68] *U.S. ex rel. Ted Kosenske, MD, v. Carlisle HMA, Inc., and Health Managements Associates, Inc.*, 07-4616 US District Court 05-cv-02184 (January /21, 2009), p. 18.

[69] "OIG Advisory Opinion Number 12-09," Office of the Inspector General, July 23, 2012, pp. 6–7.

[70] U.S. Department of Justice and the Federal Trade Commission, "Statements of Antitrust Enforcement Policy in Health Care," August 1996, p. 4.

[71] Ibid., p. 13.

[72] Ibid., p. 66.

[73] Federal Trade Commission, "Norman PHO Advisory Opinion," February 13, 2013, p. 13, http://www.ftc.gov/os/2013/02/130213normanphoadvltr.pdf (accessed April 1, 2013).

[74] Ibid.

6. The anticipated transaction "would not increase the likelihood of the exercise of market power . . . because of the existence of the post-[transaction] of strong competitors."[75]

16.2.1.6.2 Certificate of Need *Certificate of Need* (*CON*) laws represent some of the most significant market entrance barriers that have an impact on the U.S. healthcare delivery system.[76] Currently, 37 states retain some sort of CON program, in which a state government agency determines where, when, and how *capital expenditures* will be made for *public healthcare facilities*, *services* and *major equipment* (see Section 3.4.3, "Certificate of Need," in Chapter 3, "Regulatory Environment").[77] CON requirements are based on the highly contested theory that in an *unregulated market*, healthcare providers will purchase the newest, most costly technology and equipment, regardless of *duplication* or *need*.[78] The existence or absence of a CON related to a *healthcare facility*, a *service*, or *major equipment* may have a significant impact on

CERTIFICATE OF NEED

Permits granted by state governmental agencies to allow capital expenditures for healthcare facilities, services, or equipment purchases.

"Certificate of Need: State Health Laws and Programs," by National Conference of State Legislatures, April 30, 2009, http://www.ncsl.org/IssuesResearch/Health/CONCertificateofNeedStateLaws/tabid/14373/Default.aspx (accessed June 24, 2009).

[75] U.S. Department of Justice and the Federal Trade Commission, "Statements of Antitrust Enforcement Policy in Health Care," August 1996, p. 11.

[76] Robert James Cimasi, *The U.S. Healthcare Certificate of Need Sourcebook* (Washington, DC: Beard Books, 2005).

[77] National Conference of State Legislatures, "Certificate of Need: State Health Laws and Programs," March 2012, http://www.ncsl.org/issues-research/health/con-certificate-of-need-state-laws.aspx (accessed September 20, 2012); National Conference of State Legislatures, "Certificate of Need: State Health Laws and Programs," April 30, 2009, http://www.ncsl.org/IssuesResearch/Health/CONCertificateofNeedStateLaws/tabid/14373/Default.aspx (accessed June 24, 2009).

[78] Chapter 8: Miscellaneous Subjects," in *Improving Health Care: A Dose of Competition*, A Report by the Federal Trade Commission and Department of Justice, July 2004, p. 2.

the *Commercial Reasonableness* analysis of the anticipated transaction. For example, if the anticipated transaction involves a hospital giving consideration to a medical director for launching a cardiovascular service line, the transaction would not be *Commercially Reasonable* in the absence of a CON permitting the hospital to establish that service line. Also, the CON typically requires an application process that is replete with documented evidence, which is pertinent to establishing the *need* in meeting the *necessity of the property interest* threshold (see Section 16.2.1.3, "Necessity of the Property Interest"), as to the *utilization demand* and *financial feasibility* of the proposed services.

16.2.1.6.3 Other State and Local Regulations Separate and aside from *Certificates of Need*, various states have established commissions and committees to "ensure the regional and local supply of . . . [healthcare] facilities is best configured to appropriately respond to community needs for high-quality, affordable and accessible care, with meaningful efficiencies in delivery and financing that promote infrastructure stability."[79] For example, in 2006, the *New York State Commission on Health Care Facilities in the 21st Century* closed 20 hospitals in New York.[80] In Virginia, 21 planning district commissions "analyze regional opportunities . . . in planning and implementing public policies and services."[81] The valuation analyst should carefully consider the impact of state initiatives in determining whether the anticipated transaction is *Commercially Reasonable*.

16.2.2 Quantitative Analysis

In addition to the types of *qualitative* analysis described earlier, the analyst should also undertake a *quantitative* analysis as part of the determination of the *Commercial Reasonableness* of both the *discrete* elements and the *entirety* of the anticipated transaction. This analysis, which is referred to as a *post-transaction financial feasibility analysis*, takes into account all consideration to be paid by purchasers and lessees to sellers and lessors. This *post-transaction financial feasibility analysis* should be performed

[79] New York State Department of Health, "Commission on Health Care Facilities in the 21st Century," http://www.nyhealthcarecommission.org/index.htm (accessed March 11, 2013).

[80] Richard Perez-Pena, "Plan Could Close 20 or More New York Hospitals," *New York Times*, November 29, 2006.

[81] Virginia Department of Housing and Community Development, "Planning District Commissions," http://www.dhcd.virginia.gov/CommissiononLocalGovernment/pages/PDC.htm (accessed March 11, 2013).

POST-TRANSACTION FINANCIAL FEASIBILITY ANALYSIS

An analytical financial analysis of the revenue stream, operating expense burden, and capital expense burden associated with the anticipated transaction.

within the context of the *qualitative* analysis, in assessing the *Commercial Reasonableness* of the anticipated transaction. The *elements* of the *post-transaction financial feasibility analysis* are not intended to be considered in isolation; rather, the analyst should consider both the *individual merits* of each analytical technique and the *relationships* between the analytical techniques employed. While there are numerous techniques an analyst may use, four of the most prevalent techniques are discussed below: (1) *payback period* and *discounted payback period*, (2) *net present value analysis*, (3) *internal rate of return*, and (4) *average accounting rate of return.*

In approaching any of these *quantitative* techniques, analysts should note that *tax-exempt*, *not-for-profit healthcare organizations* operate in service to their *stated charitable mission* and, in lieu of taxes, provide a *social benefit.*[82] Accordingly, while the *post-transaction financial feasibility analysis* may reflect a financial loss, the transaction may still be *Commercially Reasonable* when the *nonmonetary social benefits* are taken into consideration (see Section 9.1.2.2.1, "Internal Financing," in Chapter 9, "Costs and Sources of Capital"). The analytical techniques discussed below and used in the *post-transaction financial feasibility analysis* include consideration of the *financial return benefits* without consideration of the *nonmonetary social benefits*, which may vary between healthcare organizations in accordance with several factors, for example, (1) patient *demographics*, (2) *incidence* and *prevalence* of disease, and (3) *geographic location.* The financial costs for achieving these *nonmonetary social benefits* are significant and, according to one recent study, may account for as much as one-third of a *not-for-profit's* operating cost.[83]

A process for quantifying the various elements of the subject transaction, for example, the services to be provided and the assets and enterprises to be acquired, is illustrated in Exhibit 16.8.

---

[82] For a more detailed discussion on this topic, see Section 9.1.2.2.1, "Internal Financing," in Chapter 9, "Costs and Sources of Capital."

[83] Simone Singh, "Community Benefit in Exchange for Non-Profit Hospital Tax Exemption: Current Trends and Future Outlook," *Journal of Health Care Finance* 13, no. 3 (Spring 2013): 36.

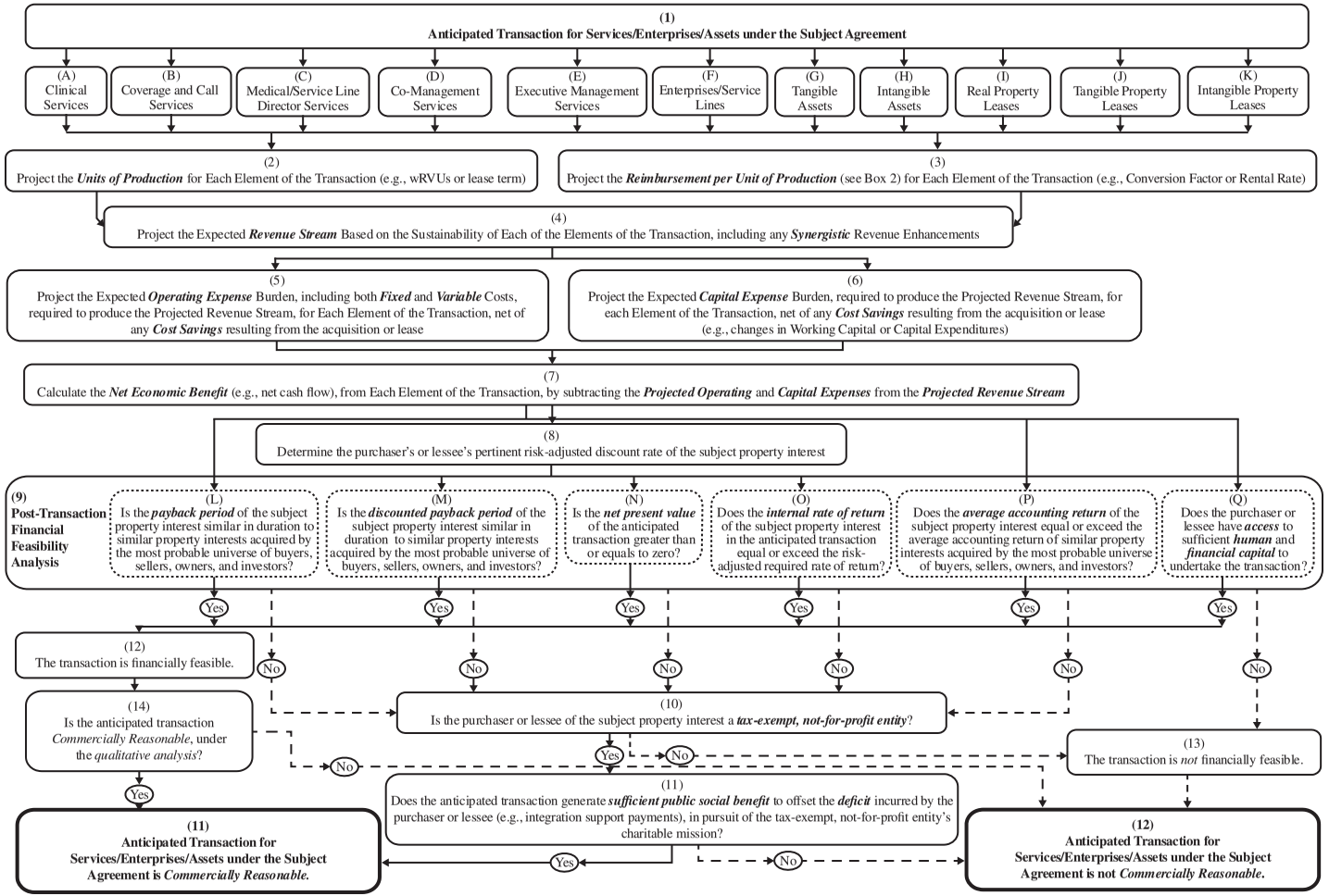


EXHIBIT 16.8 Analytical Process for the Quantitative Analysis

16.2.2.1 Payback Period and Discounted Payback Period Analysis The *payback period* is an analytical technique in a *post-transaction financial feasibility analysis* that is undertaken to determine the number of discrete periods "it takes before the cumulative forecasted [undiscounted] cash flow equals the initial investment."[84] It should be noted that, while a *payback period analysis* should consider the *sustainability* of each element of the transaction, it does not adjust for the risk associated with the *expected future net economic benefits* to be received and assumes that similar investments in similar assets produce similar cash flows.[85] Unlike the other quantitative analytical techniques discussed in this chapter, the payback period should *explicitly* include the cost of debt (e.g., interest expense) in the *projected expense burden*, because this technique does not *implicitly* account for this cost in the *discount rate*. A detailed illustration of a *payback period* analysis can be found online at http://www.wiley.com/go/healthcarevaluation.

The *discounted payback period* in a *post-transaction financial feasibility analysis* is the number of periods "until the sum of the **discounted** cash flow is equal to the initial investment."[86] If the valuation analyst determines that the required *payback period* is of a duration similar to the *investment horizon* expected by the universe of typical *buyers*, *sellers*, *owners*, and *investors* in the enterprise, assets, or services similar to the property interest exchanged in the subject transaction, then the valuation analyst may consider the anticipated transaction to be financially *feasible*.[87] However, the determination that an anticipated transaction is *financially feasible* does not, in and of itself, determine its *Commercial Reasonableness*. Recall that a *tax exempt*,

Payback Period

An analytical technique that determines the number of discrete periods "it takes before the cumulative forecasted [undiscounted] cash flow equals the initial investment."

Principles of Corporate Finance*, 9th ed., by Richard Brealey, et al. (New York: McGraw-Hill Irwin, 2008), p. 120.*

[84] Richard Brealey, et al., *Principles of Corporate Finance*, 9th ed. (New York: McGraw-Hill Irwin, 2008), p. 120.

[85] Ibid., pp. 120–121.

[86] Stephen Ross, et al., *Fundamentals of Corporate Finance*, 2nd ed. (Boston: Irwin, 1993), p. 228.

[87] Analysts may wish to consider various scenarios of 5, 10, and 15 years.

Discounted Payback Period

An analytical technique that determines the number of discrete periods "until the sum of the discounted cash flow is equal to the initial investment."

Fundamentals of Corporate Finance, *2nd ed., by Stephen Ross, et al. (Boston: Irwin, 1993), p. 228.*

not-for-profit organization may enter into transactions for certain property interests that, while resulting in (at least short-term) *financial losses*, generate significant *social benefits*, for example, the integration and coordination of care in the community, in pursuit of its *charitable mission* (see Section 16.2.1.2.2, "Not-for-Profit Organizations/Charitable Mission").

Within this context, the *payback period* analysis may result in a negative *financial* indicator, but the transaction may still be *Commercially Reasonable* in the context of the *social benefits* provided by the transaction, in consideration of the *qualitative* analyses. It should be noted that both the *payback period* and the *discounted payback period* technique appear biased toward more liquid projects, in other words, those projects that quickly return the initial investment, to the detriment of longer-term investments that may have an enhanced value impact for the enterprise. Accordingly, the *Commercial Reasonableness* analysis should consider *all cash flows* associated with the anticipated transaction, including any support payments made by a parent organization to a subsidiary company, and the *timing* and the *risk* associated with actually achieving those projected future cash flows. A detailed illustration of a *discounted payback period* analysis can be found online at http://www.wiley.com/go/healthcarevaluation.

16.2.2.2 Net Present Value Analysis The *net present value* is an analytical technique that examines the anticipated transaction and consists of determining the difference between the total *initial economic expense burdens* (e.g., initial cash outlays) and the total *expected risk-adjusted future net economic benefits* (e.g., present value of the future net cash flows).[88] Recall that the *relevant net economic benefits* associated with a *net present value analysis* may be different than the *economic benefits* associated with a *Fair Market Value* analysis, because the *net present value analysis* considers the

[88] Stephen Ross, et al., *Fundamentals of Corporate Finance*, 2nd ed. (Boston: Irwin, 1993), p. 220.

Net Present Value

An analytical technique that determines the difference between the total initial economic expense burdens (e.g., initial cash outlays) and the total expected risk-adjusted future net economic benefits (e.g., present value of the future net cash flows).

Fundamentals of Corporate Finance, *2nd ed., by Stephen Ross, et al. (Boston: Irwin, 1993), p. 220.*

net cash flow to a *particular buyer*, *owner*, or *investor* "in the absence of referrals,"[89] in contrast to considering the net cash flow to the most probable *universe of typical buyers*, *sellers*, *owners*, and *investors* in the subject property interest, which consideration is a definitional requirement of the valuation standard of *Fair Market Value.* For instance, when valuing a physician practice, a *Fair Market Value* analysis would not consider:

1. Any *synergistic* revenue enhancements (e.g., the hospital outpatient department (HOPD) enhanced reimbursement differential under the hospital outpatient prospective payment system (HOPPS), which provides that only hospitals can receive the benefits of approximately 1.7 to 2.2 times the Medicare physician fee schedule (MPFS); or
2. *Cost savings* (e.g., the hospital's eliminating the practice's billing and collection department or eliminating the redundant information technology systems) that might result from the merger of a physician practice with a hospital.

However, a *net present value analysis,* for the purposes of assessing the *Commercial Reasonableness* of a transaction to a *particular investor* would consider **all** *relevant costs and net economic benefits* related to the merger, of course, exclusive of the consideration of any potential benefits arising from the physician referral relationship with the hospital.[90]

In the event that the *net present value* calculated is *greater than or equal to zero*, a *net present value* analysis may indicate that the anticipated transaction represents a *financially feasible* arrangement.[91] However, as with the payback period, the determination that an anticipated transaction is *financially*

[89] "Limitation on Certain Physician Referrals," 42 USC 1395nn (January 3, 2012).

[90] Stephen Ross, et al., *Fundamentals of Corporate Finance*, 2nd ed. (Boston: Irwin, 1993), p. 256.

[91] Ibid., p. 222.

feasible does not, in and of itself, determine its *Commercial Reasonableness*, and a negative *net present value* may still be *Commercially Reasonable* for a *tax-exempt*, *not-for-profit organization*, if the anticipated transaction helps further that organization's *charitable mission* (see Section 16.2.1.2.2, "Not-for-Profit Organizations/Charitable Mission"). For a more in-depth discussion of the *net present value technique*, see Section 8.2.5, "Net Present Value Analysis," in Chapter 8, "Valuation Approaches and Methods."

16.2.2.3 Internal Rate of Return The *internal rate of return* is an analytical technique that relies on determining the *discount rate*, which, when applied to the *expected net economic benefits* of the subject property interest, results in a **zero** *net present value* (see Section 16.2.2.1, "Payback Period and Discounted Payback Period Analysis").[92] In the event that the calculated *internal rate of return* is *greater than* or *equal* to the *risk adjusted* ***required*** *rate of return*, as determined using the methods discussed in Chapter 9, "Costs and Sources of Capital," an *internal rate of return analysis* may indicate that the anticipated transaction is *financially feasible* for the subject property interest.[93] However, the determination that an anticipated transaction is *financially feasible* does not, in and of itself, determine its *Commercial Reasonableness*. Some *tax-exempt*, *not-for-profit organizations* may engage in transactions that *do not* exceed their *risk-adjusted* ***required*** *rate of return*. In this instance, the *internal rate of return* analysis may be a *negative indicator*, but the transaction may still be *Commercially Reasonable*, in consideration of the *qualitative analysis,* and within the context of the *social benefits* provided by the transaction that further the *charitable mission* of the organization (see Section 16.2.1.2.2, "Not-for-Profit Organizations/Charitable Mission"). It should be noted that when the *net present value* of an anticipated transaction is greater than or equal to zero, the *internal rate of return* will always exceed the *risk-adjusted required rate of return*.

Internal Rate of Return

An analytical technique that determines discount rate, which, when applied to the expected net economic benefits of the subject property interest, results in a zero net present value.

Principles of Corporate Finance*, 9th ed., by Richard Brealey, et al. (New York: McGraw-Hill Irwin, 2008), p. 122.*

[92]Richard Brealey, et al., *Principles of Corporate Finance*, 9th ed. (New York: McGraw-Hill Irwin, 2008), p. 122.

[93]Ibid., p. 123.

16.2.2.4 Average Accounting Return The *average accounting return* is an analytical technique that seeks to determine the average of the *net income* arising from the assets or services to be acquired in the anticipated transaction *for each discrete accounting period* divided by the book value of those subject property interest(s) acquired *for each of the corresponding accounting periods*.[94]

It should be noted that the *average accounting return* (1) is based on accounting values, which may or may not *accurately* reflect the *economic benefits and expenses* associated with the subject property interest(s); (2) ignores the *risk* associated with any *anticipated economic benefits*; and (3) ignores the *time horizon* associated with any *anticipated net economic benefits*.[95]

If the valuation analyst determines that the required *average accounting return* is similar to the *average accounting return* expected by a *universe of typical buyers*, *sellers*, *owners*, and *investors* in enterprises, assets, or services similar to the subject property interest(s), then the valuation analyst may consider the anticipated transaction to be *financially feasible*. However, the determination that an anticipated transaction is *financially feasible* does not, in and of itself, determine its *Commercial Reasonableness*. In the instance that *tax-exempt*, *not-for-profit organizations* engage in transactions where *average account returns* are below the required threshold, that transaction may still be *Commercially Reasonable* within the context of the *social benefits* provided by the transaction, which further the *charitable mission* of the organization (see Section 16.2.1.2.2, "Not-for-Profit Organizations/ Charitable Mission"), and in consideration of the *qualitative* analysis.

Average Accounting Return

An analytical technique that determines the average of the net income arising from the assets or services to be acquired in the anticipated transaction for each discrete accounting period divided by the book value of those subject property interest(s) acquired for each of the corresponding accounting periods.

Fundamentals of Corporate Finance, *2nd ed., by Stephen Ross, et al. (Boston: Irwin, 1993), p. 231.*

[94] Stephen Ross, et al., *Fundamentals of Corporate Finance*, 2nd ed. (Boston: Irwin, 1993), p. 231.

[95] Ibid., p. 233.

16.2.2.5 Capital Considerations Beyond employing one or more of the quantitative analytical techniques, the *post-transaction financial feasibility analysis* should also consider the *human* and *financial capital factors* associated with completing the transaction. For example, if the management of an enterprise lacks sufficient *human capital* to manage both the transaction and the post-transaction integration process, then the analyst should consider both the *explicit* (e.g., the consulting contracts or cost of hiring additional management resources) and the *implicit* (e.g., the *opportunity* cost of time spent improving the enterprise's current management through education and training) costs of acquiring this additional expertise in the *post-transaction financial feasibility analysis*.

The analyst should consider the relative impact of whether the anticipated transaction may be funded through *equity*, *debt*, or a *mix* of both. A *Commercial Reasonableness* analysis should consider whether the acquiring enterprise has the ability to gain *access to funding* (e.g., capital markets, either equity or debt; private lending sources; and cash on hand) necessary to complete the anticipated transaction. The analyst should also consider any *implicit capital cost* related to the level of funding required by the anticipated transaction, which *may act to alter* the *capital structure* of the purchaser or the lessee in a manner that detracts from the *optimal ratio* of debt to equity, causing the enterprise to incur additional *financial distress costs* (e.g., higher interest rates, loss of trade credit, and fewer donations, thereby altering the enterprise-wide *weighted average cost of capital* and potentially reducing the *net present value* of any potential future project(s). Consideration of these additional expenses, if any, should be included in the *post-transaction financial feasibility analysis*.

16.3 CONCLUSION

While there is no single, universally accepted definition for the term *Commercial Reasonableness*, guidance in defining this regulatory threshold may be found in:

1. Statutory and regulatory sources, including pronouncements from both the OIG and the IRS, the *Stark Laws*, and the *Anti-Kickback* Statute; and
2. Relevant case law, including (1) *U.S. v. SCCI Hospital Houston*, (2) *U.S. v. Joseph Campbell*, and (3) *U.S. ex rel. Ted Kosenske, MD, v. Carlisle HMA, Inc., and Health Management Associates, Inc.*

This type of analysis addresses a regulatory threshold that is *separate* and *distinct* from, yet equally important as, the regulatory threshold related to the valuation standard of *Fair Market Value*.

"WRAP AROUND" COMMERCIAL REASONABLENESS OPINION

An opinion as to whether all elements of a transaction, both individually and in the aggregate, meet the threshold of commercial reasonableness.

In developing and rendering a *Commercial Reasonableness* opinion, the valuation professional should employ a rigorous analytical process that considers both *qualitative* and *quantitative* factors related to the several thresholds, analogous to *hurdles* that the elements of the anticipated transaction must overcome. A "*wrap around*" *Commercial Reasonableness* considers not only the *individual elements* of a transaction involving consideration paid for an enterprise(s), an asset(s), or a service(s); it also applies to the *entirety* of the integration transaction, including *all* property interest(s) in the aggregate, for which consideration is paid.

The *Commercial Reasonableness* analysis has evolved as a significant focus of regulatory scrutiny for health care transactions and, accordingly, is an increasingly important service offered by healthcare valuation professionals.

16.4 KEY SOURCES

Stark II, Phase I, Proposed Rules

Federal statutes and regulations prohibiting physicians from referring Medicare or Medicaid patients to an entity for designated health services (DHS) if the physician or an immediate family member has a financial relationship with that entity.

"Medicare and Medicaid Programs: Physicians' Referrals to Health Care Entities with Which They Have Financial Relationships," 63 *Federal Register* 1659–1728 (January 9, 1998)

Stark II, Phase II, Interim Rules

Federal statutes and regulations prohibiting physicians from referring Medicare or Medicaid patients to an entity for designated health services (DHS) if the physician or an immediate family member has a financial relationship with that entity.

"Medicare Program: Physicians' Referrals to Health Care Entities with Which They Have Financial Relationships," 69 *Federal Register* 16054–16146 (March 26, 2004)

Internal Revenue Code

IRS rules on Excess Benefit Transactions.

"Excess Benefit Transaction," 26 CFR Section 53.4958–4 (2012)

Stark II, Phase I, Final Rule

Federal statutes and regulations prohibiting physicians from referring Medicare or Medicaid patients to an entity for designated health services (DHS) if the physician, or an immediate family member, has a financial relationship with that entity.

"Medicare and Medicaid Programs: Physicians' Referrals to Health Care Entities with Which They Have Financial Relationships," 66 *Federal Register* 944 (January 4, 2001)

Anti-Kickback Regulations, Final Rule

The federal statutes and laws making it a felony for any person to "knowingly and willfully" solicit or receive or to offer or pay any "remuneration" directly or indirectly in exchange for the referral of a patient for a healthcare service paid for by a federal healthcare program.

"Medicare and State Health Care Programs: Fraud and Abuse: Clarification of the Initial OIG Safe Harbor Provisions and Establishment of Additional Safe Harbor Provisions Under the Anti-Kickback Statute," 64 *Federal Register* 63518–63557

Publication 535

Publication 535 describes the factors to consider when determining if compensation is *reasonable* and allowed as a business expense deduction for federal taxes.

"Publication 535—Business Expenses," Internal Revenue Service, March 4, 2013, p. 6, http://www.irs.gov/pub/irs-pdf/p535.pdf (accessed April 1, 2013)

16.5 ACRONYMS

Acronym	Full Title
HHS	The U.S. Department of Health and Human Services
IRS	Internal Revenue Service
OIG	Office of Inspector General
TDRA	Tasks, Duties, Responsibilities, and Accountabilities
DHS	Designated Health Services
HOPD	Hospital Patient Outpatient Department
NPV	Net Present Value
FTC	Federal Trade Commission
IRR	Internal Rate of Return

Epilogue

It is quite clear that economists rather generally recognize the need for a dynamic theory of economics. The reasons for this attitude are to be found in the nature of economic phenomena, which are always changing, ever in a state of Flux.[1]

—Charles Fredrick Roos

As this text goes to print, the U.S. healthcare delivery system is experiencing continuing uncertainty affecting *providers*, *payors*, and *suppliers* alike, who are attempting to navigate through the turbulence of healthcare reform, challenging economic conditions, and volatile capital markets. This "*perfect storm*" of circumstances, in turn, has an impact on the transactional marketplace in which these healthcare industry players operate. On the *reimbursement* side, there continues to be a movement from *procedure volume–driven reimbursement* to *value-based purchasing* (VBP), with an increased focus on reimbursing providers based on *quality* over *quantity*, or *value* over *volume*. These changes represent a paradigm shift in U.S. healthcare delivery, with an increasing dependence on the value metrics derived from evidence-based medicine. However, there is continued uncertainty related to whether currently proposed mechanisms for implementing this new paradigm, for example, Accountable Care Organizations (ACOs), will be able to achieve the objectives of VBP, that is, high quality and beneficial outcomes in pursuit of lower overall costs.

At the same time, increased *regulatory* scrutiny regarding potential *anti-kickback* and other fraud and abuse violations will likely only continue to grow. The perceived success of the federal government's recovery of $4.2 billion in fraud and abuse violations in 2013 and more than 20 self-disclosures having been achieved through the *Stark Self-Disclosure Protocol* program, the most recent of which involved Intermountain Health System settling with the U.S. government for $25.5 million in False Claims Act

[1] Charles Fredrick Roos, *Dynamic Economics: Theoretical and Statistical Studies of Demand* (Bloomington, IN: Principia Press, 1934), p. 4.

violations, is acting to incentivize the size, scope, and intensity of concern and attention to the regulatory environment in which healthcare transactions occur.[2]

The *competitive* landscape for the healthcare industry will continue to traverse unchartered waters, with the advent of ACOs. the emergence of health insurance exchanges, and the looming *physician manpower shortage* in the face of growing demand from both: the anticipated influx of the new insureds under the ACA's *individual mandate* and the aging *baby boomer demographic*. The small to mid-size community hospital market is consolidating at an accelerating pace, and the number of physicians becoming employed by hospitals and health systems is expanding. These trends, together with the *corporatization* and *Walmartization* of medicine, have led to a dynamic by which the very nature of healthcare competition is being reformed, likely fueled in greater degrees by patient outcomes and coordinated care efforts across specialties and facility types.

While advancements in both *clinical* and *process technology* are developing at exponential rates, there are significant concerns regarding capital funding of these technologies and the appropriate value metrics to be used in assessing their efficacy and return on investment in an era of more limited federal and state government resources in the aftermath of the *Great Recession*, and the future uncertainty regarding the ultimate impact of the *Sequester*.[3]

Within this changing paradigm of U.S. healthcare delivery system transformation, new analytical techniques, research methods, and scholarship are evolving in the valuation profession. In light of the complexities, persistent vicissitudes, and relentless exigencies of the healthcare industry, the "*holy grail*" for the valuation profession is to achieve some sense of clarity as to the *reimbursement*, *regulatory*, *competitive*, and *technological environments* (*Four Pillars*) of the healthcare industry, as well as from the identification of those value drivers that may be observed from the transactional marketplace resulting from these four market forces. For those in

[2] "Departments of Justice and Health and Human Services Announce Record-Breaking Recoveries Resulting from Joint Efforts to Combat Health Care Fraud," press release, U.S. Department of Health and Human Services, February 11, 2013, www.hhs.gov/news/press/2013pres/02/20130211a.html (accessed April 14, 2013); Centers for Medicare and Medicaid Services, "Self-Referral Disclosure Protocol Settlements," www.cms.gov/Medicare/Fraud-and-Abuse/PhysicianSelfReferral/Self-Referral-Disclosure-Protocol-Settlements.html (accessed April 14, 2013); U.S. Department of Justice, "Intermountain Health Care Inc. Pays U.S. $25.5 Million to Settle False Claims Act Allegations," http://www.justice.gov/opa/pr/2013/April/13-civ-378.html, April 3, 2013 (accessed April 14, 2013).

[3] Required the federal government to cut spending by $85 billion in fiscal years 2013.

the healthcare industry, especially those in the healthcare valuation profession who are seeking simplicity or easily obtainable and instantaneously available answers, the best advice, perhaps, is encompassed in the words of Alexander Dumas:

> *Until the day when God shall deign to reveal the future to man, all human wisdom is summed up in these two words*—"Wait *and* hope."[4]

In the meantime, life goes on; inexorable change occurs; transactions will take place; financial appraisal guidance will be sought; and valuation opinions, rendered. Accordingly, until that day arrives, we must endeavor to perform *now*, the highest quality financial appraisals, using the best data, research, scholarship, and analytical techniques available, in producing the most efficacious guidance possible as to the expectation of future *economic* benefit (i.e., *value*) to be derived from the ownership and/or control of *healthcare enterprises*, *assets*, *and services*.

[4]Alexandre Dumas, *The Count of Monte Cristo*, vol. 3 (Boston: Little, Brown, and Company, 1894), p. 531.

Appendix

Subject Property Interest

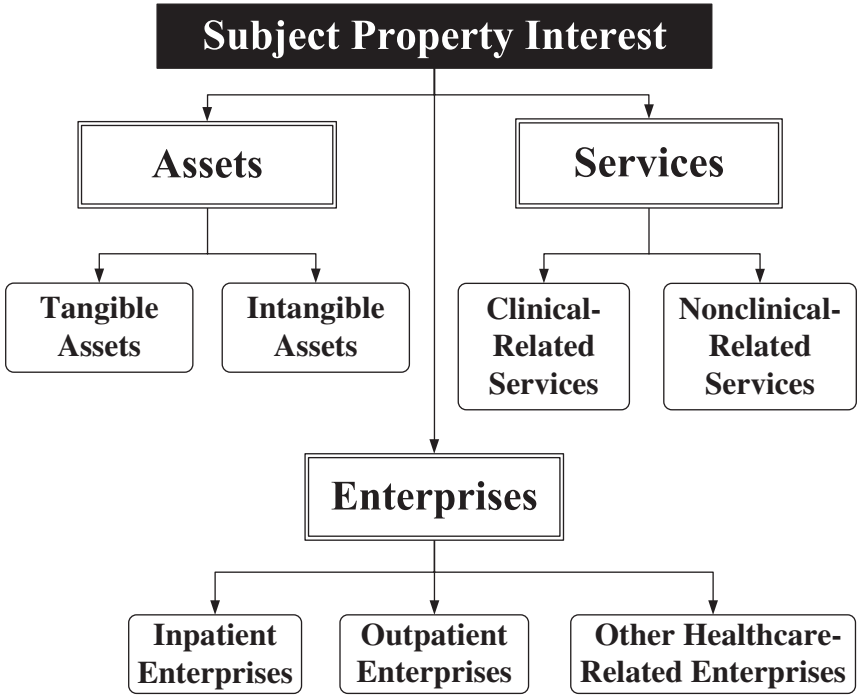


EXHIBIT 1 Subject Property Interest

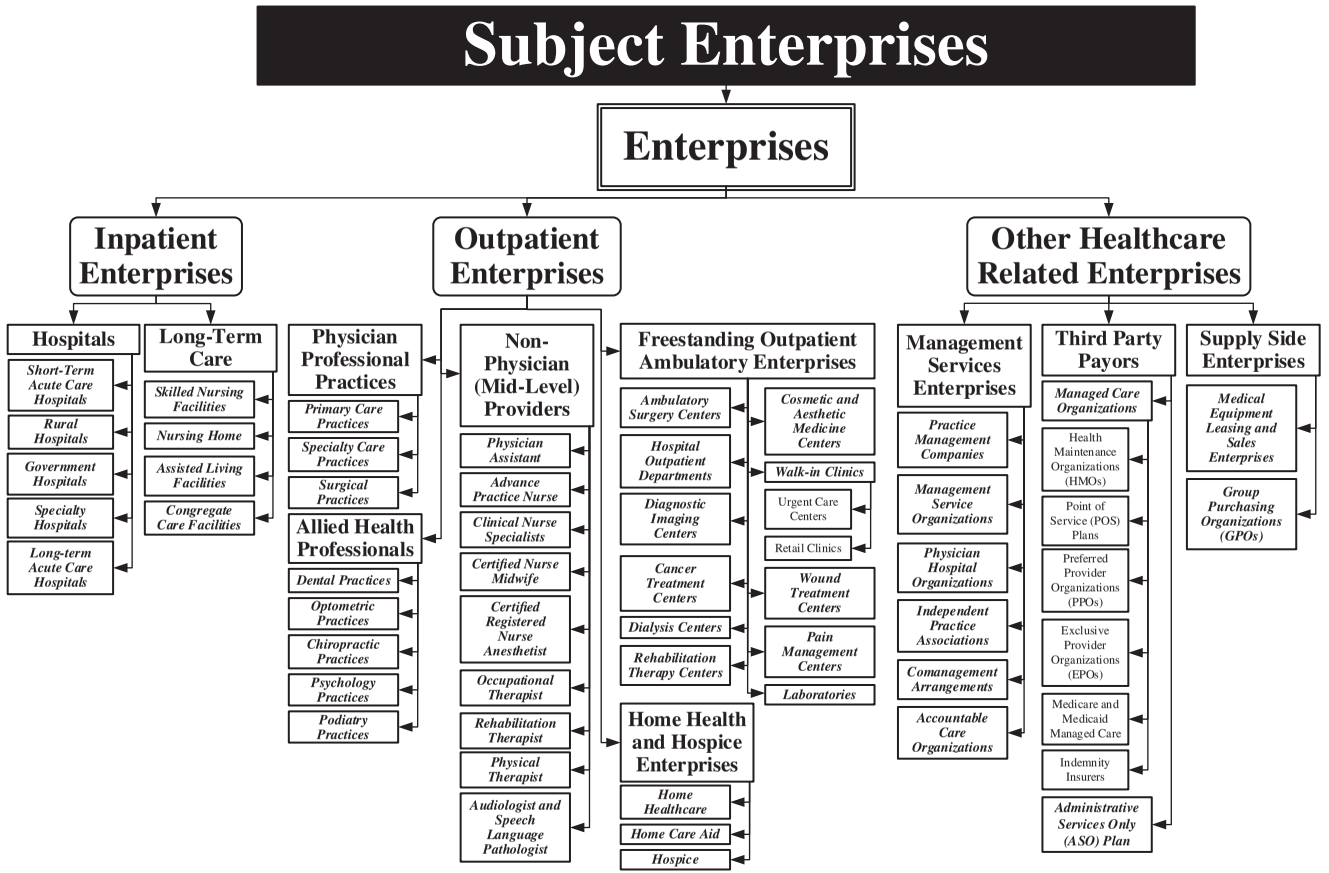


EXHIBIT 2 Subject Enterprises

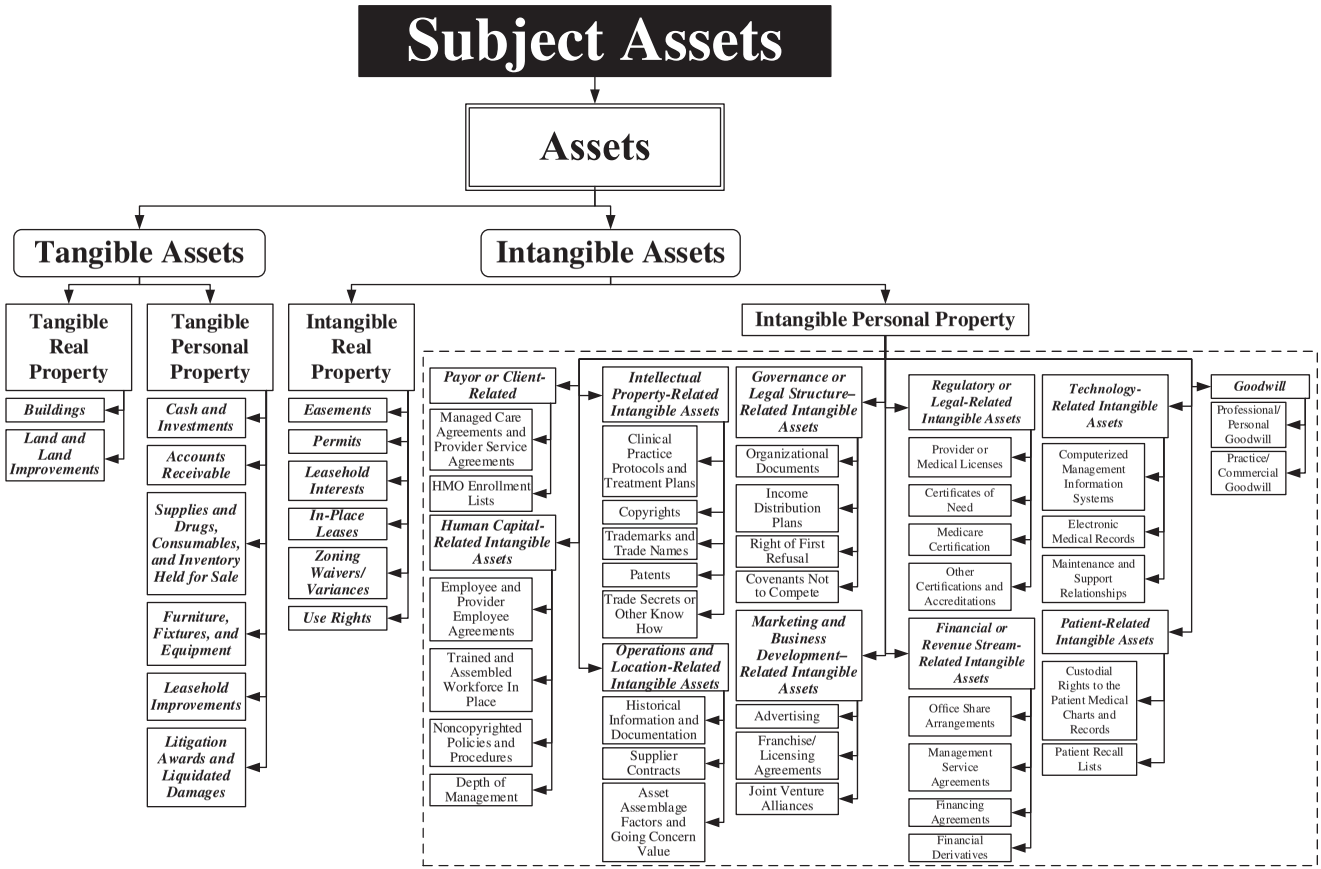


EXHIBIT 3 Subject Assets

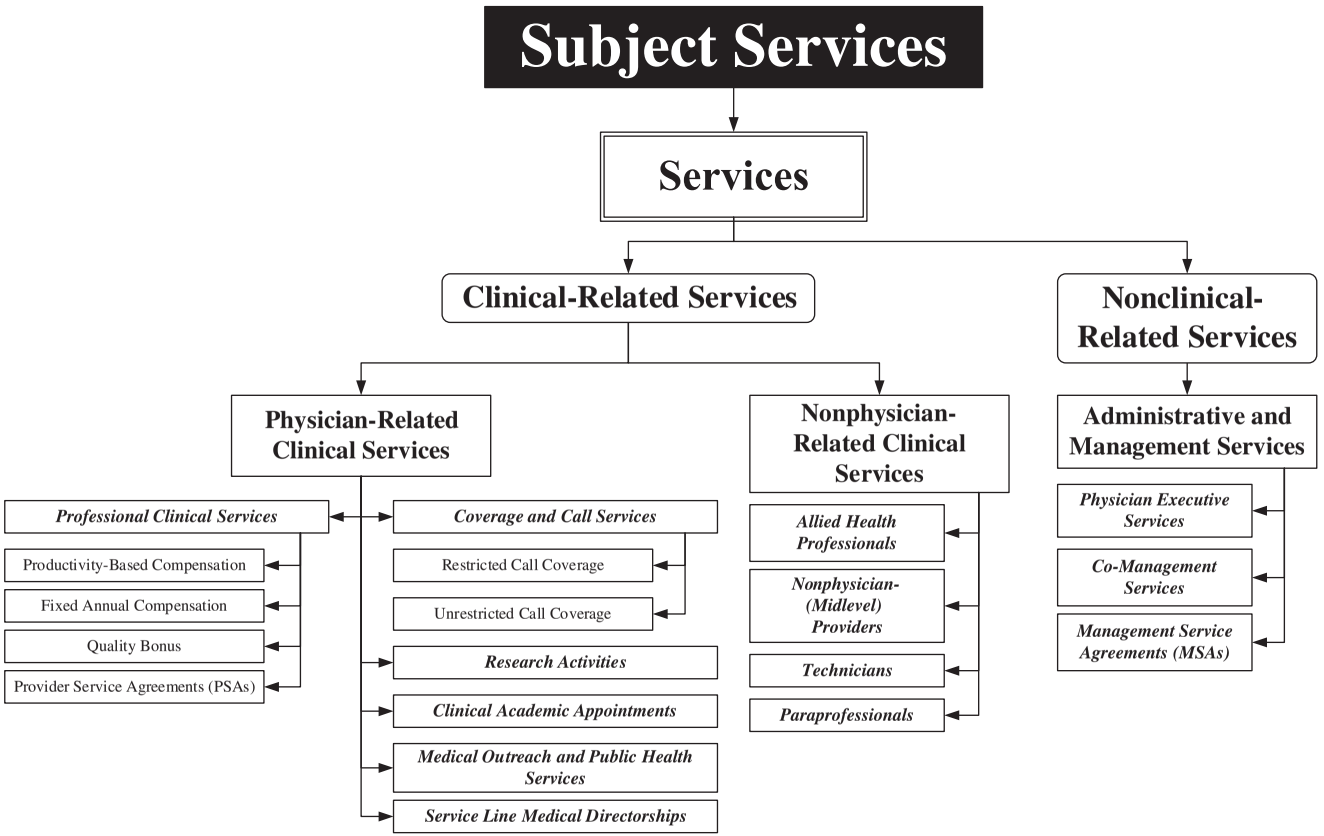


EXHIBIT 4 Subject Services

Bibliography

ECONOMICS, CAPITAL, AND VALUATION

Book Sources

The Adviser's Guide to Healthcare: Consulting with Professional Practices, by Robert J. Cimasi. New York: American Institute of Certified Public Accountants (AICPA). 2011.

Appraisal and Valuation: An Interdisciplinary Approach, by Richard Rickert. Washington, DC: American Society of Appraisers (ASA). 1987.

The Appraisal of Machinery and Equipment, by John Alico, Russell J. Brooke, Noble L. Davis, Henry A. Garber, and Thomas L. Roberts. Washington, DC: American Society of Appraisers (ASA). 1969.

The Appraisal of Real Estate. 13th ed. Appraisal Institute. 2013.

Assets and Finance: Audits and Valuation of Intellectual Property, by Lisa M. Bronwlee. Eagan, MN: Thomson. 2008.

Basic Business Statistics: Concepts and Applications, 9th ed., by Mark Berenson et al. Upper Saddle River, NJ: Prentice-Hall. 2004.

The Bottom Line or Public Health: Tactics Corporations Use to Influence Health and Health Policy, and What We Can Do to Counter Them. New York: Oxford University Press, 2010.

Brand Valuation, 3rd ed. UK: Interbrand Group. 1997.

Business Analysis & Valuation Using Financial Statements, by Krishna G. Palepu, Victor L. Bernard, and Paul M. Healy. Cincinnati, OH: South Western Publishing Co, 1996.

Business Valuation and Bankruptcy, by Ian Ratner, Grant T. Stein, John C. Weitnauer. Hoboken, NJ: John Wiley & Sons. 2009.

Business Valuation and Federal Taxes: Procedure, Law, and Perspective, 2nd ed., by David Laro and Shannon P. Pratt. Hoboken, NJ: John Wiley & Sons. 2009.

Business Valuation Discounts and Premiums, 2nd ed., by Shannon P. Pratt. Hoboken, NJ: John Wiley & Sons. 2009.

BVR's Guide to Intellectual Property Valuation, Portland, OR: Business Valuation Resources. 2009.

Competitive Strategy: Techniques for Analyzing Industries and Competitors: Techniques for Analyzing Industries and Competitors, by Michael E. Porter. First Free Press. 1980.

The Complete Equipment Leasing Handbook, by Richard M. Contino, Esq. New York: American Management Association. 2002.

The Cost Disease: Why Computers Get Cheaper and Health Care Doesn't, 1st ed., by William J. Baumol. New Haven, CT: Yale University Press. 2012.

Cost of Capital: Applications and Examples, 4th ed., by Shannon P. Pratt and Roger J. Grabowski. Hoboken, NJ: John Wiley & Sons. 2008.

Cost of Capital Yearbook. Ibbotson Associates. Chicago: Morningstar. Published annually.

Covenants Not to Compete: A State-by-State Survey. American Bar Association. Washington, DC: Bureau of National Affairs, Inc (BNA). Published annually.

The Dictionary of Real Estate Appraisal, 4th ed. Appraisal Institute. 2002.

Dynamic Economics: Theoretical and Statistical Studies of Demand, Production and Prices, by Charles F. Roos. Bloomington, IN: Monographs of the Cowles Commission for Research in Economics. 1934.

The Economic Importance of Intangible Assets, by Patrizio Bianchi and Sandrine Labory. Burlington, VT: Ashgate Publishing Company. 2004.

Essentials of Health Care Marketing, by Eric N. Berkowitz. Gaithersburg, MD: Aspen Publishers. 1996.

Financial Accounting: A Valuation Emphasis, by John S. Hughes, Frances L. Ayres, and Robert E. Hoskin. Hoboken, NJ: John Wiley & Sons. 2005.

Financial and Clinical Benchmarking: The Strategic Use of Data, Baltimore: HCIA. 1997.

Financial Valuation: Applications and Models, by James R. Hitchner. Hoboken, NJ: John Wiley & Sons. 2003.

Foundations of Financial Markets and Institutions, 4th ed., by Frank J. Fabozzi, Frank J. Jones, and Franco Modigliani. Upper Saddle River, NJ: Prentice Hall. 2005.

Fundamentals of Real Estate Appraisal, 7th ed., by William L. Ventolo; Martha R. Williams. Chicago: Dearborn Financial Publishing. 1998.

The Guide to Benchmarking in Healthcare: Practical Lessons from the Field, by Arthur G. Tweet and Karol Gavin-Marciano. New York: Quality Resources. 1998.

Guide to Business Valuations, vols. 1 and 2, by Jay E. Fishman, Shannon P. Pratt, J. C. Griffith, and D. K. Wilson. Fort Worth, TX: Practitioners Publishing Company. 1996.

The Handbook of Advanced Business Valuation, by Robert F. Reilly and Robert P. Schweihs. New York: McGraw-Hill. 2000.

Handbook of Financing Growth: Strategies and Capital Structure, by Kenneth H. Marks, Larry E. Robbins, Gonzalo Fernandez, and John P. Funkhouser. Hoboken, NJ: John Wiley & Sons. 2005.

Health Care USA: Understanding Its Organization and Delivery, 6th ed., by Harry A. Sultz and Kristina M. Young. Sudbury, MA: Jones and Bartlett Publishers. 2009.

Health & Health Care 2010: The Forecast, the Challenge, 2nd ed. Institute for the Future. Hoboken, NJ: John Wiley & Sons. 2003.

Health Policy Reform: Competition & Controls. Washington, DC: American Enterprise Institute for Public Policy Research. 1993.

Healthcare Capital Finance in Good and Challenging Times, by David A. Lips. Washington, DC: American Health Lawyers Association. 2009.

Hints to Young Valuers: A Practical Treatise on the Valuation of Property, by Anthony R. Cragg and James R. Marchant. London: The Land Agents' Record, Limited. 1901.

Hospital Mergers: Why They Work, Why They Don't. Chicago: Health Forum. 2010.

Human Capital: A Theoretical and Empirical Analysis with Special Reference to Education, 3rd ed., by Gary S. Becker. Chicago: University of Chicago Press. 1993.

In Defense of the Cost Approach: A Journey into Commercial Depreciation, by E. N. Bowes. Chicago: Appraisal Institute. 2011.

Income Property Valuation, by Jeffrey D. Fisher and Robert S. Martin, Chicago: Dearborn Financial Publishing. 1994.

Joint Ventures for Hospitals and Physicians: Legal Considerations, by Ross E. Stromberg and Carol R. Boman. Chicago: American Hospital Publishing. 1986.

Long-Term Care: Managing across the Continuum, by John R. Pratt. Sudbury, MA: Jones and Bartlett Publishers. 2004.

Market Analysis for Valuation Appraisals: Financial Feasibility Analysis, by Stephen F. Fanning, Terry Grissom, and Thomas D. Pearson. Chicago: Appraisal Institute. 1994.

The Market Approach to Valuing Businesses, 2nd ed., by Shannon P. Pratt. Hoboken, NJ: John Wiley & Sons. 2005.

Medical Ethics: Common Ground for Understanding, by Kevin D. O'Rourke and Dennis Brodeur. St. Louis: Catholic Health Association. 1986.

Mergers, Acquisitions, and Corporate Restructurings, 5th ed., by Patrick A. Gaughan. Hoboken, NJ: John Wiley & Sons. 1996.

Middle Market M&A: Handbook for Investment Banking and Business Consulting, by Kenneth H. Marks, Robert T. Slee, Christian W. Blees, and Michael R. Nall. Hoboken, NJ: John Wiley & Sons. 2012.

Options, Futures, and Other Derivatives, 8th ed., by John C. Hull. Boston: Prentice-Hall. 2012.

Physician Practice Mergers, by Reed Tinsley and Joe D Havens. Chicago: American Medical Association. 2001.

Price Theory and Applications, 3rd ed., by Jack Hirshleifer. Englewood Cliffs, NJ: Prentice Hall. 1989.

Principles of Corporate Finance, 9th ed., by Richard A. Brealey, Stewart C. Myers, and Franklin Allen. New York: McGraw Hill. 2008.

Principles of Economics, 2nd ed., by F. W. Taussig. New York: Macmillan. 1918.

Principles of Economics, 8th ed., by Alfred Marshall. New York: Macmillan. 1959.

Project Valuation Using Real Options: A Practitioner's Guide, by Prasad Kodukula and Chandra Papudesu. Ft. Lauderdale, FL: J. Ross Publishing. 2006.

Quantifying Marketability Discounts: Developing and Supporting Marketability Discounts in the Appraisal of Closely Held Business Interests, by Z. C. Mercer. Memphis: Peabody. 1997.

Quantitative Methods for Investment Analysis, 2nd ed., by Richard A. DeFusco, Dennis W. McLeavey, Jerald E. Pinto, and David E. Runkle. Baltimore: CFA Institute. 2004.

Real Estate Finance, 2nd ed., by Maurice A. Unger and Ronald W. Melicher. Cincinnati: South Western Publishing Co.

Real Estate Valuation in Litigation, 2nd ed., by J. D. Eaton. Chicago: Appraisal Institute. 1984.

Real Options: A Practitioner's Guide, by Tom Copeland and Vladimir Antikarov. New York: Texere. 2001.

Real Options Analysis: Tools and Techniques for Valuing Strategic Investments and Decisions, by Johnathan Mun. Hoboken, NJ: John Wiley Sons. 2006.

Real Options in Theory and Practice, by Graeme Guthrie. New York: Oxford University Press. 2009.

The Real Options Solution: Finding Total Value in a High-Risk World, by F. P. Boer. New York: John Wiley & Sons. 2002.

Selected Articles from the Machinery and Equipment Appraiser Journal. Machinery & Technical Specialties Committee of the American Society of Appraisers. Washington, DC: American Society of Appraisers. 1997.

Senior Housing: Looking toward the Third Millennium: A Guide to Valuation, Market Analysis, Design, Development, and Financing, by Arthur E. Gimmy, Susan B. Brecht, and Clifford J. Dowd. Chicago: Appraisal Institute. 1998.

Software Cost Estimation with COCOMO II, by B. W. Boehm, C. Abts, A. W. Brown, S. Chulani, B. K. Clark, et al. Upper Saddle River, NJ: Prentice-Hall, 2000.

Statistics: A New Approach, by W. A. Wallis and Harry V. Roberts. Glencoe, IL: The Free Press. 1956.

Statistics: Probability, Inference, and Decision, by William L. Hays and Robert L. Winkler. New York: Holt, Rinehart and Winston. 1971.

Theory of Valuation, by John Dewey. Chicago: Chicago UP. 1966.

The U.S. Health System: Origins and Functions, by Marshall W. Raffel. New York: John Wiley & Sons. 1980.

Understanding Business Valuation: A Practical Guide to Valuing Small to Medium-Sized Businesses, 4th ed., by Gary R. Trugman. New York: American Institute of Certified Public Accountants (AICPA). 2012.

Uniform Standards of Professional Appraisal Practice. Washington, DC: The Appraisal Standards Foundation. May 24, 2012.

Valuation of Intangible Assets in Global Operations, by Farok J. Contractor. Westport, CT: Quorum Books. 2005.

Valuation of Intellectual Property and Intangible Assets, 2nd ed., by Gordon V. Smith and Russell L. Parr. New York: John Wiley & Sons. 1989.

The Valuation of Property: A Treatise on the Appraisal of Property for Different Legal Purposes—Volume 1, 1st ed., by James C. Bonbright. New York: McGraw Hill. 1937.

Valuing a Business: The Analysis and Appraisal of Closely Held Companies: The Analysis and Appraisal of Closely Held Companies, 5th ed., by Shannon P. Pratt and Alina V. Niculita. New York: McGraw-Hill. 2008.

Valuing Intangible Assets, by Robert Reilly and Robert Schweihs. New York: McGraw-Hill. 1999.

V*aluing Machinery and Equipment: The Fundamentals of Appraising Machinery and Technical Assets*, 3rd ed. Washington, DC: American Society of Appraisers (ASA). 2005.

Valuing Professional Practices: Thorny Challenges, 1st ed., by William H. Black. Sandy Springs, GA: Analytical Value. 2006.

Governmental Sources

A. Elihu Michelson v. Louis C. Duncan, et al. No. 63, 1978, Supreme Court of Delaware. *Atlantic Reporter*. vol. 3—January, no. 1616–1990. 2d. 407 A.2d 211; 1979 Del. LEXIS 422. 1979.

"Affordable Insurance Exchanges: Choices, Competition, and Clout for States." U.S. Dept. of Health and Human Services. 2011. http://www.healthcare.gov/news/factsheets/2011/07/exchanges07112011a.html (accessed March 20, 2012.)

"All about the Human Genome Project." National Human Genome Research Institute. genome.gov. November 7, 2008. http://www.genome.gov/10001772 (accessed October 9, 2012).

Atchison, Topeka and Santa Fe Railway Company, Southern Pacific Transportation Company v. Brown & Bryant, Inc and Purego Company: No. 96–15529. United States Government. 159 F.3d 358; 1997 U.S. App. Lexis 41350 May 8, 1997, Argued and Submitted, San Francisco, California. 1997.

"Brief—Applying Daubert to Medical and Other Non-Scientific Testimony—*Kumho Tire Co., Ltd. v. Carmichael*, 119 S.Ct. 1167. 1999.

"Budget Options, Volume I: Health Care: Health Care." Congressional Budget Office. The Congress of the United States. December 2008.

Chandler v. Laparoscopic Weight Loss Surgery Centers, et al.: Final Judgment. Fourth Circuit. 2012.

"Clinical Laboratories Improvement Act of 1967." *Pub. L.* 90–174. 81 Stat 533 (1967) 90th Congress. 2010.

"Commission Order Restores Competition Eliminated by Carilion Clinic's Acquisition of Two Outpatient Clinics: Hospital Must Sell All Clinic Assets Acquired in 2008." Federal Trade Commission. 2009.

Daubert v. Merrell Dow Pharmaceuticals, Inc.: 113 Supreme Court Reporter (509 U.S. 578). 1993.

"Deficit Reduction Act of 2005." *Pub. L.* 109–171. 109th Congress. 2006.

"Effect of Accreditation," 42 USC 1395bb. 2010.

"The Effect of Health Care Cost Growth on the U.S. Economy," by Neeraj Sood, Arkadipta Ghosh, and Jose J. Escarse. Office of the Assistant Secretary for Planning and Evaluation, U.S. Dept. of Health and Human Services. September 2007.

"Fairness Opinions: SEC Approves New NASD Rule 2290 Regarding Fairness Opinions." Financial Industry Regulatory Authority. 2007.

"FTC Closes Eight-Month Investigation of Express Scripts, Inc.'s Proposed Acquisition of Pharmacy Benefits Manager Medco Health Solutions, Inc." Federal Trade Commission. 2012.

"FTC Order Prevents Anticompetitive Effects from Pfizer's Acquisition of Wyeth: Preserves Competition for Animal Vaccines and Other Animal Health Products." Federal Trade Commission. 2009. http://www.ftc.gov/opa/2009/10/pfizer.shtm (accessed November 11, 2009).

"FTC Order Restores Competition Lost through Schering-Plough's Acquisition of Merck: Companies Must Sell Significant Human and Animal Health Care Assets." Federal Trade Commission. 2009. http://www.ftc.gov/opa/2009/10/merck.shtm (accessed November 11, 2009).

"General Penalty for Failure to Comply with Requirements and Standards," 42 USC 1320d-5. 2010.

"The Importance of Competition and Antitrust Enforcement to Lower-Cost, Higher-Quality Health Care." Federal Trade Commission. 2009.

Improving Health Care: A Dose of Competition: A Report by the Federal Trade Commission and the Department of Justice. Federal Trade Commission, Department of Justice. 2004.

In re Checkfree Corporation Shareholders Litigation. Civil Action No. 3193-CC. Court of Chancery of Delaware. WL 3262188 (Del. Ch.). 2007.

In re Netsmart Technologies Shareholders Litigation. Civil Action No. 2563-VCS. Court of Chancery of Delaware. *Atlantic Reporter*. 924 A.2d 171. 2007.

In the Matter of ProMedica Health System, Inc. Docket No. 9346, by Julie Brill. FTC. 2012.

"Inclusion in Gross Income of Deferred Compensation under Nonqualified Deferred Compensation Plans." 26 USC 409A. 2004.

IRS Exempt Organizations Hospital Compliance Project Final Report. Internal Revenue Service. 2009.

Labor Force Statistics from the Current Population Survey: Unemployment Level. 2012.

"Letter from Steven Larsen RE: Various States' Requests for Adjustment to Medical Loss Ratio Standard," by Steven B. Larsen. U.S. Dept. of Health and Human Services. 2011.

"Lookback Period." Internal Revenue Service. IRS.gov. http://www.irs.gov/charities/charitable/article/0,,id=154670,00.html. September 2, 2008 (accessed July 30, 2012).

"Medicare Improvement for Patients and Providers Act of 2008." *Pub. L.* 110–275. July 15, 2008.

"Medicare Prescription Drug Improvement and Modernization Act of 2003: Section 626. Payment for Services Furnished in Ambulatory Surgery Centers." Authenticated U.S. Government Information. December 8, 2003.

"Medicare Program; Revisions to Payment Policies and Adjustments to the Relative Value Units under the Physician Fee Schedule for Calendar Year 1999: 42 CFR Parts 405, 410, 413, 414, 415, 424, and 485." U.S. Dept. of Health and Human Services. Washington, DC. *Federal Register* 63, no. 211. 1998.

"Medicare Program; Revisions to Payment Policies and Five-Year Review of and Adjustments to the Relative Value Units under the Physician Fee Schedule for Calendar Year 2002: 42 CFR Parts 405, 410, 411, 414, and 415." U.S. Dept. of Health and Human Services. Washington, DC. *Federal Register* 66, no. 212. 2001.

"Medicare Program; Revisions to Payment Policies under the Physician Fee Schedule for Calendar Year 2000: 42 CFR Parts 410, 411, 414, 415, and 485." U.S. Dept.

of Health and Human Services. Washington, DC. *Federal Register* 64, no. 211. 1999.

"Medicare Program; Revisions to Payment Policies under the Physician Fee Schedule for Calendar Year 2003 and Inclusion of Registered Nurses in the Personnel Provision of the Critical Access Hospital Emergency Services Requirement for Frontier Areas and Remote Locations: 42 CFR Parts 410, 415, and 485." U.S. Dept. of Health and Human Services. Washington, DC. *Federal Register* 67, no. 251. 2002.

"Medicare Program; Revisions to Payment Policies under the Physician Fee Schedule for Calendar Year 2004: 42 CFR Parts 410 and 414." U.S. Dept. of Health and Human Services. Washington, DC. *Federal Register* 68, no. 216. 2003.

"Medicare Program; Revisions to Payment Policies under the Physician Fee Schedule for Calendar Year 2006 and Certain Provisions Related to the Competitive Acquisition Programs of Outpatient Drugs and Biologicals Under Part B; Final Rule: Final Rule." *Federal Register* 70, no. 223, p. 70116. November 21, 2005.

"Medicare Program; Revisions to Payment Policies under the Physician Fee Schedule and other Revisions to Part B for CY 2009; Proposed Rule." Washington, DC. *Federal Register* 73, no. 130. July 7, 2008.

Medicare & You: This Is the Official U.S. Government Medicare Handbook. U.S. Dept. of Health and Human Services. Baltimore: CMS. 2012. http://www.medicare.gov/publications/pubs/pdf/10050.pdf (accessed August 21, 2012).

"Medigap (Medicare Supplement Health Insurance)." Baltimore: Centers for Medicare and Medicaid Services. 1998. http://www.cms.gov/Medicare/HealthPlans/Medigap/index.html?redirect=/Medigap/ (accessed May 14, 2012).

"Monopolies and Combinations in Restraint of Trade." 15 U.S.C §12–27. October 15, 1914.

"New Indexes of Coincident and Leading Economic Indicators," by James H. Stock and Mark W. Watson. *NBER* 4. Washington, DC. National Bureau of Economic Research. 1989.

"The Physician Workforce: Projections and Research into Current Issues Affecting Supply and Demand." U.S. Dept. of Health and Human Services. 2008.

"Protecting Your Trademark: Enhancing Your Rights through Federal Registration." U.S. Dept. of Commerce. http://www.uspto.gov/trademarks/basics/BasicFacts.pdf (accessed April 29, 2013). 2012.

"Public Law 112: Department of Defense and Full-Year Continuing Appropriations Act." 112th Congress. 125 Stat 38. 2011.

"Quarterly Index Levels in the CMS Medicare Economic Index Using the IHS Global Insight Inc. Forecast Assumptions, by Expense Category: 1996–2021." 2012.

Report to the Congress: Medicare and the Health Care Delivery System. Washington, DC. Medicare Payment Advisory Commission. http://www.medpac.gov (accessed April 30, 2013).

Report to the Congress: Medicare Payment Policy. Washington, DC. Medicare Payment Advisory Commission. March 1, 2002.

"Revenue Ruling 55–540," vol. 77, no. 171. 1955.

"Revenue Ruling 68–609." Internal Revenue Service. Government Printing Office. http://www.taxlinks (accessed on April 29, 2013).

Robert A. Taft v. Commissioner. 27 B.T.A. 808. Washington, DC: Government Printing Office. 1933.

"Samuel J. Bridges Testimony before Senate Committee on Finance in 1887: Senate Report No. 1990, Second Session of the 49th Congress." 49th Congress. Vols. 1–3, no. 16161990. Washington, DC: U.S. Government Printing Office. 1887.

"Self-Regulatory Organizations; National Association of Securities Dealer, Inc. (n/k/a Financial Industry Regulatory Authority, Inc.); Notice of Filing of Amendment No. 4 and Order Granting Accelerated Approval of Proposed Rule Change as Modified by Amendment Nos. 1, 2, 3 and 4 Relating to Fairness Opinions: Release NO. 34–56645; File No. SR-NASD-2005–080." Vol. 72, no. 202 SEC. 2007.

"Small Business Liability Relief and Brownfields Revitalization Act," *Pub. L.* 107–118. Vol. 66, no. 3. 42 USC 9601. 2002.

Special Analyses: Budget of the United States Government: Fiscal Year 1978. United States Office of Management and Budget. U.S. Government Printing Office. 1978.

U.S. ex rel. Drakeford v. Tuomey Healthcare Sys. Inc. United States Court of Appeals, Fourth Circuit. 675 F.3d 394 (4th Cir. 2012). 2012.

United States [U.S.] v. Cartwright. 411 U.S. 546, 93 S. Ct. 1713, 36 L. Ed. 2d 528 (1973). May 7, 1973.

William A. McWaters, et al. v. Commissioner. 9 T.C.M. 507. Washington, DC: U.S. Government Printing Office. 1950.

Standards, Surveys, and Nongovernmental Sources

"Accounting Standards Update: Fair Value Measurement (topic 820)." Financial Accounting Standards Board. No. 2011–04.

"AIS's Pharmacy Benefit Survey Results: 4th Quarter 2012." Washington, DC: Atlantic Information Services, 2013.

Almanac of Hospital Financial & Operating Indicators, by William O Cleverley. Columbus, OH: Center for Healthcare Industry and Performance Standards. 1992.

"AOA Research and Information Center (RIC): Building a New Information Resource for Our Profession and Industry," by Mark K. Colip. American Optometric Association. Spring 2011.

"Attitudes, Training, Experiences, and Professional Expectations of US General Surgery Residents: A National Survey," by Heather Yeo, et al. *Journal of the American Medical Association* 302, no. 12, September 23/30, 2009.

Competition in Health Insurance: A Comprehensive Study of US Markets: 2007 Update. American Medical Association. 2007.

The Complex Dynamics of the Physician Workforce: Projected Supply and Demand through 2025, by Michael J. Dill and Edward S. Salsberg. Center for Workforce Studies AAMC. November 2008.

The Complexities of Physician Supply and Demand: Projections through 2025, by Michael J. Dill and Edward S. Salsberg. Association of American Medical Colleges Center for Workforce Studies. November 2008.

Cost Survey for Primary Care Practices. Englewood, CO: Medical Group Management Association (MGMA). Published annually.

Covenants Not to Compete: A State-by-State Survey. American Bar Association. Washington, DC: Bureau of National Affairs, Inc. (BNA). Published annually.

"Decade in Review: Hospital M&A Continues Recent Rebound." Norwalk, CT: Irving Levin Associates, Inc. 2011. http://www.levinassociates.com/pr2011/pr1102hospital (accessed August 10, 2012).

"Defining Key Health Information Technology Terms," by Karen M. Bell. National Alliance for Health Information Technology. April 28, 2008.

Discounts for Lack of Marketability Emory Pre-IPO Discount Studies 1980–2000: As adjusted October 10, 2002, by John D. Emory Sr., F. R. Dengel, and John D. Emory Jr. American Society of Appraisers. 2002.

"Economic Benchmarking and Its Applications," by Virendra Ajodhia, Konstantin Petrov, and Gian C. Scarsi. KEMA Consulting. 2010. http://www.infraday.tuberlin.de/fileadmin/documents/infraday/2005/papers/Petrov_et_al_Benchmarking_and_its _applications.pdf (accessed August 13, 2012).

"The Economic Recession: Early Impacts on Health Care Safety Net Providers," by Laurie Felland, Peter Cunningham, Genna Cohen, et al. Centers for Studying Health System Change. Research Brief. 2010.

"Establishing Health Insurance Exchanges: An Overview of State Efforts." Kaiser Family Foundation. August 2012. *Genworth 2012 Cost of Care Survey: Home Care Providers, Adult Day Health Care Facilities, Assisted Living Facilities, and Nursing Homes*. Genworth Life Insurance Company. 2012.

Health Care Executive Compensation Survey, by Clark Consulting (Health Group). Minneapolis, MN: Clark Consulting-Healthcare Group. Published annually.

The Health Care M&A Report. Published every quarter. Norwalk, CT: Irving Levin Associates, Inc.

"Healthcare Joint Ventures: SM047 ALI-ABA 1093," by Alson R. Martin. American Law Institute. September 28, 2006.

Home Health Study Report, by Judy Goldberg, et al. L&M Policy Research. 2011.

"Home Infusion Therapy." *Market Watch*. Pittsburgh: Braff Group. 2011.

"Home Medical Equipment." *Market Watch*. Pittsburgh: Braff Group. 2012.

"Hospital Market Consolidation: Trends and Consequences," by William B. Vogt. *Expert Voices*. Washington, DC: National Institute for Health Care Management. 2009.

Hospital Salary & Benefits Report, by John R. Zabka Associates, Inc. Oakland, CA: Hospital & Healthcare Compensation Service. Published annually.

"How Has Hospital Consolidation Affected the Price and Quality of Hospital Care?" by Claudia Williams, William Vogt, and Robert Town. Robert Wood Johnson Foundation. The Synthesis Project: New Insights from Research Results. Policy Brief. 2006.

"IASB and FASB Agree on Lease Accounting Approach." IFRS Foundation. 2012. http://www.ifrs.org (accessed April 30, 2013).

IBISWorld Industry Report 62131: Chiropractors in the US, by Nikolas Hulewsky. IBISWorld. September 2012.

IBISWorld Industry Report 62121: Dentists in the US, by Anna Son. IBISWorld. March 2013.

IBISWorld Industry Report 62149: Emergency & Other Outpatient Care Centers in the US, by Anna Son. IBISWorld. 2012.

IBISWorld Industry Report 62161: Home Care Providers in the US, by Anna Son. IBISWorld. August 2012.

IBISWorld Industry Report OD4952: Hospice & Palliative Care Centers in the US, by Brian Bueno. IBISWorld. February 2012.

IBISWorld Industry Report 62132: Optometrists in the US, by Nikolas Hulewsky. IBISWorld. 2012.

IBISWorld Industry Report 62134: Physical Therapists in the US, by Anna Son. IBISWorld. 2012.

IBISWorld Industry Report 62139a: Podiatrists in the US, by Sophia Snyder. IBISWorld. 2012.

Industry Financial Report (5-year): General Medical and Surgical Hospitals. Camp Hill, PA: Bizminer. 2012.

Industry Financial Report (5-year): Psychiatric and Substance Abuse Hospitals. Camp Hill, PA: Bizminer. 2012.

Integrated Health Networks Compensation Survey. Louisville, KY: William M. Mercer. Published annually.

"Is Your Practice Ready for Version 5010?" MGMA's Government Affairs Department. MGMA Connexion. Englewood, CO: Medical Group Management Association. October 2011.

"Issues in Genetics and Health." National Human Genome Research Institute. February 23, 2009. http://www.genome.gov/10001740 (accessed June 29, 2009).

"Latest IMV CT Survey Shows Hospitals Seek to Improve Productivity to Manage Increased Outpatient and Emergency CT Procedure Volume." IMV. Des Moines, IA: 2012.

Management Compensation Survey, by Medical Group Management Association (MGMA), Englewood, CO: Medical Group Management Association. Published annually.

Medical Directorship and On-Call Compensation Survey Report. by Medical Group Management Association (MGMA). Englewood, CO: Medical Group Management Association. Published annually.

Medical Group Compensation and Financial Survey. Alexandria, VA: American Medical Group Association. Published annually.

"Monetization Trends in Health System and Physician Owned Real Estate," by Greg Gheen. Scott Evans Realty Trust Group. 2013. http://www.realtytrustgroup.com/RTG_011813_Monetization.pdf (accessed February 6, 2013).

"More Medical Schools Boost Primary Care Doctors through Small-Town Campuses," by Gina Shaw. *AAMC Reporter*, Association of American Medical Colleges. July 2012.

The Next Antitrust Agenda: The American Antitrust Institute's Transition Report on Competition Policy to the 44th President of the United States: Chapter 9, "Competition in the Unhealthy Health Sector." American Antitrust Institute, Lake Mary, FL: Vandeplas Publishing. 2008.

"Original Pronouncements As Amended: Statement of Financial Accounting Standards No. 157—Fair Value Measurements." Financial Accounting Foundation. 2010.

"The Patient Protection and Affordable Care Act Summary Implementation Timeline." Englewood, CO: Medical Group Management Association. April 1, 2010.

Pepperdine Private Capital Markets Project: 2013 Capital Markets Report, by John K. Paglia. Pepperdine University. 2013.

Physician Characteristics and Distribution in the U.S. Chicago: American Medical Association. Published annually.

Physician Compensation and Production Survey, by Medical Group Management Association (MGMA). Englewood, CO: Medical Group Management Association. Published annually.

Physician Compensation and Productivity Survey Report. Chicago: Sullivan, Cotter and Associates. Published annually.

Physician Compensation Report. Philadelphia, PA: Hay Group, Published annually.

Physician Executive Compensation Survey, by the American College of Physician Executives, St. Louis: Cejka Search. Published annually.

Physician On-Call Pay Survey Report. Chicago: Sullivan Cotter and Associates, Inc. Published annually.

Physician Salary & Benefits Report: Hospital—Based and Group Practice. Oakland, NJ: Hospital & Healthcare Compensation Service—John R. Zabka Associates Inc. Published annually.

Physician Salary Survey Report, by John R. Zabka Associates, Inc. Oakland, CA: Hospital & Healthcare Compensation Service. Published annually.

"Recognition: Financial Accounting Standards Board, Accounting Standard Code 840–1025, Formerly Codified as FASB 13." Financial Accounting Standards Board. 2010.

"Research for Valuations: The Theory and Practice of Industry Data Gathering," by Robert J Cimasi, National Association of Certified Valuators and Analysts (NACVA). Conference Presentation. 2008.

Rx Watchdog Report, Trends in Manufacturer Prices of Specialty Prescription Drugs Used by Medicare Beneficiaries, 2004–2007, by Stephen W. Schondelmeyer. September 2008. AARP Public Policy Institute. October 2008. http://assets.aarp.org/rgcenter/health/2008_05_watchdog_q407.pdf (accessed April 29, 2013).

Spotlight on Compensation Practices: Where We Have Been and Where We Are Going, by Bernadette M. Broccolo. Washington, DC: American Health Lawyers Association. 2005.

Staff Salary Survey. Plymouth Meeting, PA: The Health Care Group, Inc. Published annually

"Statement of the Medical Group Management Association to the National Committee on Vital and Health Statistics Subcommittee on Standards: RE: HIPAA Version 5010." MGMA Center for Research. Medical Group Management Association. 2011.

"The Status of US Allergy/Immunology Physicians in the 21st Century: A Report from the American Academy of Allergy, Asthma, & Immunology Workforce Committee," by Gailen D. Marshall. *Journal of Allergy and Clinical Immunology* 119, no. 4. American Academy of Allergy, Asthma & Immunology. April 2007.

"Stimulus Package Includes New HIPAA Security Rules: Small Practices Face Greatest Financial Impact: Small Practices Face Greatest Financial Impact," by Sheri Porter. *AAFP News Now*. American Academy of Family Physicians. March 18, 2009. http://www.aafp.org/online/en/home/publications/news/news-now/governmentmedicine/20090318hipaa-security-rules.html (accessed June 17, 2009).

"Studies Show Electronic Medical Records Make Financial Sense," by Stacy Lawrence. *CIO Insight*. September 14, 2005. http://www.cioinsight.com/c/a/HealthCare/Studies-Show-Electronic-Medical-Records-Make-Financial-Sense (accessed October 5, 2011).

"Superior Financial and Quality Metrics with Robotically-Assisted (DaVinci) Coronary Artery Revascularization," by Robert S Poston Jr., et al. 2009. Beverly, MA: American Surgical Association. 2008. http://www.americansurgical.info/abstracts/2008/26.cgi (accessed October 1, 2009).

Survey of Manager and Executive Compensation in Hospitals and Health Systems. Chicago: Sullivan Cotter and Associates, Inc. Published annually.

Survey Report on Hospital & Health Care Management Compensation. Rochelle Park, NJ: Watson Wyatt Data Services. Published annually.

The Value of Analytics in Healthcare: From Insights to Outcomes. Armonk, NY: IBM Institute for Business Value. 2012.

"The Walmart Opportunity: Can Retailers Revamp Primary Care?" by Julie Appleby. *Kaiser Health News*. 2013.

Top Management and Executive. Vancouver, WA: Abbott, Langer and Associates Surveys. Published annually.

Peer-Reviewed Journal Sources

"8 Strategies for Hospital Borrowers in 2011," by James Blake, Eric A. Jordahl, and Andrew J. Majka. *Healthcare Financial Management Journal* 65, no. 4. Oak Brook, IL: Healthcare Financial Management Association. April 2011.

"Association of Bond, Market, Operational, and Financial Factors with Multi-Hospital System Bond Issues." *Journal of Health Care Finance* 37, no. 3. Frederick, MD: Aspen Publishers. 2001.

"Attitudes, Training, Experiences, and Professional Expectations of US General Surgery Residents: A National Survey," by Heather Yeo, et al. *Journal of the American Medical Association* 302, no. 12. Chicago: American Medical Association. September 23/30, 2009.

"Avoiding the Trap in the HITECH Act's Incentive Timeframe for Implementing the her," by Jonathan P. Tomes. *Journal of Healthcare Finance*. Frederick, MD: Aspen Publishers. Fall 2010.

"The Benefits of Health Information Technology: A Review of the Recent Literature Shows Predominantly Positive Results," by Melinda B. Butin, Matthew F. Burke, Michael C. Hoaglin, and David Blumenthal. *Health Affairs* 30, no. 3. Bethesda, MD: Project HOPE. 2011.

"Biopharmaceutical Benchmarks 2006: The Rate of Biopharmaceutical Approvals Has Leveled Off, but Some Milestones Bode Well for the Future," by Gary Walsh. *Nature Biotechnology* 24, no. 7. New York: Nature America. July 2006.

"Biopharmaceutical Benchmarks 2010," by Gary Walsh. *Nature Biotechnology* 28, no. 9. New York: Nature America, Inc. 2010.

"Building a Surgical Robotics Program," by Wiley Nifong and Randolph Chitwood. *American Journal of Surgery* 188. New York: Elsevier. Supplemental 2004.

"The Butler Pinkerton Model: Empirical Support for Company-Specific Risk," by Peter J. Butler and Keith A. Pinkerton. *The Value Examiner*. Salt Lake City, UT: National Association of Certified Valuators and Analysts. May/June 2008.

"Can Community Hospitals Survive without Large Scale Health Reform?" *Journal of Health Care Finance* 30, no. 3. Frederick, MD: Aspen Publishers. 2004.

"Capital Structure, Ownership, and Capital Payment Policy: The Case of Hospitals." *Journal of Finance* XLIII, no. I. Hoboken, NJ: John Wiley & Sons. March 1988.

"Capital Structure Strategy in Health Care Systems," by John R. Wheeler, Dean G. Smith, Howard L. Rivenson, and Kristin L. Reiter. *Journal of Health Care Finance* 26, no. 4. Frederick, MD: Aspen Publishers. 2000.

"A Checkup on Health Care Markets: Study of 14 Communities Shows Why Quality Improvement Efforts Must Account for Local, Regional Variations," by Patricia E. Powers and Michael W. Painter. Princeton, NJ: Robert Wood Johnson Foundation. 2007.

"The Classic 25% Rule and the Art of Intellectual Property License," by Robert Goldscheider. *Duke Law & Technology Review*, no. 006. Durham, NC: Duke University School of Law Publications. 2011.

"Clinical Proteomics: Translating Benchside Promise into Bedside Reality," by Emanuel F. Petricoin, Kathryn C. Zoon, Elise C. Kohn, J. C. Barrett, and Lance A. Liotta. *Nature Reviews, Drug Discovery*. London: Nature Publications. 2002.

"Commodified Care," by William S. Andereck. *Cambridge Quarterly of Healthcare Finance* 16, no. 4. 2007.

"Community Benefit in Exchange for Non-Profit Hospital Tax Exemption: Current Trends and Future Outlook," by Simone R. Singh. *Journal of Health Care Finance*. Frederick, MD: Aspen Publishers. 2013.

"Competition in Health Care: Its Evolution Over the Past Decade," by Paul B. Ginsburg. *Health Affairs* 24, no. 6. Bethesda, MD: Project HOPE 2005.

"Conversion of HMOs and Hospitals: What's at Stake," by Bradford H. Gray. *Health Affairs* 16, no. 2. Bethesda, MD: Project HOPE. 1997.

"Corporate Income Taxes and the Cost of Capital: A Correction," by Franco Modigliani and Merton Miller. *The American Economic Review* 53, no. 3. American Economic Association. 1963.

"Cost of Approach of Health Care Entity Intangible Asset Valuation," by Robert F. Reilly. *Journal of Health Care Finance* 39, no. 2. Frederick, MD: Aspen Publishers.

"The Cost of Capital, Corporation Finance and the Theory of Investment," by Franco Modigliani and Merton Miller. *The American Economic Review* 48, no. 3. Nashville, TN: American Economic Association. 1958.

"Could U.S. Hospitals Go the Way of U.S. Airlines? Hospital Market Changes Such As Price Transparency and Specialization Could Have Severe Negative Consequences," by Stuart H. Altman and Efrat Eilat. *Health Affairs* 25, no. 1. Bethesda, MD: Project HOPE. 2006.

"CT Scanning: Patterns of Use and Dose: Patterns of Use and Dose," by Fred A. Mettler Jr. *Journal of Radiological Protection; Official Journal of the Society for Radiological Protection* 20, no. 4. London: Society for Radiological Protection. 2000.

"The Current Realities of the Classic 25% Rule: An Attempt to Put the House in Order," by Robert Goldscheider. *Les Nouvelles*. 2011.

"Digital Access to Scholarship at Harvard: The Determinants of Mortality." *Journal of Economic Perspectives*. Nashville, TN: American Economic Association.

"Disintegration: How Employed Doctors Are Landing on Their Feet," by Martha C. Collins. 1999. *Family Practice Management*. KS: American Academy of Family Physicians. December 1999. http://www.aafp.org/fpm/991199fm/36.html (accessed March 19, 2001).

"The Economics of Specialty Hospitals" by John E. Schneider, Thomas R. Miller, et al. *Medical Care Research and Review* 65, no. 5 New York: Sage Publications. 2008.

Epidemiology in the United States after World War II: The Evolution of Technique. The Johns Hopkins University School of Hygiene and Public Health. Baltimore, MD: Johns Hopkins University Press. 1985.

"Equity Risk Premium: What Valuation Consultants Need to Know about Recent Research," by Roger J. Grabowski and David W. King. *Valuation Strategies*. Nutley, NJ: Thomson Reuters. September/October 2003.

"The Era of 'Omics Unlimited," by Raj P. Kandpal, et al. *BioTechniques* 46, no. 5. April 2009.

"Excess Capacity: Markets, Regulation, and Values," by Carolyn W. Madden. *Health Service Research* 33, no. 6. Chicago: Health Research and Educational Trust. 1999.

"The Financial and Nonfinancial Costs of Implementing Electronic Health Records in Primary Care Practices," by N. S. Fleming. *Health Affairs* 30, no. 3. Bethesda, MD: Project HOPE. 2011.

"First-Purchase Rights: Rights of First Refusal and Rights of First Offer," by Marcel Kahan, Shmuel Leshem, and Rangarajan Sundaram. *American Law and Economics Review*. New York: Oxford University Press October 2012.

"The Future of Dentistry (Part 3): Where Will the Growth of Corporate Dentistry End?" by John K. McGill and Charles Blair. *The McGill Advisory* 27, no. 7. Charlotte, NC: John K. McGill & Company. July 2012.

"GMENAC: Its Manpower Forecasting Framework," by David R. McNutt. *American Journal of Public Health*, 71, no. 10. Washington, DC: American Public Health Association. 1981.

Health Care as a Commodity: The Consequences of Letting Business Run Healthcare, by Timothy Doty. Calgary, Canada: University of Calgary. March 2008.

"The Health Care Quadrilemma: An Essay on Technological Change, Insurance, Quality of Care, and Cost Containment." *Journal of Economic Literature* 29, no. 2. Nashville: American Economic Association. 1991.

"The History and Principles of Managed Competition," by Alain C. Enthoven. *Health Affairs* 12, no. 1. Bethesda, MD: Project HOPE. 1993.

"Hospital-Physician Relations: Cooperation, Competition or Separation," by Paul Berenson, Paul Ginsburg, and Jessica May. Bethesda, MD: Project HOPE. *Health Affairs*. 2006.

"Hospital Plant and Equipment Replacement Decisions: A Survey of Hospital Financial Managers." *Journal of the Foundation of the American College of Healthcare Executives* 39, no. 4. Chicago: American College of Healthcare Executives. 1994.

"Hospitals' Geographic Expansion in Quest Of Well-Insured Patient: Will the Outcome Be Better Care, More Cost, or Both?" by Emily R. Carrier, Marisa Dowling, and Berenson A. Robert. *Health Affairs*. Bethesda, MD: Project HOPE. April 2012.

"How to Choose the Right Capitalization Option," by Jim Vaughan and Joan Wise. *Healthcare Financial Management Journal* 50, no. 12. Westchester, IL: Healthcare Financial Management Association. December 1996.

"How to Make a Hospital-Based Wound Center Financially Viable: The Georgetown University Hospital Model," by Christopher E. Attinger, Han Hoang, John Steinberg, Kara Couch, Katherine Hubley, et al. *Gynecologic Oncology* 111. New York: Elsevier. 2008.

"The Impact of Management Depth on Valuation," by Steven E. Bolten and Yan Wang, *Business Valuation Review* 16, no. 3. Reston, VA: American Society of Appraisers. 1997.

"Improving Health by Taking It Personally," by Ralph Snyderman and Michaela Dinan. *Journal of the American Medical Association* 303, no. 4. Chicago: American Medical Association. 2010.

"In Search of a Benchmarking Theory for the Public Sector," by Jan van Helden and Sandra Tillema. *Financial Accountability & Management* 21, no. 3. Hoboken, NJ: John Wiley & Sons. August 2005.

"Informed Choice in Direct-to-Consumer Genetic Testing (DTCGT) Websites: A Content Analysis of Benefits, Risks, and Limitations," by Amanda Singleton, Lori H. Erby, Kathryn V. Foisie, and Kimberly A. Kaphingst. *Journal of Genetic Counseling* 21. New York: Springer. 2012.

"Is Health Spending Excessive? If So, What Can We Do about It?" by Henry J. Aaron and Paul B. Ginsburg. *Health Affairs*. Bethesda, MD: Project HOPE. 2009.

"Letting the Genome Out of the Bottle: Will We Get Our Wish?" by David J. Hunter, Muin J. Khoury, and Jeffrey M. Drazen. *New England Journal of Medicine*. Boston: Massachusetts Medical Society. 2008.

"Many Physicians Are Willing to Use Patients' Electronic Personal Health Records, but Doctors Differ by Location, Gender, and Practice," by Matthew Wynia, Gretchen Williams Torres, and Josh Lemieux. *Health Affairs* 30, no. 2. Bethesda, MD: Project HOPE. 2011.

"Measuring Technical Efficiency of Specialty Hospitals in the US," by Sameer Kumar and William H. Nunne. *Journal of Revenue and Pricing Management* 7, no. 2. London: Palgrave Macmillan Ltd. 2008.

"Medicare's and Medicaid's New Reimbursement Policies for Telemedicine." *Telemedicine and eHealth* 14, no. 1. New Rochelle, NY: Liebert Publishers. 2008.

"A New Emphasis on Telehealth: How Can Psychologists Stay Ahead of the Curve and Keep Patients Safe?" by Amy Novotney. *Monitor on Psychology* 42, no. 6. Washington, DC: American Psychological Association. June 2011.

"Next Generation Sequencing for Clinical Diagnostics and Personalised Medicine: Implications for the Next Generation Cardiologist," by James S. Ware, Angharad M. Roberts, and Stuart A. Cook. *British Medical Journal* 98. London: BMJ Group. 2011.

"Not Your Father's Supply Chain: Following Best Practices to Manage Inventory Can Help You Save Big," by Michael Darling and Sandy Wise. *Material Management in Health Care* 19. no. 4. Chicago: Health Forum. 2010.

"One Pill, Many Prices: Variation in Prescription Drug Prices in Selected Government Programs," by Dawn M. Gencarelli. National Health Policy Forum, no. 807. Washington, DC: George Washington University. 2005.

"Personalized Medicine: Part 2: Ethical, Legal, and Regulatory Issues," by F. R. Vogenberg, Carol I. Barash, and Michael Pursel. *P & T Journal* 35, no. 11. New York: MediMedia. 2010.

"The Pricing of Options and Corporate Liabilities," by Fischer Black and Myron Scholes. *Journal of Political Economy* 81, no. 3. Chicago: University of Chicago Press. 1973.

"The Private Company Discount," by John Koeplin, Atuyla Sarin, and Alan Shapiro. *Journal of Applied Corporate Finance*. New York: John Wiley & Sons. 2000.

"Projecting Physician Requirements for Child Health Care 1990," by Beverly C. Morgan. *Pediatrics* 69, no. 2. Elk Grove Village, IL: American Academy of Pediatrics. 1982.

"Quality of Care and Investment in Property, Plant, and Equipment in Hospitals." *Health Services Research* 28. Chicago: Health Research and Educational Trust. 1994.

"R&D in Micro-Nano-Bio Systems and Contribution Health," by Andreas Lymberis. *Studies in Health Technology and Informatics* 177. Lansdale, PA: IOS Press. 2012.

"Results and Impacts of the Resource-Based Relative Value Scale," by William C. Hsiao. *Medical Care* 30, no. 11. New York: Lippincott. 1992.

"Revascularization for Coronary Artery Disease: Stents Versus bypass Surgery," by Spencer B. King III, John Jeffrey Marshall, and Pradyumma E. Tummala. *Annual Review of Medicine*. Palo Alto, CA: Annual Reviews. 2010.

"Robotic Cardiac Surgery: Time Told!" by Francis Robicsek. *Journal of Thoracic and Cardiovascular Surgery* 135, no. 2. London: BioMed Central. February 2008.

"The Role of Financial Market Performance in Hospital Capital Investment," by Kristin L. Reiter and Paula H. Song. *Journal of Health Care Finance*. Frederick, MD: CCH Incorporated. 2011.

"The Role of Medical Liability Reform in Federal Health Care Reform," by Michelle M. Mello and Troyen A. Brennan. *New England Journal of Medicine* 361, no. 1. Waltham, MA: The Massachusetts Medical Society. July 2, 2009.

"Sharing the Evidence: Clinical Practice Benchmarking to Improve Continuously the Quality of Care," by Judith Ellis. *Journal of Advanced Nursing* 32, no. 1. New York: John Wiley & Sons. 2000.

"The Status of US Allergy/Immunology Physicians in the 21st Century: A Report from the American Academy of Allergy, Asthma, & Immunology Workforce Committee," by Gailen D. Marshall. *Journal of Allergy and Clinical Immunology* 119, no. 4; American Academy of Allergy, Asthma & Immunology. April 2007.

"The Theory and Practical Determination of Going Concern Value," by Merle F. Dimbath. *Journal of Forensic Economics*. National Association Forensic Economics. 1994.

"Theory of Rational Option Pricing," by Robert C Merton. *Bell Journal of Economics and Management Science* 4, no. 1. 1973.

"Trends in Asset Structure between Not-for-Profit and Investor-Owned Hospitals," by Paula H. Song and Kristin L. Reiter. *Medical Care Research and Review* 67, no. 6. Thousand Oaks, CA: SAGE Publications. December 2010.

"Understanding Financial Conflicts of Interest." *New England Journal of Medicine* 329, no. 8. Waltham, MA: Massachusetts Medical Society. 1993.

"What Are the Capital Structure Determinants for Tax-Exempt Organizations?" by Geoffrey P. Smith. *Financial Review* 45, no. 3. Oxford, MS: Eastern Finance Association. 2010.

"Why Competition Law Matters to Health Care Quality: Competition Law Is a Bellwether for Changes in the Way Health Care Quality Has Been Understood over the Years," by William M. Sage, David A. Hyman, and Warren Greenberg. *Health Affairs* 22. no. 2. Bethesda, MD: Project HOPE. 2003.

GOVERNMENT & REGULATORY

Book Sources

2009 Master Medicare Guide: Part B Payments: General Limits and Payment Rules, by CCH, Wolters Kluwer Law & Business Chicago: Aspen Publishers, 2009.

2009 State by State Guide to Managed Care Law, by John F. Buckley and Nicole D. Prysby. New York: Wolters Kluwer Law & Business. 2009.

2012 U.S. Master Tax Guide, by CCH, Wolters Kluwer Law & Business. Chicago: CCH, 2011.

Applied Econometric Time Series, by Walter Enders. Hoboken, NJ: John Wiley & Sons, 2005.

Corporate Finance, 4th Canadian ed., by Stephen A. Ross, Randolph W. Westerfield, Jeffrey F. Jaffe, and Gordon S. Roberts. Toronto, Canada: McGraw-Hill Ryerson, 2005.

The Effect of State Certificate-of-Need Laws on Hospital Costs: An Economic Policy Analysis, by Daniel Sherman. Bureau of Economics. Washington, DC: Federal

Trade Commission, 1988. http://www.ftc.gov/be/econrpt/232120.pdf (accessed October 29, 2009).

Health and Politics: The Impact of Certificate of Need Regulation, by Andrew B. Dunham. Chicago: National Center for Health Service Research, 1981.

Health Care Fraud and Abuse: Practical Perspectives, by Linda Baumann. American Bar Association Health Law Section. Washington, DC: Bureau of National Affairs, 1988.

Health Care Fraud: Enforcement and Compliance, by Robert Fabrikant, et al. New York: Law Journal Press, 2007.

Health Care Regulation in America: Complexity, Confrontation, and Compromise, by Robert I. Field. New York: Oxford University Press, 2007.

Health Regulation: Certificate of Need and 1122, by Herbert H. Hyman. Germantown, MD: Aspen Systems Corporation, 1977.

Introduction to Health Services, 6th ed., by Stephen J. Williams and Paul R. Torrens. New York: Delmar, 2008.

The Law of Tax-Exempt Healthcare Organizations, by Thomas K. Hyatt and Bruce R. Hopkins. New York: John Wiley & Sons, 1995.

The Law of Tax-Exempt Organizations, 10th ed., by Bruce R. Hopkins. Hoboken, NJ: John Wiley & Sons, 2011.

Legal Medicine, 6th ed., by Sandy Sanbar and Daniel Gamino. Philadelphia: Mosby, 2004.

Managed Care Litigation, by Webb G. Denise, Phyllis C. Borzi, and Gregory N. Pimstone. Washington, DC: Bureau of National Affairs, 2005.

The Medicaid Resource Book, by Andy Schneider, Risa Elias, Rachel Garfield, David Rousseai, and Victoria Wachino. Washington, DC: Kaiser Commission on Medicaid and the Uninsured, 2002.

Medicare and Medicaid Fraud and Abuse: 2012 Edition, by Alice G. Gosfield. Health Law Series. St. Paul, MN: Thomson West, 2012.

National Directory State Certificate of Need Programs Health Planning Agencies. Falls Church, VA: American Health Planning Association, 2006.

The Stark Law: A User's Guide to Achieving Compliance. Sonnenschein Nat & Rosenthall LLP. Marblehead, MA: HCPro, 2009.

U.S. Health Law and Policy 2001: A Guide to the Current Literature, by Donald H. Caldwell. San Francisco: John Wiley & Sons, 2001.

The U.S. Healthcare Certificate of Need Sourcebook, by Robert J. Cimasi. Washington, DC: Beard Books, 2005.

Wiley GAAP 2003: Interpretation and Application of Generally Accepted Accounting Principles, by Patrick R. Delaney, Barry J. Epstein, Ralph Nach, and Susan W. Budak. Hoboken, NJ: John Wiley & Sons, 2002.

Governmental Sources

The 2012 Statistical Abstract. 131st U.S. Census Bureau, Statistical Abstract of the United States. Washington, DC: U.S. Census Bureau. 2012. http://www.census.gov/compendia/statab/ (accessed April 30, 2013).

Alden Smith, et al. v. Van Gorkom, et al.: No. 255, 1982. Supreme Court of Delaware. Atlantic Reporter. 488 A.2d 858; 1985 Del. LEXIS 421; 46 A.L.R.4th 821; Fed. Sec. L. Rep. (CCH) P91, 921. 1985.

"Amendment to the Universal Waste Rule: Addition of Pharmaceuticals; Proposed Rule." *Federal Register* 73, no. 232. 2008.

American Lithotripsy Society and Urology Society of America v. Tommy G. Thompson. July 12, 2002.

"American Taxpayer Relief Act of 2012." Senate of the United States. 2013.

"Amortization of Goodwill and Certain Other Intangibles." 26 USC 197, January 4, 2010.

"Annual Update of the HHS Poverty Guidelines." *Federal Register* 77, no. 17. 2012.

"Anti-Kickback Statute: Criminal Penalties for Acts Involving Federal Health Care Programs Title 42—The Public Health and Welfare." 42 U.S.C. § 1320a–7b. 2012.

"Atomic Energy Act of 1954: Section 274." U.S. Nuclear Regulatory Commission. 1, no. 6. June 2002.

"Background Paper: Redesigned Draft Form 990: Redesigned Draft Form 990." Internal Revenue Service. 2007. http://www.irs.gov/pub/irs-tege/form_990_cover_sheet.pdf (accessed April 30, 2013).

"The Balanced Budget Act of 1997." U.S. Congress. *Pub. L.* 105–33. August 5, 1997.

"Budget of the U.S. Government: Fiscal Year 2011." Office of Management and Budget. http://www.budget.gov (accessed April 30, 2013). 2011.

"Budget of the U.S. Government—Fiscal Year 2013: Executive Summary and Appendix." Office of Management and Budget. 2013. http://www.budget.gov (accessed April 30, 2013).

"Cal. Civ. Code § 3333.2." California Code. 2006.

"Certificate of Need: State Health Laws and Programs: State Health Laws and Programs." Washington, DC: National Conference of State Legislatures, April 30, 2009. http://www.ncsl.org/IssuesResearch/Health/CONCertificateofNeed-StateLaws/tabid/14373/ Default.aspx (accessed April 16, 2010).

"CHAMPVA Benefits Limitations/Exclusions: 38 CFR 17.272." 2005.

"Civil and Criminal Penalties." 29 USC § 666. 2012.

"Civil Monetary Penalties and Affirmative Exclusions." Office of the Inspector General. U.S. Department of Health and Human Services. 2011.

"Claims Based on Factual, Objective or Clinical Evidence, Comparisons with Other Brands or Products, or Based on Fact." West's Annual California Business & Professions Code 17508. 2007.

"Clayton Antitrust Act (2002)." 15 USC 12–27 2002.

"CMS Announces New Recovery Audit Contractors to Help Identify Improper Medicare Payments." CMS. Washington, DC: U.S. Department of Health & Human Services. 2008. http://www.cms.gov (accessed September 12, 2011).

"CMS Manual System: Pub 100–04 Medicare Claims Processing." Baltimore: Centers for Medicare and Medicaid Services. 2009.

"Commission Approves FY 2008 HSR Premerger Notification Report: FTC Approves Final Consent Order in Matter Concerning Alta Bates Medical Group." Federal

Trade Commission. 2009. http://www.ftc.gov/opa/2009/07/hsr.shtm (accessed October 2, 2012).

"Competitive Bidding Program for Certain Durable Medical Equipment, Prosthetics, Orthotics, and Supplies: Final Rule (CMS 1270-F)." Baltimore: Centers for Medicare and Medicaid Services. 2007. http://www.cms.gov/ (accessed August 16, 2012).

"Competitive Bidding Update—One Year Implementation Update." Department of Health and Human Services. Baltimore: Centers for Medicare and Medicaid Services. 2012.

"Condition of Participation: Anesthesia Service: Anesthesia Services." Code of Federal Regulations. Government Printing Office. October 1, 2008.

"Consolidated Appropriations Resolution of 2003." *Pub. L.* 108–7, H.J. Res. 2. 2003.

"Corporate Practice of Medicine." The Medical Board of California. 2007. http://www.mbc.ca.gov/license/corporate_practice.html (accessed July 9, 2009).

"Criminal Penalties for Acts Involving Federal Health Care Programs." 42 USC 1320a-7b. May 20, 2009.

"Deceptive or Fraudulent Business Practices." 18 Pa. C.S.A. 4107. 2005.

"Department of Defense Appropriations Act, 2010." *Pub. L.* 111–118, H.R. 3326. 2009.

"Departments of Justice and Health and Human Services Announce Record-Breaking Recoveries Resulting from Joint Effort to Combat Health Care Fraud." U.S. Department of Health & Human Services. 2013.

"Determining and Updating the Federal Rate." 42 CFR 412.308. 2007.

"Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010." *Pub. L.* 111–203, 124 Stat 1376. July 21, 2010.

"Effect on Earnings and Profits." Internal Revenue Code. 26 USC 312.

"Effect of Election on Corporation." 26 USC Section 1363. 1992.

"Electronic Health Record Systems and Intent to Apply for Meaningful Use Incentives among Office-Based Physician Practices: United States, 2001—2011." U.S. Department of Health and Human Services. http://www.cdc.gov/nchs/data/databriefs/db79.htm (accessed April 30, 2013).

"Employer's Supplemental Tax Guide: Publication 15-A." Department of the Treasury. Washington, DC: Internal Revenue Service. 2012.

"End Stage Renal Disease (ESRD) Prospective Payment System (PPS) and Consolidated Billing for Limited Part B Services: CMS Manual System: Pub 100–04 Medicare Claims Processing, Transmittal 2134." January 14, 2011.

"Exceptions to the Referral Prohibition Related to Compensation Arrangements: 42 CFR 411.357 Ch. IV." 2004.

"Excess Benefit Transaction." 26 C.F.R. § 53.4958–4. 2004.

"Excluded Hospital Units: Common Requirements: Common Requirements." Centers for Medicare and Medicaid Services. 42 C.F.R. 412.25 GPO. 10/1/2007.

"Exempt Purposes: Internal Revenue Code Section 501(c)(3): Internal Revenue Code Section 501(c3)." Internal Revenue Service. December 7, 2009. http://www.irs.gov/charities/charitable/article/0,,id=175418,00.html (accessed April 30, 2013).

"Exemption from Tax on Corporations, Certain Trusts, etc." 26 U.S.C. § 501. 2004.

"Exemption Requirements—Section 501(c)(3) Organizations: Section 501(c)(3) Organizations." Internal Revenue Service. December 7, 2009. http://www.irs.gov/charities/charitable/article/0,id=96099,00.html (accessed April 30, 2013).

"False Claim Act: 31 USC 3729–3733" Washington, DC: United States House of Representatives. http://uscode.house.gov/download/title_31.shtml (accessed April 30, 2013). 2011.

"False Claims Amendments Act of 1986." *Pub. L.* 99–562, 100 Stat 3153 (1986) 99th Congress.

"Federal Food, Drug, and Cosmetic Act." *Pub. L.* 75–717. Washington, DC: Government Printing Office. 1938.

"Federal Trade Commission: Promotion of Export Trade and Prevention of Unfair Methods of Competition." 15 U.S.C. 41–58. 2012.

"Federal Trade Commission Act of 1914." 15 U.S.C. 41–51. 1914.

"Federal Trade Commission, Department of Justice Issue Final Statement of Antitrust Policy Enforcement Regarding Accountable Care Organizations." Washington, DC: Federal Trade Commission. October 20, 2011. http://www.ftc.gov/opa/2011/10/aco.shtm (accessed January 17, 2012).

"Fighting Fraud With The Red Flags Rule: Are You Complying with the Red Flags Rule." Federal Trade Commission http://www.ftc.gov/bcp/edu/microsites/redflagsrule/index.shtml (accessed April 30, 2013).

"Fighting Fraud with the Red Flags Rule: A How-To Guide for Business: A How-to-Guide for Business." Federal Trade Commission. March 2009.

"Final Rule: Changes to Whole Hospital and Rural Provider Exceptions to the Physician Self-Referral Prohibition and Related Changes to Provider Agreement Regulations." 75, no. 226. Baltimore: Centers for Medicare and Medicaid Services. November 24, 2010.

"Financial Relationships Between Physicians and Entities Furnishing Designated Health Services: Definitions." United States Congress. 42 CFR Section 411.351, 411.355 411.357. Washington, DC: U.S. Congress. October 10, 2010.

"Financial Relationship, Compensation, and Ownership or Investment Interest," 42 CFR §411.354. 2010.

"Five Companies in Hip and Knee Replacement Industry Avoid Prosecution by Agreeing to Compliance Rules and Monitoring," by Michael Drewniak. September 2007. http://www.usdoj.gov/usao/nj/press/files/pdffiles/hips0927.rel.pdf (accessed October 15, 2012).

"Former Alabama Governor Don Siegelman Re-Sentenced on Bribery, Conspiracy, Fraud and Obstruction of Justice Charges." United States Department of Justice. 2012. http://www.justice.gov/opa/pr/2012/August/12-crm-975.html (accessed November 6, 2012).

"Fraud and Kickbacks and Other Prohibited Activities." 42 CFR 1001.951. Department of Health and Human Services. Baltimore: Centers for Medicare Medicaid Services. 2005.

"Fraud Enforcement and Recovery Act of 2009." *Pub. L.* 111–21. 2009.

"Frequently Asked Questions Related to the Poverty Guidelines and Poverty" U.S. Department of Health and Human Services. 2012. http://aspe.hhs.gov/poverty/faq.shtml#differences (accessed September 9, 2012).

"FTC Chairman Announces Public Hearings on Health Care and Competition Law and Policy to Begin in February 2003." Federal Trade Commission. November 7, 2002. http://www.ftc.gov/opa/2002/11/murishealthcare.html (accessed April 30, 2013).

"FTC v. Phoebe Putney Health System, Inc., et al.: Writ of Certiorari." No. 11–1160. 2012 WL 985316. 2012.

"General Exceptions to the Referral Prohibition Related to Both Ownership/Investment and Compensation: In-Office Ancillary Services." CFR 411.355. Washington, DC: U.S. Government Printing Office. 2010.

"Hanlester Network, The V. Shalala, 51 F.3d 1390 (CTA 9 1995)." The Medical and Public Health Law Site. Baton Rouge, LA: The Louisiana State University Law School. April 6, 1995. http://biotech.law.lsu.edu/cases/fca/Hanlester_Network.htm (accessed September 23, 2003).

"The Hazardous and Solid Waste Amendments of 1984." 42 USC 6901. Washington, DC: U.S. Department of Justice. 1984.

"Health Care Fraud Prevention and Enforcement Efforts Result in Record-Breaking Recoveries Totaling Nearly $4.1 Billion." Dept. of Health and Human Services. February 14, 2012. http://www.hhs.gov/news/press/2012pres/02/20120214a.html (accessed June 19, 2012).

"Health Care Fraud Report: Fiscal Year 1998." 1998. http://www.justice.gov (accessed December 9, 2009).

"Health Information Technology: Standards, Implementation Specifications, and Certification Criteria for Electronic Health Record Technology, 2014 Edition; Revisions to the Permanent Certification Program for Health Information Technology." *Federal Register* 77, no. 171. 2012.

"Health Insurance Reform: Modifications to the Health Insurance Portability and Accountability Act (HIPAA); Final Rule." *Federal Register* 74, no. 11. 45. CFR Part 162. Government Printing Office. January 16, 2009.

"HHS, Department of Justice Highlight Obama Administration Efforts, Health Reform Tools to Combat Medicare Fraud: HHS Secretary and Attorney General Host Seventh Regional Health Care Fraud Prevention Summit in Chicago." Washington, DC: Department of Health and Human Services (accessed September 12, 2012).

"HIPAA Administrative Simplification: Standard Unique Health Identifier for Health Care Providers; Final Rule." Dept. of Health and Human Services, Washington, DC. *Federal Register* 69, no. 15. 2009.

"Home Health Prospective Payment System: Payment System Fact Sheet Series." Dept. of Health and Human Services. Baltimore: Centers for Medicare and Medicaid Services. 2012.

"Hospice Payment System: Payment System Fact Sheet Series." Dept. of Health and Human Services. Baltimore: Centers for Medicare and Medicaid Services. 2010.

"Hospital Chain HCA, Inc. Pays $16.5 Million to Settle False Claims Act Allegations Regarding Chattanooga, Tenn., Hospital: Allegedly Provided Financial Benefits to Doctors' Group That Referred Patients to HCA-Owned Facilities." Washington, DC: Department of Justice. 2012. http://www.justice.gov/printf/PrintOut2.jsp (accessed April 30, 2013).

"HR 2: Children's Health Insurance Program Reauthorization Act of 2009." House of Representatives. http://thomas.loc.gov. February 13, 2009.

"Identity Theft Red Flags and Address Discrepancies under the Fair and Accurate Credit Transactions Act of 2003; Final Rule." 12 CFR Part 41, 222, 334, 364, 571, 717, 681. 2007.

"Impact of State Laws Limiting Malpractice Awards on Geographic Distribution of Physicians," by Fred J. Hellinger. Rockville, MD: U.S. Department of Health and Human Services. Washington, DC: Agency for Healthcare Research and Quality. 2012. http://www.ahrq.gov/research/tortcaps/tortcaps.htm (accessed August 30, 2012).

"Implementation of Recovery Auditing at the Centers for Medicare and Medicaid Services: FY 2010 Report to Congress as Required by Section 6411 of Affordable Care Act." Baltimore: Centers for Medicare and Medicaid Services. 2011.

In the Matter of LCA-Vision, Inc. d/b/a LASIKPLUS, a Corporation: Decision and Order. Washington, DC: Federal Trade Commission. 2003.

In the Matter of Renown Health: Decision and Order. Washington, DC: Federal Trade Commission. 2012.

In the Matter of the Connecticut Chiropractic Association, et al. v. Robert L. Hirtle, Esq.: Docket No C-4217. Washington, DC: Federal Trade Commission. 2008.

"An Introduction to I.R.C. 4958 (Intermediate Sanctions)." Washington, DC: Internal Revenue Service. 2002.

"Inspector General: Audits, Legal Actions may Net Up to 3.4 Billion." 2011. http://oig.hhs.gov/newsroom/news-releases/2011/sar_release.asp (accessed November 18, 2011).

The Inspector General v. Hanlester Network, et al. Final Decision on Review of Administrative Law Judge Decision on Remand, Department of Health and Human Services, Appellate Division, July 24, 1992. Washington, DC: Department of Health and Human Services. 1992.

"Instructions for Form 8594 (Rev. December 2008): Asset Acquisition Statement under Section 1060." Internal Revenue Service. Washington, DC: U.S. Department of Treasury. 2008.

"Intermountain Health Care Inc. Pays U.S. $25.5 Million to Settle False Claims Act Allegations." U.S. Department of Justice. Washington, DC: U.S. Department of Justice. 2013.

"Internal Revenue Service, Treasury: 53.4958–4 Excess Benefit Transaction." 26 CFR 53.4958–4. 2012.

"Internet-Based PECOS." Baltimore: Centers for Medicare and Medicaid Services. May 27, 2011. https://www.cms.gov/MedicareProviderSupEnroll/04_InternetbasedPECOS.asp#TopOfPage (accessed August 3, 2011).

"Investor Spotlight: Potential Changes to Lessee Accounting." IFRS. 2012.

"IRS Exemption Rulings: Friendly Hills Healthcare Network." Exempt Org. Tax Rev. 490. 1993.

"IRS FY 2000 Exempt Organization Continuing Professional Education." Internal Revenue Service. 1999.

"Labeling Requirements for Prescription Drugs and/or Insulin: Requirements on Content and Format of Labeling for Human Prescription Drug Biological Products." Vol. 4, no. 21. Code of Federal Regulations. 2012.

"Lessons from Medicare's Demonstration Projects on Disease Management, Care Coordination, and Value-Based Payment." Washington, DC: Congressional Budget Office. January 2012.

"Letter to Marilyn Tavenner from Daniel R. Levinson RE: Review of CERT Errors Overturned Through the Appeals Process for Fiscal Years 2009 and 2010 (A-01–1100504)." Washington, DC: Department of Health & Human Services. 2012.

"Limitation on Certain Physician Referrals." 42 U.S.C. § 1395nn. 2003.

"Managed Care State Laws and Regulations, Including Consumer and Provider Protections." National Conference of State Legislatures. September 2011. http://www.ncsl.org/research/health/managed-care-state-laws.aspx (accessed December 18, 2013).

"Management of Hazardous Waste Pharmaceuticals: 2013 Proposal to Address the Management of Hazardous Waste Pharmaceuticals." Washington, DC: United States Environmental Protection Agency. 2012. http://www.epa.gov/wastes/hazard/generation/pharmaceuticals.htm (accessed September 13, 2012).

"McCarran-Ferguson Act: 15 USC 1011." Washington, DC: Government Printing Office. 2006.

"Mcleod Regional Medical Center to Pay U.S. $15 million to Resolve False Claims Act Allegations." Department of Justice. Washington, DC: U.S. Government Printing Office. November 1, 2002. http://www.usdoj.gov (accessed April 29, 2013).

"Medical Malpractice Reform and Employer-Sponsored Health Insurance Premiums," by Michael A. Morrisey, Meredith L. Kilgore, and Leonard Nelson. *Health Services Research* 43, no. 6. Chicago: Health Research and Educational Trust, December 2008.

"Medicaid Managed Care Enrollment Report: Summary Statistics." Baltimore: Centers for Medicare and Medicaid. 2011.

"Medical Devices Amendments of 1976." *Pub. L.* 94–295. 94th Congress. 1976.

"Medical Liability/Malpractice Laws." National Conference of State Legislatures (NCSL). September 4, 2009. http://www.ncsl.org/default.aspx?tabid=18516 (accessed October 28, 2009).

"Medicare and Medicaid Extenders Act of 2010." *Pub. L.* 111–309. 111th Congress. Washington, DC: House of Representatives. December 15, 2010. http://govtrack.us/congress/bills/111/hr4994 (accessed July 16, 2012).

"Medicare and Medicaid Patient & Program Protection Act of 1987." *Pub. L.* 100–93. Washington, DC: U.S. Government Printing Office. August 18, 1987.

"Medicare and Medicaid Programs: Changes Affecting Hospital and Critical Access Hospital Conditions of Participation: Telemedicine Credentialing and Privileging." Washington, DC. *Federal Register* 76, no. 87. May 5, 2011.

"Medicare and Medicaid Programs; Application of the American Osteopathic Association for Continued Deeming Authority for Hospitals." Washington, DC. *Federal Register* 74, no. 166. 2009.

"Medicare and Medicaid Programs; Approval of the Application by the Joint Commission for Continued Deeming Authority of Hospitals: Final Notice." *Federal Register* 74, no. 227. 2009.

"Medicare and Medicaid Programs; Changes in Provider and Supplier Enrollment, Ordering and Referring, and Documentation Requirements; and Changes in Provider Agreements: Interim Final Rule with Comment Period." *Federal Register* 75, no. 86. May 5, 2010.

"Medicare and Medicaid Programs; Continued Approval of Det Norske Veritas Healthcare's (DNVHC's) Hospital Accreditation Program: Final Notice." Washington, DC. *Federal Register* 77, no. 165. 2012.

"Medicare and Medicaid Programs; Electronic Health Record Incentive Program: Final Rule." *Federal Register* 75, no. 144. July 28, 2010. http://www.gpo.gov/fdsys/pkg/FR-2010–07–28/pdf/2010–17207.pdf (accessed August 25, 2012).

"Medicare and Medicaid Programs; Electronic Health Record Incentive Program: Final Rule; Correcting Amendment." Washington, DC. *Federal Register* 75, no. 249. December 29, 2010.

"Medicare and Medicaid Program; Electronic Health Record Incentive Program—Stage 2: Final Rule." *Federal Register* 72, no. 202. 2012.

"Medicare and State Health Care Programs: Fraud and Abuse; Clarification of the Initial OIG Safe Harbor Provisions and Establishment of Additional Safe Harbor Provisions Under the Anti-Kickback Statute; Final Rule." Washington, DC. *Federal Register* 64, no. 223. November 19, 1999.

"Medicare and State Health Care Programs: Fraud and Abuse; OIG Anti-Kickback Provisions." 42 CFR Part 1001. Washington, DC: U.S. Department of Health and Human Services. 1991. http://www.oig/hhs.gov/fraud/docs/safeharborregulations/072991.htm (accessed October 6, 2009).

"Medicare and Medicaid Programs; Physicians' Referrals to Health Care Entities with Which They Have Financial Relationships." Washington, DC. *Federal Register* 63, no. 6. January 9, 1998.

"Medicare and Medicaid Programs; Physicians' Referrals to Health Care Entities with Which They Have Financial Relationships Final Rule: Physicians' Referrals." Dept. of Health and Human Services. *Federal Register* 66, no. 2001.

"Medicare Announces Competitive Acquisition Program for Certain Durable Medical Equipment, Prosthetics, Orthotics, and Supplies." Baltimore: Centers for Medicare and Medicaid Services. 2007. http://cms.gov/ (accessed April 29, 2013).

"Medicare Claims: Adding Certain Entities as Originative Sites for Payment of Telehealth Services: Section 149 on the Medicare Improvements for Patients and Providers Act of 2008." Baltimore: Center for Medicare and Medicaid Services. November 14, 2008.

"Medicare Improvements for Patients and Providers Act of 2008." *Pub. L.* 110–275. 122 Stat 2520 Congressional Research Service. July 2008.

"Medicare, Medicaid, and SCHIP Extension Act of 2007." *Pub. L.* 110–173. 121 Stat 2493. 2007.

"Medicare, Medicaid, Children's Health Insurance Programs; Transparency Reports and Reporting of Physician Ownership or Investment Interests: Proposed Rule." *Federal Register* 76, no. 243. Washington, DC: U.S. Department of Health and Human Services.

"Medicare Medicaid Programs; Physicians' Referrals to Health Care Entities with Which They Have Financial Relationships [Stark II, Phase I]: Final Rule." 66 *Federal Register* 3 (January 4, 2001), pp. 916, 944. Washington, DC: United States Federal Government.

"Medicare: Physician Self-Referral: "Stark I and II," by Jennifer O'Sullivan. Washington, DC: Congressional Research Service. July 27, 2004. http://www.policyarchive.org/handle/10207/bitstreams/2137.pdf (accessed July 2, 2012).

"Medicare Prescription Drug, Improvement, and Modernization Act of 2003." *Pub. L.* 108173. Washington, DC: U.S. Government Printing Office. August 12, 2003.

"Medicare Program; Change in Methodology for Determining Payment for Extraordinarily High-Cost Cases (Cost Outliers) under the Acute Care Hospital Inpatient and Long-Term Care Hospital Prospective Payment Systems." Department of Health and Human Services. 42 C.F.R. Part 4123,4494. 2003.

"Medicare Program; Payment Policies under the Physician Fee Schedule, and Other Revisions to Part B for CY 2010; Final Rule." Washington, DC. *Federal Register* 74, no. 226. November 25, 2009.

"Medicare Program; Physicians Referrals to Health Care Entities with Which They have Financial Relationships (Phase II): Dept. of Health and Human Services." Washington, DC. *Federal Register* 69, no. 59. 2004.

"Medicare Program; Physicians' Referrals to Health Care Entities with Which They Have Financial Relationships (Phase II): Interim Final Rule with Comment Period." Centers for Medicare and Medicaid Services. Washington, DC. *Federal Register* 69, no. 59. 2004.

"Medicare Program; Physicians' Referrals to Health Care Entities with Which They Have Financial Relationships (Phase II); Interim Final Rule (Stark II, Phase II): Interim Final Rule." *Federal Register* 69, no. 59. 2004.

"Medicare Program; Physicians' Referrals to Health Care Entities with Which They Have Financial Relationships (Phase III)." *Federal Register* 72, no. 171. September 7, 2007.

"Monitoring and Deferred Prosecution Agreements Terminated with Companies in Hip and Knee Replacement Industry." http://www.justice.gov/usao/nj/Press/files/pdffiles/2009/hips0330%20rel.pdf (accessed October 15, 2012). 2009.

"The National Health Planning and Resources Development Act of 1974." *Pub. L.* 93–641. January 4, 1975.

"New Jersey Senate Bill No. 787." State of New Jersey 213th Legislature. NJ S787 (2008) State of New Jersey. November 24, 2008.

"Nonprofit, For-Profit, and Government Hospitals: Uncompensated Care and Other Community Benefits: Uncompensated Care and Other Community Benefits," by David Walker. Washington, DC: Government Accountability Office. May 26, 2005. http://www.gao.gov/new.items/d05743t.pdf (accessed February 8, 2010).

North Texas Specialty Physicians v. Federal Trade Commission: *No. 06–60023*. 528 F.3d 346; 2008 U.S. App. LEXIS 10457; 2008 WL 2043040 U.S. Court of Appeals for the 5th Circuit. May 14, 2008.

"Occupational Safety and Health Act of 1970." *Pub. L.* 91-596, 84 Stat. 1590 (Dec. 29, 1970).

"Office of Inspector General; OIG Compliance Program for Individual and Small Group Physician Practices." *Federal Register* 65, no. 194. Washington, DC: U.S. Department of Health and Human Services. 2000.

"Office of Workers' Compensation Program Medical Fee Schedule 2009." Washington, DC: U.S. Department of Labor. May 12, 2009. http://www.dol.gov/esa/owcp/regs/feeschedule/fee/fee09/fs09instructions.htm (accessed August 19, 2009).

"OIG Advisory Opinion No. 09–07." Office of the Inspector General. Washington, DC: Dept. of Health and Human Services.

"OIG Compliance Program for Individual and Small Group Physician Practices." 65 *Federal Register* 59434. October 5, 2000.

"Outlier Payments." Baltimore: Centers for Medicare Medicaid Services. 2012. http://www.cms.gov/ (accessed August 7, 2012).

"Patient Safety and Quality Improvement: Final Rule." Washington, DC. *Federal Register* 73, no. 226. 42 CFR Part 3. 2008.

"Patient Safety and Quality Improvement: Notice of Proposed Rulemaking." Washington, DC. *Federal Register* 73, no. 29. 42 CFR Part 3. 2008.

"Payments to Hospitals for Inpatient Hospital Services." 42 USC 1395WW. U.S. Government. Cornell University Law School. 2012.

The People of the State of Illinois v. United Medical Service, Inc. Supreme Court of Illinois. 362 Ill. 422 (1936) Supreme Court of Illinois.

"Pharmacy: Occupational Safety & Health Administration." Washington, DC: U.S. Department of Labor. http://www.osha.gov/SLTC/etools/hospital/pharmacy/pharmacy.html (accessed April 29, 2013).

"Physician Self-Referral and Hospital Ownership Disclosure Provisions in the IPPS FY 2009 Final rule: Fact Sheets." Baltimore: Centers for Medicare Medicaid Services. 2008.

"Physician Self Referral Issues." *Federal Register* 72, no. 227. Washington, DC: U.S. Dept. of Health and Human Services. November 27, 2007. http://www.gpo.gov/fdsys/pkg/FR-2007–1127/pdf/07–5506.pdf (accessed April 30, 2013).

"Pre-Owned Medical Equipment: Regulations & Markets," by Jeffrey Gren. International Trade Administration. Washington, DC: United States Dept. of Commerce. 2002. http://www.ita.doc.gov/td/health/usedequipment.pdf (accessed April 30, 2013).

"Prevalence and Qualifications of Nonphysicians Who Performed Medicare Physician Services," by Daniel R. Levinson. Washington, DC: OIG. August 2009.

"Proposed Ambulatory Surgical Treatment Center for: Advisory Opinion No. CMS-AO-98001." 1998.

"The Public Health and Welfare." 42 CFR 1001.952. 2009.

"Publication of OIG Special Fraud Alert: Fraud and Abuse in the Provision of Services in Nursing Facilities." *Federal Register* 61, no. 117. June 17, 1996.

"Publication of OIG Special Fraud Alert on Physician Liability for Certifications on the Provision of Medical Equipment and Supplies and Home Health Services." Washington, DC. *Federal Register* 64, no. 7. January 12, 1999.

"Publication of OIG Special Fraud Alert on Rental of Space in Physician Offices by Persons or Entities to Which Physicians Refer." Washington, DC. *Federal Register* 37. 2000.

"Publication of OIG Special Fraud Alert on Telemarketing by Durable Medical Equipment Suppliers." Washington, DC. *Federal Register* 42. 2003.

"Publication of OIG Special Fraud Alerts: Federal Register." *Federal Register* 59, no. 242. Washington, DC: U.S. Government Printing Office. December 19, 1994.

"Publication of OIG Special Fraud Alerts: Home Health Fraud, and Fraud and Abuse in the Provision of Medical Supplies to Nursing Facilities." Washington, DC. *Federal Register*. 1995. http://oig/hhs.gov/fraud/docs/alertsandbulletins/081095.htm (accessed September 14, 2012).

"Publication of the OIG Special Advisory Bulletin on Gainsharing Arrangements and CMPs for Hospital Payments to Physicians to Reduce or Limit Services to Beneficiaries." *Federal Register* 64, no. 134. Washington, DC: U.S. Department of Health and Human Services. 1999.

"Questionable Billing for Medicare Independent Diagnostic Testing Facility Services." OEI-09–0900380. Washington, DC: Office of the Inspector General. 2012. https://oig.hhs.gov/oei/reports/oei09–09–00380.pdf (accessed April 30, 2013).

"Racketeer Influenced and Corrupt Organizations Act." 18 USC 1961–1962. Washington, DC: U.S. Government Printing Office. 1970.

Racketeer Influenced and Corrupt Organizations (RICO) United States United States Attorneys' Manual. Title 9, sec. 9–110.100. U.S. Department of Justice U.S. Department of Justice. 1997.

"Rebuttable Presumption That a Transaction Is Not an Excess Benefit Transaction." Internal Revenue Service. Washington, DC: Code of Federal Regulations. 26 CFR 53.4958–2. 2012.

"Red Flag Program Clarification Act of 2010." *Pub. L.* 111–319. Stat 3457. United States Congress. 2010.

"Rental of Space in Physician Offices by Persons or Entities to Which Physicians Refer: Special Fraud Alert." Office of the Inspector General. Washington, DC: U.S. Government Printing Office. February 2000. http://oig.hhs.gov/fraud/docs/alertsandbulletins/office%20space.htm (accessed January 21, 2004).

Report of the Council on Medical Service: Resolution 303, I-97, by Kay K Hanley. Baltimore: Centers for Medicare and Medicaid Services. December 1998.

"Resource Conservation and Recovery Act: Solid Waste Disposal Act." Washington, DC: United States Department of Justice. 2002.

"Rev. Proc. 75–21, 1975 1 C.B. 175." Washington, DC: Internal Revenue Services. 1975.

"Rev. Proc. 75–28, 1975–1 C.B. 752." Washington, DC: Internal Revenue Service. 1975.

"Rev. Proc. 76–30, 1976–2 C.B. 647." Washington, DC: Internal Revenue Service. 1976.

"Rev. Proc. 79–48, 1979–2 C.B. 529." Washington, DC: Internal Revenue Service. 1979.

"Rev. Rul. 60–122, 1960–1 C.B. 56." Washington, DC: Internal Revenue Service. 1960.

"Review of Alternative GPCI Payment Locality Structures: Final Report." Baltimore: Centers for Medicare Medicaid Services. http://www.cms.gov/ (accessed August 6, 2012).

"Rulings; Leveraged Leasing Transactions; Information and Presentations." 26 CFR 601.201; Rev. Proc. 2001–29. Internal Revenue Service (IRS).

"Self-Referral Disclosure Protocol." U.S. Department of Health and Human Services. Baltimore: Centers for Medicare and Medicaid Services. 2011.

"Shared Responsibility for Employers Regarding Health Coverage." Title 26, 4980H Internal Revenue Code GPO. 2013.

"The Sherman Antitrust Act." U.S. Congress. 15 USC 1–7. July 2, 1890.

"Social Security Act: Sec. 1877." Washington, DC: U.S. Government Printing Office. 2006. 1935.

"Standards for Recognition of Tax-Exempt Status if Private Benefit Exists or if an Applicable Tax-Exempt Organization Has Engaged in Excess Benefit Transaction(s)." Washington, DC. *Federal Register* 73, no. 61. 2008.

"State False Claims Act Requirements for Increased State Share of Recoveries." Washington, DC: Social Security Administration. Sec. 1909 of USC 1396h. 2006. http://www.ssa.gov/OP_Home/ssact/title19/1909.htm (accessed September 4, 2012).

"Statement of Antitrust Enforcement Policy Regarding Accountable Care Organizations Participating in the Medicare Shared Savings Program: Final Policy Statement." Washington, DC. *Federal Register* 76, no. 209. October 28, 2011.

"Statement of Financial Accounting Standards No. 13: Accounting for Leases." Washington, DC: Financial Accounting Standards Board. 1976.

"Statements of Antitrust Enforcement Policy in Health Care." U.S. Dept. of Justice. Washington, DC: Federal Trade Commission. 1996. http://www.justice.gov/atr/public/guidelines/0000.htm#CONTNUM_61 (accessed September 19, 2012).

"Summary of the Resource Conservation and Recovery Act: 42 U.S.C. 6901 et seq. (1976)." Washington, DC: United States Environmental Protection Agency. 2012.

"Supplements and Other Changes to Approved New Animal Drug Applications: CFR Parts 25, 500, 514, and 558." Washington, DC. *Federal Register* 71, no. 239. 2006.

"Tax Relief and Health Care Act of 2006: Title I—Medicare Improved Quality and Provider Payments." 120 Stat 2975. 2006.

"Taxes on Excess Benefit Transactions." 26 USC 4958, 2011.

"Telemedicine Services in Hospitals and Critical Access Hospitals." Center for Medicine and Medicaid Services. Washington, DC: U.S. Dept. of Health and Human Services (accessed September 14, 2012). 2011.

"Temporary Extension Act of 2010." *Pub. L.* 111–144. 2010.

"Temporary Payroll Tax Cut Continuation Act of 2011." *Pub. L.* 112–78. December 23, 2011.

"Three Percent Withholding Repeal and Job Creation Act." *Pub. L.* 112–56. 112th Congress. 125 Stat. 711. 2011.

"Timely Claims Payment." 447.45 42 CFR. Washington, DC: Government Printing Office. October 1, 2007.

"Title 42—The Public Health and Welfare. Chapter 7—Social Security: Subchapter XI—General Provisions, Peer Review, and Administrative Simplification." 42 USC Sec 1320a-7. http://uscode.house.gov/usocde-cgi/fastweb.exe?getdoc (accessed March 1, 2013). 2012.

"Title XVIII—Health Insurance for the Aged and Disabled: Sections 1811, 1831, 1851, 1860D." Baltimore: Centers for Medicare and Medicaid Services. 1965.

United States ex rel., Darryl L. Kaczmarczyk, et al. v. SCCI Health Services Corp: Civ. No. H-99–1031. United States District Court, S.D. Texas, Houston Division. 2004.

United States, ex rel., Dilbagh Singh M.D., Paul Kirsch, M.D., V. Rao Nadella, M.D., and Martin Jacobs, M.D., Plaintiffs, v. Bradford Regional Medical Center, V & S Medical Associates, LLC, Peter Vaccaro, M.D., Kamran Saleh, M.D., and Does I through XX, Defendants: Civil No. 04–186 Erie. 752 F. Supp. 2d 602. November 10, 2010.

United States ex rel., Michael K. Drakeford v. Tuomey d/b/a Tuomey Healthcare System, Inc. Order. No. 3:05-CV-02858-MJP; 2010 WL 40000188. Columbia, SC: United States Court of Appeals for the Fourth Circuit.

"United States Intervenes in False Claims Act Lawsuit against Orlando, Florida-Area Hospice." Washington, DC: United States Department of Justice (USDOJ). 2012. http://www.justice.gov/opa/pr/2012/September/12-civ-1080.html (accessed April 17, 2013).

United States of America ex rel. Ted D. Kosenske, M.D. v. Carlisle HMA, Inc.; Health Management Associates, Inc., Ted D. Kosenske, M.D., Appellant: No. 0–4616. United States Court of Appeals for the Third District. 554 F.3d 88. January 21, 2009.

United States of America v. Tuomey Healthcare System, Inc. Judgment in Civil Action. U.S. Court of Appeals. Washington, DC: U.S. Government Printing Office. July 13, 2010.

United States v. Anderson et al. Brief of Amici Curiae. Chicago: American Hospital Association. June 6, 2000. http://www.hospitalconnect.com/aha/advocacygrassroots/advocacy/legal/anderson200066.html (accessed April 29, 2013).

United States v. Greber, 760 F.2d 68 (3rd Cir. Pa. 1985): United States Court of Appeals for the Third Circuit No. 84–1546. Washington, DC: U.S. Government Printing Office. April 30, 1985. http://biotech.law.lsu.edu/cases/fca/greber.htm (accessed September 23, 2003).

United States v. Joseph Campbell, M.D. v. University of Medicine and Dentistry of New Jersey, et al.: Civil Action No. 08–1951. 2011 U.S. Dist. LEXIS 1207.

"Updated Special Fraud Alert: Telemarketing by Durable Medical Equipment Suppliers." Baltimore: Centers for Medicare and Medicaid Services. 2010.

USA and Darryl L. Kaczmarczyk, et al. v. SCCI Hospital Ventures: Plaintiff US' Designation of Expert Witness. Civil Action No. H-99–1031. 2004.

"U.S. Files Complaint Against National Chain of Hospice Providers Alleging False Claims on the Medicare Program." Washington, DC: U.S. Attorney's Office. 2012. http://www.justice.gov/usao/aln/News/January%202012/January%203,%202012%20US% 20Files.html (accessed April 17, 2013).

"Variation among Home Health Agencies in Medicare Payments for Home Health Services." Washington, DC: Office of the Inspector General, U.S. Dept. of Health & Human Services. July 1995.

"Where You Live: State Medical Waste Programs and Regulations." Washington, DC: United States Environmental Protection Agency. 2012. http://www.epa.gov (accessed September 14, 2012).

"Workers' Compensation." Washington, DC: U.S. Department of Labor. http://www.dol.gov/dol/topic/workcomp/ (accessed August 10, 2009).

Standards, Surveys, and Nongovernmental Sources

"Accounting Standards Update: General 840–10–00 Status." New York: CCH/Wolters Kluwer. 2010. http://www.accountingresearchmanager.com.mimas.calstatela.edu/wk/rm.nsf/wkm.nsf0/fe82db037c6556d28 (accessed April 16, 2010).

"American Hospital Association: Underpayment by Medicare and Medicaid Fact Sheet." Chicago: AHA. 2010. http://www.aha.org/content/00–10/10medunderpayment.pdf (accessed April 16, 2010).

The Basics: Medicaid Disproportionate Share Hospital (DSH) Payments, by Christie Provost Peters. George Washington University. Washington, DC: National Health Policy Forum. June 15, 2009. http://www.nhpf.org/library/the-basics/Basics_DSH_06–15–09.pdf (accessed May 1, 2013).

"Clinical Integration on a Promise and a Plan: Federal Trade Commission Declines to Challenge Norman PHO on Antitrust Grounds." Polsinelli Shughaart LLP. Chicago: Health Care Law in the News. March 2013.

"CMS Announces ACA Bundled Payment Demonstration." American Hospital Association. Chicago: AHANewsNow. August 23, 2011. http://www.ahanews.com/ahanews/jsp/display.jsp?dcrpath=AHANEWS/AHANewsNowArticle/data/ann_082311_bundled&domain=AHANEWS (accessed October 24, 2011).

"Colloquium Report on Legal Issues Related to Tax Exemption and Community Benefit." Washington, DC: National Health Lawyers Association, 1996.

Corporate Practice of Medicine Doctrine 50 State Survey Summary, by Mary H. Michal, Meg S. Pekarske, and Matthew K. McManus. Reinhart Boerner Van Deuren S.C., September 2006. http://www.nhpco.org/sites/default/files/public/palliativecare/corporate-practice-of-medicine-50-state-summary.pdf (accessed April 16, 2010).

"Environmental Law Developments Affecting the Healthcare Sector." Ungaretti & Harris LLP, Healthcare Update. March 1, 2010. http://www.uhlaw.com/healthcare_environmental_law (accessed September 8, 2012).

"Fair Market Value in Health Care Transactions," by Lewis A. Lefko. Haynes and Boone, LLP, July 20, 2007, http://www.worldservicesgroup.com/publications.asp?action=article&artid=2086 (accessed September 18, 2010).

The Fiscal Survey of States: An Update of State Fiscal Conditions. National Governors Association. Washington, DC: National Association of State Budget Officers, 2012.

"Fourth Circuit Issues Decision in Tuomey Discussing Stark Law Issues," by Jesse Witten. Washington, DC: American Health Lawyers Association, April 10, 2012.

"Fraud and Abuse Considerations in Establishing Integrated Delivery Systems," by Carrie Valiant. Washington, DC: American Health Lawyers Association. 2012.

Fundamentals of Health Law, 4th ed., by Daniel J Schwartz, et al. Washington, DC: American Health Lawyers Association. 2008.

"The Growing Power of Some Providers to Win Steep Payment Increases from Insurers Suggests Policy Remedies May Be Needed," by Robert A. Berenson, Paul B. Ginsburg, Jon B. Christianson, and Tracy Yee, *Health Affairs* 31, no. 5. Bethesda, MD: Project HOPE. 2012.

"Health Coverage of Children: The Role of Medicaid and SCHIP: The Role of Medicaid and SCHIP." Menlo Park, CA: The Henry J. Kaiser Family Foundation, November 2008. http://www.kff.org/uninsured/upload/7698_02.pdf (accessed October 6, 2009).

Health Law: Cases, Materials and Problems, 4th ed., by Barry R Furrow, et al. St. Paul, MN West Group. 2001. 1997.

"'Hot' Developments in Non-Profit Corporation Law: Health Midwest, HealthPartners and Attorney General Spitzer," by Michael W. Peregrine, et al. Washington, DC: American Health Lawyers Association. http://www.healthlawyers.com (accessed January 22, 2005).

"Impact of the Anti-Kickback Statute and the Stark Amendment on Vertically Integrated Delivery Systems in the Health Care Industry," by D. M. Thornton. Washington, DC: American Health Lawyers Association, January 20, 1995.

"Interim Report on Malpractice RVUs for the CY 2010 Medicare Physician Fee Schedule Proposed Rule," by Margaret O'Brien-Strain, Sean McClellan, and Steve Frances. Baltimore: Centers for Medicare and Medicaid Services. June 2009. http://www.cms.gov/PhysicianFeeSched/05_Malpractice_Report.asp (accessed July 30, 2009).

"Introduction to Relative Value Units and How Medicare Reimbursement is Calculated." Washington, DC: American College of Radiation Oncology. http://www.acro.org/washington/RVU.pdf (accessed August 23, 2012).

"The Market for Medical Care: Why You Don't Know the Price; Why You Don't Know about Quality; and What Can Be Done about It," by Devon M. Herrick and John C. Goodman. Washington, DC: The National Center for Policy Analysis. February 2007. http://www.ncpa.org/pub/st296 (accessed July 9, 2009).

"Medicaid: An Overview of Spending on 'Mandatory' vs. 'Optional' Populations and Services." Menlo Park, CA: Henry J. Kaiser Family Foundation. June 2005.

http://www.kff.org/medicaid/upload/Medicaid-An-Overview-ofSpending-on.pdf (accessed October 6, 2009).

"Medicaid and Long-Term Care Services." Kaiser Commission on Medicaid Facts. Washington, DC: Kaiser Family Foundation. July 2006. http://www.kff.org/medicaid/upload/Medicaid-and-Long-term-Care-Services-PDF.pdf (accessed October 6, 2009).

"Medicaid and Long-Term Services and Supports for Older People: Fact Sheet," by Enid Kassner. AARP Public Policy Institute. Washington, DC: AARP. 2006. http://assets.aarp.org/rgcenter/il/fs18r_medicaid_06.pdf (accessed August 24, 2012).

"Medicaid and the Uninsured: How Will the Medicaid Expansion for Adults Impact Eligibility and Coverage?" Menlo Park, CA: Henry J. Kaiser Family Foundation. July 2006.

"Medicaid Enrollment: June 2011 Data Snapshot." Kaiser Commission on Medicaid Facts, Medicaid and the Uninsured. Menlo Park, CA: Kaiser Family Foundation. June 2012. http://www.kff.org/medicaid/upload/8050–05.pdf (accessed April 29, 2013).

"Medicaid Spending: What Factors Contributed to the Growth Between 2000 and 2002?" by John Holahan and Brian Bruen. Kaiser Commission on Medicaid and the Uninsured. Menlo Park, CA: Kaiser Family Foundation. September 2003. http://www.kff.org/medicaid/loader.cfm?url=/commonspot/security/getfile.cfm&PageID=22135 (accessed April 29, 2013).

"Medicare Advantage 2010 Data Spotlight: Plan Enrollment Patterns and Trends," by Marsha Gold, Dawn Phelps, Gretchen Jacobson, and Tricia Neuman. Henry J. Kaiser Family Foundation. Menlo Park, CA: Kaiser Family Foundation. June 2010.

"Medicare Advantage 2011 Data Spotlight: Plan Availability and Premiums," by Marsha Gold, Gretchen Jacobson, Anthony Damico, and Tricia Neuman. Menlo Park, CA: The Henry J. Kaiser Family Foundation. October 2010.

"Medicare from the Start to Today," by Tom Dowdal. Washington, DC: National Bipartisan Commission on the Future of Medicare. 1999. http://rs9.loc.gov/medicare/history.htm (accessed August 29, 2012).

"Medicare Provisions in the Deficit Reduction Act of 2005," by Lesley A. Herrman, Susan C. Kalbach, and Jeffrey E. Mark. Milwaukee: Von Briesen & Roper, Contemporary Counsel. February 2006.

"Medicare Unveils Bundled Payment Models to Start in 2012," by Charles Fiegl. Amednews.com. Chicago: American Medical Association. September 5, 2011. http://www.amaassn.org/amednews/2011/09/05/gvl10905.htm (accessed August 26, 2012).

"New Jersey Court Rules That Physician Referrals to Ambulatory Surgical Center in Which They Own an Interest Violates Codey Act," by Flaster Greenberg. Washington, DC: *Health Care Alert Newsletter*. December 2007. http://www.flastergreenberg.com/Uploads/FileManager/client%20alerts/healthcarealertdec07.pdf (accessed April 18, 2008).

"Potential Impact of 2008 Medicare Physician Fee Schedule Proposed Rules on Imaging Arrangements," by Thomas W. Greeson and Heather M. Zimmerman.

Health Lawyers Weekly. Washington, DC: American Health Lawyers Association. 2007.

"Presenting the Truth: The Attack on Niche Providers," by Robert R. Cimasi. Washington, DC: American Surgical Hospital Association. October 27, 2005.

"Prohibition on Balance Billing Qualified Medicare Beneficiaries (QMBs)." Dept. of Health and Human Services. Washington, DC: CMS Medicare Learning Network. August 28, 2012. http://www.cms.gov/Outreach-and-Education/Medicare-Learning-Network-MLN/MLNMattersArticles/downloads/SE1128.pdf (accessed April 29, 2013).

"Resolution 56: Certification Eligibility for ABMS-Certified DOs." Division of Certification of the American Osteopathic Association. http://www.osteopathic.org/inside-aoa/development/aoa-boardcertification/Pages/default.aspx (accessed April 29, 2013).

"Results of the 2011 Medical School Enrollment Survey." Center for Workforce Studies, Washington, DC: Association of American Medical Colleges (AAMC). May 2012. https://www.aamc.org/download/281126/data/enrollment2012.pdf (accessed April 29, 2013).

"Special Edition: SGR Update." Medical Group Management Association (MGMA). Washington, DC: Washington Connexion, December 19, 2011, http://www.mgma.com/pring.aspx?id=1368764 (accessed August 17, 2012).

The Stark Law Rules of the Road: An Overview of the Stark Law to Help Interested Physicians Acquire an Introductory Knowledge of this Intricate Law. Chicago: American Medical Association. 2011. http://www.ama-assn.org/resources/doc/psa/stark-law/stark-law.pdf (accessed April 29, 2013).

"Stark Rule Proposals Finalized," by Cathy Dunlay. Columbus, OH: Kevin Hilvert, Schottenstein, Zox & Dunn. August 13, 2008. http://www.szd.com/resources.php?NewsID=1184&method=unique (accessed August 14, 2008).

"State Insurance Regulation." Washington, DC: National Association of Insurance Commissioners. 2011.

"State Recognition Details" Washington, DC: Joint Commission. August 31, 2012. http://www.jointcommission.org/state_recognition/state_recognition_details.aspx?ps=100 &pg=1 (accessed August 31, 2012).

"Statement of Financial Accounting Standards No. 141: Business Combinations." Norwalk, CT: Financial Accounting Standards Board, June 23, 2005.

"Statements of Financial Accounting Concepts—Elements of Financial Statements: A replacement of FASB Concepts Statement No. 3." Financial Accounting Standards Board. Norwalk, CT: December 1985.

"Telemedicine Requirements: Hospital Accreditation Program." Washington, DC: The Joint Commission. December 9, 2011. http://www.ttuhsc.edu/telemedicine/documents/docs/PrePub_20111209_Telemedicine_HAP.pdf (accessed September 14, 2012).

Workload Implementation Handbook: Durable Medical Equipment Medicare Administrative Contractor. Baltimore: Centers for Medicare and Medicaid Services. March 1, 2007.

"Your Medical License as Marital Property," by Steven Sheinwald and Jennifer Kirschenbaum. Garden City, NY: Kirschenbaum & Kirschenbaum. 2013.

Peer-Reviewed Sources

"Antitrust Implications of Competition between Physician-Owned Facilities and General Hospitals: Competition or Exclusion?" by William E. Berlin and Ober Kaler. *The Health Lawyer* 20, no. 5. Washington, DC: American Bar Association. June 2008.

"CMS 2008 Rulemaking Focuses on Curbing Self-Referred Imaging," by Thomas W. Greeson and Heather M. Zimmerman. American Roentgen Ray Society. *American Journal of Roentgenology* no. 190, February 2008. http://www.reedsmith.com/files/Publication/40b6f38a-5b07–4a02–9349-a64925a0522d/Presentation/PublicationAttachment/7ec34115-ea41–4d77-ab7b-ac6ed6133703/AJR_Article_Feb_2008.pdf (accessed April 29, 2013).

"Considering Recertification," by Jeffrey Drazen and Debra Weinstein. *New England Journal of Medicine* 362, no. 10, March 11, 2010. http://acmd615.pbworks.com/f/Drazen_NEJM_2010.pdf (accessed April 29, 2013).

"The Cost of the Omnibus Budget Reconciliation Act of 1990," by Brenda J. Quick. *Journal of Pharmacy and Law.* Ada, OH: Ohio Northern University, 1993.

"Deficit Reduction Act: Recent Developments and Implications for Providers," by Frank Sheeder and Keri Tonn. *New Perspectives*, Association of Healthcare Auditors. May 2008. http://www.jonesday.com/files/Publication/bdcd1d4e-565f-4e7e-b9df-f55090493cda/Presentation/PublicationAttachment/cacf2146-d53c-4661–8248–7692dc1b986b/22–23_nepe-27–02–08.pdf (accessed April 29, 2013).

"Does Medicaid Managed Care Affect Access to Care for the Uninsured?" by Jessica E. Haberer, Bowen Garrett, and Lawrence C. Baker. *Health Affairs* 24, no. 4. Bethesda, MD: Project HOPE July/August 2005. http://healthaffairs.org/1340_reprints.php (accessed April 11, 2013).

"Employment Tax Audits of Exempt Hospitals Could Turn Up Other Issues, Attorneys Warn." *BNA's Health Law Reporter* 18, 18 HLR 1653, BNA Books, December 24, 2009.

"The Evolution of Sales Tax Nexus Expansion Laws: State and Local Taxes," by Jennifer Jensen. *The Tax Adviser*, American Institute of Certified Public Accountants, April 2012.

"The Human Genome and Translational Research: How Much Evidence Is Enough?" by Janet Woodcock. *Health Affairs* 27, no. 6. Bethesda, MD: Project HOPE. November 2008. http://www.content.healthaffairs.org (accessed September 24, 2012).

"The Impact of Regulation on Healthcare Valuation: Whistling Past the Graveyard," by Robert J. Cimasi, in *Valuation Strategies*. New York: Thomson Reuters. September-October 2008.

"Medicare's Prospective Payment System at Age Eight: Mature Success or Midlife Crisis?" Tacoma, WA. *University of Puget Sound Law Review* 14, no. 3, Spring 1991.

"More Medical Schools Boost Primary Care Doctors through Small-Town Campuses," by Gina Shaw. *AAMC Reporter*. Washington, DC: Association of American Medical Colleges. July 2012. https://www.aamc.org/newsroom/reporter/july2012/297208/small-town.html (accessed April 29, 2013).

"New Medical Schools in the United States," by Michael E. Whitcomb. *New England Journal of Medicine* 362, no. 14. Boston: Massachusetts Medical Society. April 8, 2010.

"An Overview of the Development and Refinement of the Resource-Based Value Scale: The Foundation for Reform of U.S. Physician Payment." *Medical Care* 30, no. 11, Supplement, Lippincott Williams & Wilkins. November 1992.

"Phase III Regulations Result in Dramatic Changes to Stark Law," by J. K. Barnes, J. Cowan, D. L. Glaser, Ramy Fayed, Chris Janney, et al. *BNA Health Law Reporter* 16, no. 40, October 11, 2007 (accessed June 3, 2008).

"Spending Differences Associated with the Medicare Physician Group Practice Demonstration," by Carrie H. Colla, David E. Wennberg, Ellen Meara, Daniel Gottlieb, Valerie A. Lewis, et al. *Journal of the American Medical Association* 308, no. 10, September 12, 2012. Chicago: American Medical Association. http://jama.jamanetwork.com/article.aspx?articleid=1357260 (accessed September 13, 2012).

"Strict Hand Hygiene and Other Practices Shortened Stays and Cut Costs and Mortality in a Pediatric Intensive Care Unit." *Health Affairs* 30, no. 9. Bethesda, MD: Project Hope. September 2011.

Tips to Win: Navigating CON Laws for ASCs, by Robert J. Cimasi. Phoenix: Virgo Publishing. 2008.

"Where Each State Stands on ACA's Medicaid Expansion: A Roundup of What Each State's Leadership Has Said about Their Medicaid Plans." *The Daily Briefing*. Washington, DC: The Advisory Company. July 5, 2012. http://www.advisory.com/Daily-Briefing/2012/11/09/MedicaidMap (accessed August 15, 2012).

"Whither Antitrust? The Uncertain Future of Competition Law in Health Care: The Recent Lethargic Performance of Federal Antitrust Enforcement Might Be Helped by Sound Judicial Review and Economic Research," by Thomas L. Greaney. *Health Affairs* 21, no. 2. Bethesda, MD: Project HOPE. March 2002.

HEALTHCARE ENTERPRISES, ASSETS, AND SERVICES

Book Sources

The 2011 Healthcare Business Market Research Handbook, by Richard K. Miller. Loganville, GA: Richard K Miller & Associates. 2011.

Assisted Living Strategies for Changing Markets: How For-Profits and Not-for-Profits Can Still Prosper while Serving Seniors, by Jim Moore. Fort Worth, TX: Westridge. 2001.

The Computer Based Patient Record: An Essential Technology for Health Care. Revised ed. Washington, DC: National Academy Press. 1997.

Conomikes Managed Care Handbook. Los Angeles: Conomikes Associates. 1994.

The Continuum of Long-Term Care, 3rd ed., by Connie J. Evashwick. Clifton Park, NY: Thomson Delmar Learning. 2005.

Dictionary of Health Insurance and Managed Care, by David E. Marchinko. New York: Springer. 2006.

Essentials of Managed Health Care, 6th ed., by Peter R. Kongstvedt. Burlington, MA: Beard Group. 2007.

The Financial Manager's Guide to Managed Care & Integrated Delivery Systems: Strategies for Contracting, Compensation & Reimbursement, by Paul R. DeMuro. Burr Ridge, IL: Irwin. 2000.

From Patient to Payment: Insurance Procedures for the Medical Office, 3rd ed., by Cynthia Newby. New York: McGraw Hill. 2002.

The Greatest Benefit to Mankind: A Medical History of Humanity, by Roy Porter. New York: W. W. Norton. 1997.

Health Care Fraud and Abuse: Practical Perspectives, by Linda A Baumann. Washington, Washington, DC: The Bureau of National Affairs. 1988.

Health Care Reform and Managed Care: A Guidebook for Orthopaedic Surgeons. American Academy of Orthopaedic Surgeons. Rosemont, IL: American Academy of Family Physicians. 1994.

Health Law: Cases, Materials and Problems. 3rd ed., by Barry R. Furrow, Thomas L. Greaney, Sandra H. Johnson, Timothy S. Jost, and Robert L. Schwartz. Eagan, MN: West Group. 1997.

Healthcare Integration: A Legal Manual for Constructing Integrated Organizations, by Gerald R. Peters. Washington, DC: National Health Lawyers Association (NHLA). 1995.

IPA, PHO, & MSO Development Strategies: Building Successful Provider Alliances, by Maria K. Todd. New York: McGraw Hill. 1997.

Making Sense of Managed Care. Tampa, FL: American College of Healthcare Executives (ACHE). 1997.

Managed Care: Made in America, by Arnold Birenbaum. Westport, CT: Praeger. 1997.

Managed Care, by Seth B. Goldsmith. Gaithersburg, MD: Aspen Publishers. 1995.

Managed Care: What It Is and How It Works, 3rd ed., by Peter R. Kongstvedt. Sudbury, MA: Jones and Bartlett. 2009.

Medical Practice Management System, by Linda Nadeau. Albany, NY: Thomson Delmar Learning. 2007.

Physician Integration & Alignment: IPA, PHO, ACOs, and Beyond, by Maria K. Todd. New York: CRC Press, Taylor & Francis Group. 2013.

A Physician's Guide to Thriving in the New Managed Care Environment: Selecting the Right Strategy for Your Practice. North Manchester, IN: BookPartners. 2000.

Podiatry Source Book, 2nd ed., by Ivy L Alexander. Detroit: Omnigraphics. 2007.

Remedy and Reaction: The Peculiar American Struggle over Health Care Reform, by Paul Starr. New Haven, CT: Yale University Press. 2011.

Senior Living Communities: Operations Management and Marketing for Assisted Living, Congregate, and Continuing Retirement Communities, by Benjamin W. Pearce. Baltimore: Johns Hopkins University Press. 1998.

Statistics: A First Course, 4th ed., by John E. Freund and Richard M. Smith. Englewood, NJ: Simon Schuster Prentice Hall. 1986.

United States Renal Data System: Atlas of End-Stage Renal Disease in the United States, vol. 2. Washington, DC: Annual Data Report. 2009.

Government Sources

"Accreditation and Its Impact on Various Survey and Certification Scenarios." Washington, DC: Centers for Medicare and Medicaid Services. 2008.

"Affordable Care Act Initiative to Lower Costs, Help Doctors and Hospitals Coordinate Care." Washington, DC: U.S. Department of Health and Human Services. 2011. http://www.hhs.gov/news/press/2011pres/08/20110823a.html (accessed October 24, 2011).

"Breach Notification for Unsecured Protected Health Information." *Federal Register* 74, no. 162. August 24, 2009. Washington, DC: U.S. Department of Health and Human Services. 2009. http://www.gpo.gov/fdsys/pkg/FR-2009–0824/pdf/FR-2009–08–24.pdf (accessed August 7, 2012).

"Brief Summaries of Medicare & Medicaid: Title XVIII and Title XIX of the Social Security Act: as of November 1, 2007," by Earl D. Hoffman, Barbara Klees, and Catherine A. Curtis. Baltimore: Centers for Medicare and Medicaid Services. 2008. http://www.cms.gov/Research-Statistics-Data-andSystems/Statistics-Trends-andReports/MedicareProgramRatesStats/downloads/MedicareMedicaidSummaries2007.pdf (accessed August 23, 2012).

"Changing Demographics: Implications for Physicians, Nurses, and Other Health Workers." Washington, DC: U.S. Department of Health and Human Services Health Resources and Services Administration Bureau of Health Professions. 2003.

"Coding and Ancillary Policies." 42 CFR 414.40. Mountain View, CA: Justia.com. 2012. http://law.justia.com/cfr/title42/42–2.0.1.2.14.2.51.12.html (accessed August 23, D2012).

"Coding Trends of Medicare Evaluation and Management Services." Office of the Inspector General. Washington, DC: U.S. Department of Health and Human Services. 2012.

"Computed Tomography (CT): Questions and Answers." Washington, DC: National Cancer Institute, U.S. Department of Health and Human Services. 2003.

"Conditions of Participation: Critical Access Hospitals (CAHs)." 42 CFR 485. Washington, DC: U.S. Government Printing Office. 1993.

"The Congressional Budget Office Cost Estimate of H.R. 4872, Reconciliation Act of 2010." Washington, DC: Congressional Budget Office. 2010. http://www.cbo.gov/doc.cfm?index=11379 (accessed August 7, 2012).

"Consumer-Driven Health Care: What Is It, and What Does It Mean for Employees and Employers?" by Song G Yi. Washington, DC: U.S. Bureau of Labor Statistics. 2010. http://www.bls.gov/opub/cm20101019ar01p1.htm (accessed May 1, 2013).

"Critical Access Hospital: Rural Health Fact Sheet Series." U.S. Dept. of Health and Human Services, Centers for Medicare and Medicaid Services. Baltimore: Centers for Medicare and Medicaid Services. January 2012.

"Critical Access Hospitals Payment Systems." Washington, DC: MedPAC. 2012. http://www.medpac.gov (accessed May 1, 2013).

"Dentists," in *Occupational Outlook Handbook. 2012–2013 Edition*. Washington, DC: United States Bureau of Labor. 2012. http://www.bls.gov/ooh/healthcare/dentists.htm (accessed December 6, 2012).

"DMEPOS Competitive Bidding Program Round 1 Recompete Announced." U.S. Dept. of Health and Human Services. Baltimore: Centers for Medicare and Medicaid Services. 2012. http://www.cms.gov (accessed August 9, 2012).

"Electronic Health Records Overview." National Institutes of Health. McLean, VA: Mitre Corporation. 2006.

"Electronic Medical Record/Electronic Health Record Systems of Office-based Physicians: United States, 2009 and Preliminary 2010 State Estimates," by Chun-Ju Hsiao, Paul C. Beatty, Esther S. Hing, David A. Woodwell, Elizabeth A. Rechsteiner, et al. Atlanta: National Center for Health Statistics. 2010.

"Emergency Economic Stabilization Act of 2008." *Pub. L.* 110–343 HR 1424. Washington, DC: 110th Congress. October 3, 2008.

"Examination and Treatment for Emergency Medical Conditions and Women in Labor." 42 USC 1395dd. Washington, DC: U.S. Social Security Administration. 2011.

"Existing Requirements for Telemedicine Practitioners Explained." Washington, DC: The Joint Commission. February 2, 2003. http://americantelemed.i4adev.com/files/public/abouttelemedicine/JCP_2_2_2003.pdf (accessed May 1, 2013).

"Fact Sheet 01–11 Payment Methodology: What is CHAMPVA?" Denver: Department of Veterans Affairs. 2008.

"Fact Sheet 01–15, Participating Providers: Participating Providers." Denver: U.S. Department of Veterans Affairs. July 2008. http://www.va.gov/hac/factsheets/factsheets.asp (accessed August 18, 2009).

"Fact Sheet 01–16, for Outpatient Providers and Office Managers." Denver: Department of Veterans Affairs. December 2008. http://www.va.gov/hac/factsheets/champva/FactSheet01–16.pdf (accessed August 18, 2009).

"Fact Sheet Critical Access Hospital Programs." Baltimore: Centers for Medicare Medicaid Services. December 2004. http://www.cms.hhs.gov/providers/cah/ (accessed March 14, 2005).

"Federal Food, Drug, and Cosmetic Act." *Pub. L.* 75–717. Washington, DC: U.S. Government Printing Office. 1938.

"Genetic Information Nondiscrimination Act of 2008." *Pub. L.* 110–233. Washington, DC: U.S. Equal Employment Opportunity Commission. 2008.

"GPO Services Provided to Customers and Initiatives Regarding Their Business Practices." Washington, DC: U.S. Government Printing Office. 2010.

Health Care Fraud and Abuse Control Program: Annual Report for Fiscal Year 2011. Washington, DC: U.S. Dept. of Health and Human Services. 2012.

"Health Care Provider Reference Guide," by Janet E. Gitterman and Marvin Friedlander. Washington, DC: Internal Revenue Service. 2004. http://www.irs.gov/pub/irstege/eotopicc04.pdf (accessed April 30, 2013).

"Health Insurance Portability and Accountability Act of 1996." United States Congress. *Pub. L.* 104–191. Washington, DC: U.S. Congress. 1996. aspe.os/dhhs.gov/admnsimp/p1104191.htm (accessed May 20, 2002).

"Health, United States, 2011: With Special Feature on Socioeconomic Status and Health." National Center for Health Statistics. Washington, DC: U.S. Government Printing Office. 2011.

Hervey v. Rhode Island Locomotive Works. 93 U.S. 664. Washington, DC: U.S. Government Printing Office. 1876.

"HHS Issues Final ICD-10 Code Sets and Updated Electronic Transaction Standards Rules." Centers for Medicare and Medicaid Services. News Release. Baltimore: Centers for Medicare and Medicaid Services. January 15, 2009. http://www.hhs.gov/news/press/2009pres/01/20090115f.html (accessed May 1, 2013).

"History of the Statistical Classification of Diseases and Causes of Death." Washington, DC: Center for Disease Control and Prevention. March 2011.

"Hospital Acute Inpatient Services Payment System." Washington, DC: Medicare Payment Advisory Commission. October 2008.

"Hospital Outpatient Prospective Payment System: Payment System Fact Sheet." Baltimore: Centers for Medicare and Medicaid Services. 2012. http://www.cms.gov/Outreach-and-Education/Medicare-Learning-NetworkMLN/MLNProducts/downloads/hospitaloutpaysysfctsht.pdf (accessed April 30, 2013).

"Home Health Care Services Payment System." Washington, DC: Medicare Payment Advisory Commission. 2011. http://medpac.gov/documents/MedPAC_Payment_Basics_11_HHA.pdf (accessed August 9, 2012).

"Home Infusion Therapy: Differences between Medicare and Private Insurers' Coverage." GAO-10–426. Washington, DC: U.S. Government Accountability Office. 2010.

"Hospice Services Payment System." *Payment Basics*. Washington, DC: Medicare Payment Advisory Commission. 2012. http://www.medpac.gov/documents/MedPAC_Payment_Basics_12_hospice.pdf (accessed December 13, 2012).

"Human Factors in the GMP Inspection Process," by Gregory W. O'Connell. Washington, DC: U.S. Food and Drug Administration. 2011. http://www.fda.gov/MedicalDevices/DeviceRegulationandGuidance/HumanFactors/ucm128186.htm (accessed May 1, 2013).

"IRS Notice 2010–39: Requests for Comments Regarding Additional Requirements for Tax-Exempt Hospitals." Washington, DC: Internal Revenue Services. 2010.

"Limitation on Certain Physician Referrals." 42 USC Section 1395.1877. Washington, DC: Government Printing Office. April 18, 2011.

"Limitations on Services of a Chiropractor." 42 CFR 410.21. Baltimore: Centers for Medicare and Medicaid Services. 2011.

"Managing Your Health Information Online." 2011. http://www.medicare.gov/navigation/manageyour-health/personal-health-records/personal-health-recordsoverview.aspx?AspxAutoDetectCookieSupport=1 (accessed September 21, 2011).

"Limited Options to Manage Specialty Drug Spending," by Ha T. Tu and Divya R. Samuel. No. 22. Washington, DC: Center for Studying Health System Change. 2012.

"Medical Devices; Current Good Manufacturing Practice (CGMP) Final Rule; Quality System Regulation: Final Rule." Silver Spring, MD: U.S. Food and Drug Administration. *Federal Register* 61, no. 195. 1996.

"Medicare and Medicaid Programs; Hospital Conditions of Participation: Anesthesia Services: Final Rule." Washington, DC. *Federal Register* 66, no. 219 (November 13, 2001).

"Medicare and Medicaid Programs: Hospital Outpatient Prospective Payment; Ambulatory Surgical Center Payment; Hospital Value-Based Purchasing Program; Physician Self-Referral; and Patient Notification Requirement in Provider Agreements." *Federal Register* 76, no. 230. Washington, DC: U.S. Government Printing Office. November 30, 2011.

"Medicare and Medicaid Programs; Recognition of the American Osteopathic Association (AOA) for Continued Approval of Deeming Authority for Hospitals: Recognition of the American Osteopathic Association for Continued Approval of Deeming Authority for Hospitals." Washington, DC: U.S. Government Printing Office. March 25, 2005.

"Medicare Beneficiary Access to Skilled Nursing Facilities" Washington, DC: U.S. Dept. of Health and Human Services. 2001.

Medicare Benefit Policy Manual. Baltimore: Centers for Medicare and Medicaid Services. 2012.

Medicare Claims Processing Manual. "Chapter 20—Durable Medical Equipment, Prosthetics, Orthotics, and Supplies (DMEPOS)." Baltimore: Centers for Medicare and Medicaid Services. 2009.

Medicare Claims Processing Manual: "Chapter 12—Physician/Nonphysician Practitioners." Sections 110–120. Baltimore: Centers for Medicare and Medicaid Services. 2009.

"Medicare Coverage of Skilled Nursing Facility Care." Baltimore: Centers for Medicare and Medicaid Services. 2007.

"Medicare Demonstrations: Details for Medicare Medical Home Demonstration." Baltimore: Centers for Medicare and Medicaid Services. August 31, 2011. http://www.cms.gov/DemoProjectsEvalRpts/MD/itemdetail.asp?itemID=CMS1199247 (accessed January 4, 2012).

"Medicare Enrollment for Physicians, Non-Physician Practitioners and Other Health Care Suppliers." Baltimore: Centers for Medicare and Medicaid Services. 2009.

"Medicare Medicaid Programs; Physicians' Referrals to Health Care Entities with Which They Have Financial Relationships [Stark II, Phase I]: Final Rule." *Federal Register* 66, no. 3 (January 4, 2001): 916, 944. Washington, DC: United States Federal Government.

"Medicare's Payments to Physicians: The Budgetary Impact of Alternative Policies Relative to CBO's March Baseline." Washington, DC: Congressional Budget Office. http://www.cbo.gov/publication/41512 (accessed April 30, 2013). 2012.

"Medicare Physician Guide: A Resource for Residents, Practicing Physicians, and Other Healthcare Professionals." Baltimore: Centers for Medicare and Medicaid Services. October 2009. http://www.cms.hhs.gov/MLNProducts/Downloads/physicianguide.pdf.

Medicare Primer, by Patricia A. Davis. Washington, DC: Congressional Research Service. July 1, 2010. http://aging.senate.gov/crs/medicare1.pdf (accessed August 23, 2012).

"Medicare Program; Changes to Medicare Payment for Drugs and Physician Fee Schedule Payments for Calendar Year 2004; Interim Final Rule." U.S. Dept. of Health and Human Services. *Federal Register* 69, no. 4. Washington, DC: U.S. Government Printing Office. 2004.

"Medicare Program; Changes to the Hospital Inpatient Prospective Payment Systems and Fiscal Year 1999 Rates: Final Rule." Washington, DC. *Federal Register* 63, no. 147. 1998.

"Medicare Program; Changes to the Hospital Inpatient Prospective Payment Systems and Fiscal Year 2000 Rates: Final Rule." Washington, DC. *Federal Register* 64, no. 146. 1999.

"Medicare Program; Changes to the Hospital Inpatient Prospective Payment Systems and Fiscal Year 2003 Rates: Final Rule." Washington, DC. *Federal Register* 67, no. 148. 2002.

"Medicare Program; Changes to the Hospital Inpatient Prospective Payment Systems and Fiscal Year 2004 Rates; Final Rule." Washington, DC. *Federal Register* 68, no. 148. 2003.

"Medicare Program; Changes to the Hospital Inpatient Prospective Payment Systems and Fiscal Year 2005 Rates: Final Rule." Washington, DC. *Federal Register* 69, no. 154. 2004.

"Medicare Program; Changes to the Hospital Inpatient Prospective Payment Systems and Fiscal Year 2006 Rates." Washington, DC. *Federal Register* 70, no. 155. 2005.

"Medicare Program; Changes to the Hospital Inpatient Prospective Payment Systems and Rates and Costs of Graduate Medical Education: Fiscal Year 2002 Rates; Provisions of the Balanced Budget Refinement Act of 1999; and Provisions of the Medicare, Medicaid, and SCHIP Benefits Improvement and Protection Act of 2000: Final Rules." Washington, DC. *Federal Register* 66, no. 148. 2001.

"Medicare Program; Changes to the Hospital Inpatient Prospective Payment Systems for Acute Care Hospitals and Fiscal Year 2010 Rates; and Changes to the Long-Term Care Hospital Prospective Payment System and Rate Years 2010 and 2009 Rates: Final Rules and Interim Final Rule with Comment Period." U.S. Dept. of Health and Human Services. Baltimore: Centers for Medicare and Medicaid Services. *Federal Register* 74, no. 165. 2009.

"Medicare Program; Competitive Acquisition for Certain Durable Medical Equipment, Prosthetics, Orthotics, and Supplies (DMEPOS) and Other Issues: Final Rule." Washington, DC: U.S. Department of Health and Human Services. 72, no. 68. 2007.

"Medicare Program; End-Stage Renal Disease Prospective Payment System; Final Rule and Proposed Rule." Washington, DC. *Federal Register* 75, no. 155. August 12, 2010.

"Medicare Program; Hospital Inpatient Prospective Payment Systems and Fiscal Year 2007 Rates: Final Fiscal Year 2007 Wage Indices and Payment Rates after Application of Revised Occupational Mix Adjustment to Wage Index." U.S. Department of Health and Human Services. Baltimore: Centers for Medicare and Medicaid Services. 2006.

"Medicare Program; Hospital Inpatient Prospective Payment Systems and Fiscal Year 2009 Rates; Final Fiscal Year 2009 Wage Indices and Payment Rates Including Implementation of Section 124 of the Medicare Improvement for Patients and Providers Act of 2008: Notice." U.S. Dept. of Health and Human Services. Baltimore: Centers for Medicare and Medicaid Services. *Federal Register* 73, no. 193. 2008.

"Medicare Program; Hospital Inpatient Prospective Payment Systems for Acute Care Hospitals and the Long-Term Care Hospital Prospective Payment System and Fiscal Year 2013 Rates Hospitals' Resident Caps for Graduate Medical Education Payment Purposes; Quality Reporting Requirements for Specific Providers and for Ambulatory Surgical Centers; Final Rule." Washington, DC. *Federal Register* 77, no. 170. 2012.

"Medicare Program; Hospital Inpatient Prospective Payment Systems for Acute Care Hospitals and the Long-Term Care Hospital Prospective Payment System and FY 2012 Rates; Hospitals' FTE Resident Caps for Graduate Medical Education Payment: Final Rule." *Federal Register* 76, no. 160. 2011.

"Medicare Program; Hospital Inpatient Prospective Payment Systems for Acute Care Hospitals and the Long Term Care Hospital Prospective Payment System Changes and FY2011 Rates; Provider Agreements and Supplier Approvals; and Hospital Conditions of Participation for Rehabilitation and Respiratory Care Services; Medicaid Program: Accreditation for Providers of Inpatient Psychiatric Services: Final Rule." *Federal Register* 75, no. 157. 2010.

"Medicare Program; Payment Policies under the Physician Fee Schedule and Other Revisions to Part B for CY 2009: Final Rule with Comment Period." *Federal Register* 73, no. 224. Baltimore: Centers for Medicare and Medicaid Services. 2008.

"Medicare Program; Payment Policies under the Physician Fee Schedule and Other Revisions to Part B for CY 2010; Proposed Rule." *Federal Register* 74, no. 132. Washington, DC: United States Congress. July 13, 2009. http://www.gpo.gov/fdsys/pkg/FR-2009–07–13/pdf/E9–15835.pdf (accessed August 20, 2012).

"Medicare Program; Payment Policies under the Physician Fee Schedule and Other Revisions to Part B for CY 2011: Final Rule." *Federal Register* 75, no. 228. Washington, DC: United States Congress. November 29, 2010. http://www.gpo.gov/fdsys/granule/FR-2011–11–28/2011–28597/content-detail.html (accessed April 30, 2013).

"Medicare Program; Physician Fee Schedule Conversion Factor for Calendar Year 1998 and Sustainable Growth Rate for Fiscal Year 1998." U.S. Dept. of Health and Human Services. Washington, DC. *Federal Register* 62, no. 211. 1997.

"Medicare Program; Physician Fee Schedule Update for Calendar Year 2003: 42 CFR Parts 410, 414, and 485." U.S. Dept. of Health and Human Services. Washington, DC. *Federal Register* 68, no. 40. 2003.

"Medicare Program; Physician Financial Relationships With, and Referrals to Health Care Entities That Furnish Clinical Laboratory Services and Financial Relationship Reporting Requirements: 42 CFR Part 411." U.S. Dept. of Health and Human Services. Washington, DC. *Federal Register* 60, no. 156. 1995.

"Medicare Program: Medicare Shared Savings Program; Accountable Care Organizations: Final Rule." *Federal Register* 76, no. 212. Baltimore: Centers for Medicare and Medicaid Services. November 2, 2011.

"Medicare Program; Proposed Changes to the Hospital Inpatient Prospective Payment Systems and Fiscal Year 2009 Rates; Proposed Changes to Disclosure of Physician Ownership in Hospitals and Physician Self-Referral Rules; Proposed Collection of Information Regarding Financial Relationships between Hospitals and Physicians: Proposed Rule." *Federal Register* 73, no. 84 (April 20, 2008).

"Medicare Program; Revisions to Payment Policies under the Physician Fee Schedule for Calendar Year 2001." *Federal Register* 65, no. 212. 42 CFR Parts 410 and 414. Baltimore: Centers for Medicare and Medicaid Services. 2000.

"Medicare Program; Revisions to Payment Policies under the Physician Fee Schedule for Calendar Year 2005: Final Rule." Centers for Medicare Medicaid Services (CMS). Baltimore: Centers for Medicare and Medicaid Services. 2004.

"Medicare Proposes Payment Changes for Long-Term Care Hospitals for Rate Year 2006." Baltimore: Centers for Medicare and Medicaid Services. January 28, 2005.

National Diabetes Statistics, 2011. National Institute of Diabetes and Digestive and Kidney Diseases. Washington, DC: National Institutes of Health. February 2011. http://diabetes.niddk.nih.gov/dm/pubs/statistics/#fasthttp://diabetes.niddk.nih.gov/dm/pubs/statistics/DM_Statistics_508.pdf (accessed December 5, 2012).

National Hospital Discharge Survey. 2009. Washington, DC: Centers for Disease Control. 2009. http://www.cdc.gov/nchs/data/nhds/6expectedsoruce/2009expec6_numberprincipal.pdf (accessed December 7, 2012).

A National Study of Assisted Living for the Frail Elderly: Results of a National Survey of Facilities, by Catherine Hawes, Miriam Rose, and Charles D. Phillips. Washington, DC: U.S. Dept. of Health and Human Services. 1999. http://www.aspe.hhs.gov/daltcp/reports/facres.htm (accessed November 12, 2012).

"New Health Care Electronic Transactions Standards: 5010, D.O, and 3.0." Baltimore: Centers for Medicare and Medicaid Services. 2010.

"Number of Critical Access Hospitals Per State." Baltimore: Centers for Medicare and Medicaid Services. 2012.

Nursing Home Divestiture and Corporate Restructuring: Final Report, by David Stevenson, David Grabowski, and Laurie Coots. Washington, DC: U.S. Dept. of Health and Human Services. 2006. http://aspe.hhs.gov/daltcp/reports/2006/NHdivest.htm (accessed August 9, 2012).

"Nursing Homes: Certification and Compliance." Baltimore: Centers for Medicare and Medicaid Services. 2012. http://www.cms.gov/Medicare/Provider-Enrollment-andCertification/CertificationandComplianc/NHs.html (accessed December 7, 2012).

Obesity among Adults in the United States—No Statistically Significant Change Since 2003–2004, by Cynthia L. Ogden, et al. Division of Health and Nutrition Examination Surveys of the National Center for Health Statistics, Centers for

Disease Control and Prevention. Washington, DC: U.S. Dept. of Health and Human Services. December 4, 2007. http://www.cdc.gov/nchs/data/databriefs/db01.pdf (accessed April 29, 2013).

"October 2012 Update of the Hospital Outpatient Prospective Payment System." U.S. Dept. of Health and Human Services. MLN Matters. Baltimore: Centers for Medicare and Medicaid Services. 2012. http://www.cms.gov/Outreach-and-Education/MedicareLearning-Network-MLN/MLNMattersArticles/downloads/MM8031.pdf (accessed April 30, 2013).

"Office of Inspector General; Medicare Program; Prospective Payment System for Hospital Outpatient Services." Washington, DC: U.S. Dept. of Health and Human Services. 2000.

"The Opportunities and Challenges for Rural Hospitals in an Era of Health Reform." Chicago: American Hospital Association. 2011.

"Optometrists," in *Occupational Outlook Handbook. 2012–2013 Edition*. Washington, DC: Bureau of Labor Statistics. 2012. http://www.bls.gov/ooh/healthcare/optometrists.htm (accessed November 17, 2012).

"Outpatient Dialysis Services: Assessing Payment Adequacy and Updating Payments." Washington, DC: Centers for Medicare and Medicaid Services. 2009.

"Outpatient Dialysis Services Payment System." Washington, DC: Centers for Medicare and Medicaid Services. 2009.

"Outpatient Dialysis Services Payment System." *Payment Basics*. Washington, DC: Medicare Payment Advisory Commission. 2012. http://www.medpac.gov/documents/MedPAC_Payment_Basics_12_dialysis.pdf. (accessed December 13, 2012).

"Overview of the Division of Intramural Research." National Human Genome Research Institute. 2013. http://www.genome.gov/10001634 (accessed April 29, 2013).

"Payment for Covered Outpatient Drugs." 42 USC 1396R-8. 2009. (accessed May 8, 2012).

"Payment System Fact Sheet Series: Acute Care Hospital Inpatient Prospective Payment System." Baltimore: Center for Medicare and Medicaid Services. 2012.

"Physician and Other Health Professionals Payment System." *Payment Basics*. Washington, DC: Centers for Medicare and Medicaid Services. 2011.

"Physician-Owned Specialty Hospitals' Ability to Manage Medical Emergencies." U.S. Dept. of Health and Human Services. Washington, DC: Office of the Inspector General. 2008.

"Physicians' Unfamiliarity with Electronic Personal Health Records May Slow Their Adoption." Washington, DC: U.S. Dept. of Health and Human Services. 2011.

A Plan to Stabilize and Strengthen New York's Health Care System: Final Report of the Commission on Health Care Facilities in the 21st Century. New York Commission on Health Care Facilities in the 21st Century. 2006.

"The Public Health Service Act." Westlaw Next. 42 USC § 201–301bb. Washington, DC: Government Printing Office. 2008.

"Principles of Reasonable Cost Reimbursement; Payment for End-Stage Renal Disease Services; Optional Prospectively Determined Payment Rates for Skilled

Nursing Facilities: 42 CFR 413.102." Washington, DC: U.S. Dept. of Health Human Services. 2012.

"Private Health Insurance: Early Indicators Show That Most Insurers Would Have Met or Exceeded New Medical Loss Ratio Standards," by John E. Dicken. Washington, DC: U.S. Government Accountability Office. 2011. http://www.gao.gov/products/GAO-12–90R (accessed April 29, 2013).

"Residential Care Facilities: A Key Sector in the Spectrum of Long-Term Care Providers in the United States," by Eunice Park-Lee, Christine Caffrey, Manisha Sengupta, Abigail J. Moss, and Emily Rosenoff. Washington, DC: U.S. Dept. of Health and Human Services. 2011.

"Rev. Rul. 56–185, 1956–1 C.B. 202, modified Rev. Rul. 69–545, 1969–2 C.B. 117." Washington, DC: IRS. 1956.

"Rev. Rul. 69–464, 1969–2 C.B. 132." Washington, DC: IRS. 1969.

"Review of the First Year of CMS's Durable Medical Equipment Competitive Bidding Program's Round 1 Rebid." Washington, DC: United States Government Accountability Office. 2012. http://www.gao.gov/products/GAO-12–693 (accessed April 30, 2013).

"Rural Hospital Access Act of 2012." 112th Congress, 2D Session. S.2620. Washington, DC: U.S. Government Printing Office. 2012.

"Rural Hospital Access Act of 2012." 112th Congress, 2D Session. H.R. 5943. Washington, DC: U.S. Government Printing Office. 2012.

"Skilled Nursing Facility Services Payment System." Washington, DC: Centers for Medicare and Medicaid Services. 2011. http://www.medpac.gov/documents/MedPAC_Payment_Basics_12_SNF.pdf (accessed December 13, 2012).

"Special Treatment: Hospitals Located in Urban Areas that Apply for Reclassification as Rural" 42 CFR 412.103 (2009). Washington, DC: U.S. Government Printing Office. 2009.

"Stage 1 vs. Stage 2 Comparison Table for Eligible Hospitals and CAHs." Baltimore: Centers for Medicare and Medicaid Services. 2012.

"Stem Cell Information: Stem Cell Basics." Washington, DC: National Institutes of Health. April 28, 2009. http://stemcells.nih.gov/info/basics/ (accessed July 1, 2009).

"Taxpayer Bill of Rights 2." *Pub. L.* 104–168. Washington, DC: Internal Revenue Services. 1996.

"Title 42, Chapter IV." Centers for Medicare and Medicaid Services, U.S. Dept. of Health and Human Services: 42 CFR 493.17. Washington, DC: U.S. Government Printing Office. 2012.

"Title 42 Program Integrity—Medicare and State Health Care Programs: Part 1001, Subpart C." 42 CFR 1001.952. Washington, DC: U.S. Government Printing Office. 2010.

United States of America ex rel. Ted D. Kosenske, M.D. v. Carlisle HMA, Inc.; Health Management Associates, Inc., Ted D. Kosenske, M.D., Appellant: No. 0–4616. United States Court of Appeals for the Third Circuit. 554 F.3d 88. Washington, DC: U.S. Government Printing Office. January 21, 2009.

"Uses and Disclosures of Protected Health Information: General Rules." 45 CFR 164.502. Washington, DC: U.S. Dept. of Health and Human Services. 2003.

"VA Data Show Home Health Technology Improves Access to Care: Entire Health Care System More Effective." Washington, DC: U.S. Department of Veterans Affairs. 2009.

Standards, Surveys, and Nongovernmental Sources

4 Perspectives: 2011 Fourth Quarter. Pittsburgh: Braff Group. http://www.thebraffgroup.com/Articles/articlespdfs/perspectives/Q42011.pdf. 2011. (accessed May 1, 2013).

50 State Regulatory Surveys: Health Care Facilities: Ambulatory Surgery Centers. Eagan, MN: Thomson Reuters West. 2012.

50 State Regulatory Surveys: State Licensure of Clinical Laboratories. New York: Thomson Reuters. 2012.

2009 HIMSS Leadership Survey: 20th Annual. Chicago: Healthcare Information Management Systems Society. 2009.

2011 Capital Spend: EMR Dominates Budgets. Danvers, MA: Health Leaders Media. 2011.

2011 HIMSS Leadership Survey: Senior IT Executive Results. Chicago: HIMSS. 2011.

2012 CPOE and Meaningful Use Research Brief. Lexington, MA: Imprivata. 2012.

"2012 Glossary of Senior Living Finance Terms." Chicago: Ziegler Investment Banking. 2012.

2012 HIMSS Leadership Survey: Senior IT Executive Results. Washington, DC: HIMSS. 2012.

"AAAHC Announces New Accreditation Program for Hospitals: Will Be Independent of Ambulatory Accreditation Program." Skokie, IL: Accreditation Association for Ambulatory Health Care Inc. 2012. http://www.aaahc.org/news/archives/2012/Hospital-Programs/ (accessed May 1, 2013).

About Retirement Care Communities: Guide to Long Term Care Planning, by Thomas Day. Washington, DC: National Care Planning Council. 2012.

"ACOs: Small & Rural Hospitals." Chicago: American Hospital Association. 2011. http://www.aha.org/aha/advocacy/annual-meeting/ (accessed April 29, 2011).

AHA Hospital Statistics. Chicago: American Hospital Association. Published annually.

An Analysis of Group Purchasing Organizations' Contracting Practices under the Antitrust Laws: Myth and Reality, by Robert E. Bloch, Jay S. Brown, and Scott P. Perlman. New York: Mayer, Brown, Rowe & Maw. 2003.

An Analysis of the Report of the Graduate Medical Education National Advisory Committee. Sacramento: California Postsecondary Education Commission. 1982.

The Annual Statement Studies: Financial Ratio Benchmarks. Philadelphia: Risk Management Association. Published annually.

"Are Cardiologists the QB's of Cardiac Imaging?" by Cristen C. Bolen. *Diagnostic & Invasive Cardiology*. Boston: Reily Communication Group. 2006. http://new.reillycomm.com/diagnostic/article_detail.php?id=611 (accessed August 19, 2008).

"AseraCare Hospice Accused by U.S. of Defrauding Medicare," by Tom Schoenberg and Peter Waldman. *Bloomberg*, January 3, 2012, http://www.bloomberg.com/news/print/2012–01–03/aseracarehospice-accused-of-defrauding-medicare-with-nonterminal-patients.html (accessed April 17, 2013).

Assisted Living and Residential Care in the States in 2010. Washington, DC: AARP Public Policy Institute. 2011.

Cancer Care in America: Description and Implications of Outpatient Community-Based Cancer Care, by Regina E. Herzlinger. Boston: Boston Health Associates, Inc. 2002.

Capital Financing: Financial and Operating Metrics Analysis September 2004. University Park, IL: Governors State University, Health Administration Program. 2004.

"Cardiology Practice Raises the Level of Patient Care: Electronic Medical Records Prove to Pay at a Higher Rate Than Paper Claims." *Business Wire*. Omaha, NE: Berkshire Hathaway. 2004.

"Career as a Podiatrist: Doctor Specializing in Foot Healthcare." Institute of Research. Chicago: Institute for Career Research. 2002. http://www.careers-internet.org (accessed May 1, 2013).

Children's Hospitals' Child Abuse Services: 2012 Survey Findings. Overland Park, KS: Children's Hospital Association. 2012.

"Chiropractic Specialties on the Rise," by Gina Shaw. Arlington, VA: American Chiropractic Association. 2009. http://www.acatoday.org/print.cfm?CID=2323 (accessed May 1, 2013).

"Choosing a Medical Specialty." Chicago: Council of Medical Specialty Societies. 1990.

"Clinically Integrated Physician-Hospital Organizations," by Barry S. Bader. Great Boards. Potomac, MD: Bader & Associates Governance Consultants. 2009.

"Co-Management Agreements, Compensation & Compliance," by Jen Johnson. *ABA Health eSource* 7, no. 10. Chicago: Chicago ABA Health. 2011.

"Computerized Physician Order Entry Usage in North America: The Doctor Is In," by Stacilee O. Whiting and Adam Gale. *Healthcare Quarterly* 11, no. 3. Toronto: Longwoods Publishing. 2008.

"Corporate Law for the Healthcare Provider: Organization, Operation, Merger and Bankruptcy," by Ann Huckstep, James C. Wilson, and Richard P. Carmody. Washington, DC: National Health Lawyers Association. 1993.

"CPOE Adoption Slowly Gaining Ground: Survey," by Joseph Conn. Chicago: Modern Healthcare. 2007. http://www.modernhealthcare.com/article/20070319/FREE/70319001 (accessed May 1, 2013).

"CPOE: It Don't Come Easy: Achieving the Goal of Reducing Errors Requires Vigilant Scrutiny of How Well Electronic Order Entry Is Working. Avoiding 'Alert Fatigue' Also Figures In," by Howard J. Anderson. *Health Data Management* 17, no. 1. New York: Faulkner & Gray. 2009.

Employer Health Benefits: 2011 Annual Survey. Menlo Park, CA: Kaiser Family Foundation. 2011.

"Endoscopy by Non-Physicians," *Gastrointestinal Endoscopy* 69, no. 4. Oak Brook, IL: American Society for Gastrointestinal Endoscopy. 2009. http://www.giejournal.org (accessed May 1, 2013).

"ER, Urgent Care, or Retail Clinics: What's the Difference?" Madison, WI: The Alliance. 2012. http://www.the-alliance.org/uploadedFiles/Health_and_Wellness/TA53-0312_ERUrgent.pdf (accessed December 12, 2012).

"Ethical and Religious Directives for Catholic Health Care Services." Washington, DC: United States Conference of Catholic Bishops. 2009.

"Eye Health Statistics at a Glance." San Francisco: American Academy of Ophthalmology. May 2009. http://www.aao.org/newsroom/press_kit/upload/Eye-Health-Statistics-June-2009.pdf (accessed May 1, 2013).

"Fact Sheet: Computerized Physician Order Entry: Computerized Physician Order Entry." Washington, DC: LeapFrog Group. 2009. http://www.leapfroggroup.org (accessed May 1, 2013).

"Factset Mergerstat /BVR Control Premium Study Advanced Search Results: SIC Code 80 Date Effective 1/1/98–12/31/98." Portland, OR: Business Valuation Resources. 2013.

"Fast Facts on US Hospitals." Chicago: American Hospital Association. 2012.

"FDA Biopharmaceutical Product Approvals and Trends: 2011: FDA Biopharmaceutical Approvals Were Low in Number band Economic Impact, but Include Many New Treatments and a Record Number of Orphan Approvals." Rockville, MD: Biotechnology Information Institute. 2012. http://www.biopharma.com/approvals_2011.html (accessed May 1, 2013).

"Forsyth Center for Women's Health Named after Angelou," by Richard Carver. *Winston-Salem Journal*. Richmond, VA: Media General Communications Holdings. 2012. http://www2.journalnow.com (accessed May 1, 2013).

"From Physician Bonding to Alliances: Building New Physician-Hospital Relationships," by Douglas Goldstein. Alexandria, VA: Capitol Publications. 1992.

"Full Implementation of Computerized Physician Order Entry and Medication-Related Quality Outcomes: A Study of 3364 Hospitals," by Feliciano B. Yu, et al. *American Journal of Medical Quality* 24, no. 278. Baltimore: Williams & Wilkins. 2009.

"A Guide to Physician Integration Model for Sustainable Success," by Scott J. Cullen, Matthew J. Lambert, and James J. Pizzo. Chicago: Health Research & Educational Trust. 2012.

"Health Benefits of Small Employers in 1998," by Jon Gabel, Kimberly Hurst, Heidi Whitmore, and Samantha Hawkins. Menlo Park, CA: Kaiser Family Foundation. 1999.

"Heart Disease and Stroke Statistics—2012 Update: A Report from the American Heart Association," by Veronique L. Roger, Alan S. Go, Donald M. Lloyd-Jones, Emelia J. Benjamin, William B. Borden, et al. *Journal of the American Heart Association*. Dallas: American Heart Association. 2012. http://circ.ahajournals.org/content/125/1/e2.full.pdf+html (accessed July 5, 2012).

"History of Health Informatics at Duke." Durham, NC: Duke Center for Health Informatics. 2009.

"Hospitals Employing Physicians: A Practical Guide to Buying Physician Practices and Compensating Employed Doctors," by Leigh Walton, T. S. Noonan, Claire F. Miley, Clevonne M. Jacobs, and Catherine J. Sloan. Nashville: Bass Berry & Sims PLC. 2009.

"How the Blue Cross Blue Shield Settlement Agreement Helps the Physician Practice." Chicago: American Medical Association. 2008. http://www.ama-assn.org/ama1/pub/upload/mm/368/bcbsflyer.pdf (accessed August 31, 2009).

"How to Seal a Co-Management Deal with a Hospital," by Victoria S. Elliott. *American Medical News*, Practice Management. Chicago: American Medical Association. 2011. http://www.ama-assn.org/amednews/2011/01/24/bica0124.htm (accessed April 30, 2013).

IBISWorld Industry Report 62211: Hospitals in the US, by Sophia Snyder. IBISWorld. May 2012.

IBISWorld Industry Report 62211: Hospitals in the US, by Nikolas Hulewsky. IBISWorld. December 2012.

"ICD-10 Puts Revenue at Risk," by Karen Minich-Pourshadi. *HealthLeaders Media*. Danvers, MA: HC Pro. 2011.

"Impact of a Computerized Physician Order-Entry System," by William M. Stone, et al. *Journal of the American College of Surgeons* 208, no. 5. Chicago: American Medical Association. 2009.

Intellimarker: Ambulatory Surgical Centers Financial & Operational Benchmarking Study. Dallas: VMG Health. 2011.

The Kidney Diseases Dictionary. Bethesda, MD: National Institute of Diabetes and Digestive and Kidney Diseases. 2003.

Leapfrog Hospital Survey Results. 2008. Washington, DC: LeapFrog Group. 2008. http://leapfroggroup.org (accessed May 1, 2013).

"License Recognition: Dentists." Chicago: American Dental Association. 2009. http://www.ada.org/prof/prac/licensure/licensure_recognition.pdf (accessed October 5, 2009).

"Local Public Hospitals: Changing with the Times," by Laurie E. Felland and Lucy Stark. Washington, DC: Center for Studying Health System Change. 2012.

"Long-Term Care Market." Rockville, MD: Kalorama Information. 2012.

"Louisiana Grants Psychologists Prescriptive Authority," by Jennifer D Holloway. Washington, DC: American Psychological Association. 2004. http://www.apa.org/monitor/may04/louisianarx.aspx (accessed May 1, 2013).

"Managed Care Digest Series: HMO-PPO Rx Digest 2012–2013." St. Louis, MO: Sanofi. 2012–2013.

"MarketWatch 2012: Pharmacy Services." Pittsburgh: The Braff Group. 2012. http://thebraffgroup.com (accessed May 1, 2013).

"Medicaid and Psychology." APA Help Center. DC: American Psychological Association. 2009. http://www.apa.org/helpcenter/medicaid.aspx (accessed May 1, 2013).

"Medicare Payment Differentials Across Ambulatory Settings." Washington, DC: Department of Health & Human Services. 2008.

"Medicare Physician Fee Schedule (MPFS)." American College of Radiology. Reston, VA: American College of Radiology. 2009. http://www.acr.org/Hidden/Economics/FeaturedCategories/mps/mpfs.aspx (accessed August 25, 2012).

"Memorandum to All Part D Sponsors from Gary Bailey, Deputy Director, Center for Beneficiary Choices Regarding Home Infusion Therapy," by Gary Bailey. Baltimore: Center for Beneficiary Choices. March 10, 2006.

Medicare RBRVS: The Physicians' Guide. Chicago: American Medical Association. 1994.

National Directory of Physician Organizations. Manasquan, NJ: Health Resources Publishing. 2010.

NHPCO Facts and Figures: Hospice Care in America. Alexandria, VA: National Hospice and Palliative Care Organization. 2012.

Occupational Outlook Handbook, 2012–13 Edition. Bureau of Labor Statistics. Washington, DC: United States Department of Labor. 2012.

"On-Call Specialist Coverage in U.S. Emergency Departments: ACEP Survey of Emergency Department Directors April 2006." Irving, TX: American College of Emergency Physicians. 2006.

"Prescribing Privileges for Psychologists: An Overview." Arlington, VA: National Alliance on Mental Illness. 2009. http://www.nami/org/PrinterTemplate.cfm?Section=Issue_Spotlights&template=/Content (accessed May 1, 2013).

"Principles for a Successful Computerized Physician Order Entry Implementation," by Joan S. Ash, Lara Fournier, P. Z. Stavri, and Richard Dykstra. American Medical Informatics Symposium Proceedings. Bethesda, MD: AMIA. 2003.

Report of the ADA-Recognized Dental Specialty Certifying Boards. Chicago: American Dental Association. 2009. http://www.ada.org/prof/ed/specialties/specialty_certifying_report.pdf (accessed May 1, 2013).

Report of the Graduate Medical Education National Advisory Committee to the Secretary, Department of Health and Human Services. Washington, DC. *Journal of the American Optometric Association*. 1980.

"Requirements for Becoming a Physician." Chicago: American Medical Association. 2012. http://www.ama-assn.org/ama/pub/educationcareers/becoming-physician.page (accessed August 21, 2012).

"Respiratory Care Scope of Practice." Irving, TX: American Association for Respiratory Care. December 2010. http://www.aarc.org/resources/position_statements/dop.html (accessed November 1, 2012).

Results of the 2011 Medical School Enrollment Survey. Center for Workforce Studies. Washington, DC: Association of American Medical Colleges. May 2012.

"Role of Computerized Physician Order Entry Systems in Facilitating Medication Errors," by Ross Koppel. J*ournal of the American Medical Association* 293, no. 10. Chicago: American Medical Association. 2005.

"Safety-Net Hospitals Warn of ACA's Uncompensated Care Crunch: The Facilities Say a Partial Medicaid Expansion Would Mean Congress Must Visit Cuts to Disproportionate Share Hospital Payments under the Affordable Care Act," by Jennifer Lubell. *American Medical News*. November 12, 2012. http://www.amaassn.org/amednews/2012/11/12/gvsb1112.htm. (accessed April 29, 2013).

"Specialty Certifying Boards." Bethesda, MD: Council on Podiatric Medical Education. 2009. http://www.apma.org (accessed May 1, 2013).

State of the Profession: 2008, by Richard C. Edlow and Glenn R. Markus. St. Louis, MO: American Optometric Association. 2008.

"Structure Fires in Medical, Mental Health, and Substance Abuse Facilities," by Jennifer D. Flynn. Quincy, MA: National Fire Protection Association. 2009.

"Supreme Court Upholds Health Care Law; All Tax Measures Preserved." CCH Tax Briefing. New York: Wolters Kluwer. 2012.

A Survey of America's Physicians: Practice Patterns and Perspectives. Boston: The Physicians Foundation. 2012.

Teaching Hospitals: Their Impact on Patients and the Future Health Care Workforce. Chicago: American Hospital Association. 2009.

Telemedicine Overview: Board-by-board Approach. Euless, TX: Federation of State Medical Boards. 2012.

"Today's Continuing Care Retirement Community (CCRC)." CCRC Task Force. Washington, DC: American Seniors Housing Association. 2010.

Trend Watch Chartbook: Trends Affecting Hospitals and Health Systems. Avalere Health. Chicago: American Hospital Association. 2011.

Trendwatch: Physician Ownership and Self-Referral in Hospitals: Research on Negative Effects Grows. Chicago: American Hospital Association. 2008. http://www.aha.org/aha/trendwatch/2008/twapr2008selfreferral.pdf (accessed May 1, 2013).

The Uninsured in Rural America. Menlo Park, CA: Henry Kaiser Family Foundation. 2003.

United States Number of HMOs, July 2011. Menlo Park, CA: Henry Kaiser Family Foundation. 2011.

"Use and Acceptance of Complementary and Alternative Medicine among the General Population and Medical Personnel: A Systematic Review," by Michael Frass, Robert P. Strassl, Helmut Friehs, Michael Mullner, Michael Kundi, et al. *The Ochsner Journal* 12, no. 1. New Orleans: Academic Division of Ochsner Clinic Foundation. 2012.

Value in Health Care: Current State and Future Directions. Westchester, IL: Healthcare Financial Management. 2011.

The Value Journey: Organizational Road Maps for Value-Driven Health Care. Westchester, IL: Health Financial Management Association. 2012.

"Varian's New RapidArc Delivery: The Next Dimension in Speed and Precision," by Corey Zankowski. *Centerline* October 2007.

"Wandering and Elopement: Litigation Issues," by Marie Boltz. Sparta, NJ: National Council of Certified Dementia Practitioners. 2012. http://www.nccdp.org/wandering.htm (accessed November 17, 2012).

"What Is a Doctor of Osteopathic Medicine (D.O.)?" Chicago: American Osteopathic Association. 2000. http://www.am-osteoassn.org/Consumers/whatdo.htm (accessed August 3, 2000).

"Who Will Care for Us? Addressing the Long-Term Care Workforce Crisis," by Robin I. Stone and Joshua M. Wiener. The Robert Wood Johnson Foundation. Washington, DC: Department of Health & Human. 2001.

"Why Is There a Shortage of Primary Care Doctors?" Washington, DC: AAMC. 2010.

Peer-Reviewed Sources

"10 Ways ICD-10 Will Improve Quality of Care," by Cheryl Clark. Danvers, MA: HC Pro. 2011. http://www.healthleadersmedia.com/print/QUA-273822/10-ways-ICD10 (accessed December 2, 2011).

"Achieving Physician Integration with the Co-Management Model." Westchester, IL: Healthcare Financial Management Association. May 7, 2010. http://www.hfma.org/Templates/Print.aspx?id=20619 (accessed July 19, 2010).

"Ambulatory Care Facilities & Clinics: An Interesting Year for Surgical Facilities? Time Will Tell." *Bloomberg Law Reports*. New York: Bloomberg Finance L.P. 2010.

"Back to the Future for Many Hospital-Physician Relationships: Where Do We Go From Here?" by Ronald L. Vance and Ronald B. Goodspeed. *Journal of Ambulatory Care Management*. Germantown, MD: Aspen Systems Corp. 2002.

"A Behavioral Model of Rational Choice." *Quarterly Journal of Economics*. New York: Oxford University Press. 1955.

"Blended Payment Methods in Physician Organizations Under Managed Care," by James C Robinson. Chicago: American Medical Association. 1999.

"Can Electronic Medical Record Systems Transform Health Care? Potential Health Benefits, Savings, and Costs," by Richard Hillestad, James Bigelow, Anthony Bower, Federico Girosi, Robin Meili, et al. *Health Affairs* 24, no. 5. Bethesda, MD: Project HOPE. September/October 2005.

"Changes in Medicare Reimbursement for Hospital-Acquired Conditions Including Infections," by Patricia W. Stone. *American Journal of Infection Control* 37. Washington, DC: Association for Professionals in Infection Control and Epidemiology, 2009.

"Choosing to Convert to Critical Access Hospital Status." *Health Care Financing Review*. Baltimore: Centers for Medicare and Medicaid Services, 2003.

"Clinical Application of a Computerized System for Physician Order Entry with Clinical Decision Support to Prevent Adverse Drug Events in Long-Term Care," by Paula A. Rochon, Terry S. Field, David W. Bates, Monica Lee, Linda Gavendo, et al. *Canadian Medical Association Journal* 174, No. 1. Mississauga, Ontario: CMA Media. 2006.

"Clinically Integrated Physician-Hospital Organizations," by Barry S Bader. *Great Boards* 9, no. 4. Potomac, MD: Bader & Associates Governance Consultants. 2009.

"Coming Together, Moving Apart: A History of the Term Allied Health in Education, Accreditation, and Practice," by Fred G. Donini-Lenhoff. *Journal of Allied Health* 37, no. 1 Washington, DC. July 3, 2008.

"The Commercial Health Insurance Industry in an Era of Eroding Employer Coverage," by James C. Robinson. *Health Affairs* 25, no. 6. Bethesda, MD: Project HOPE. 2006. http://www.content.healthaffairs.org/content/25/6/1475.full (accessed April 30, 2013).

"Cost, Quality, and Value: The Changing Political Economy of Dialysis Care," by Jonathan Himmelfarb, Arnold Berns, Lynda Szczech, Donald Wesson, et al. *Journal of the American Society of Nephrology* 18. Baltimore: Williams & Wilkins. 2007.

"Critical Elements to Building an Effective Wound Care Center," by Paul J. Kim, Karen K. Evans, John S. Steinberg, Mark E. Pollard, and Christopher E. Attinger. *Journal of Vascular Surgery*, St. Louis: Mosby. 2013.

"Current Views of Health Care Design and Construction: Practical Implications for Safer, Cleaner Environments," by Judene M. Bartley. New York. *American Journal of Infectious Control*. 2010.

"Data Mining Applications in Healthcare," by Hian C. Koh and Gerald Tan. *Journal of Healthcare Information Management* 19, no. 2. San Francisco: Jossey-Bass. 2005.

"Diagnostic Performance of Noninvasive Myocardial Perfusion Imaging Using Single-Photon Emission Computed Technology, Cardiac Magnetic Resonance, and Positron Emission Tomography Imaging for the Detection of Obstructive Coronary Artery Disease: A Meta-Analysis." *Journal of the American College of Cardiology*. New York: Springer. 2010.

"Dose Variation during Hypo Fractionated Image-Guided Radiotherapy for Prostate Cancer: Planned Versus Delivered." *Journal of Cancer Research & Therapeutics*, Mumbai, India: Medknow Publications. 2011. http://www.cancerjournal.net (accessed April 30, 2013).

"The Effect of Physician-Hospital Affiliations on Hospital Prices in California," by Federico Ciliberto and David Dranove. *Journal of Health Economics* 25. New York: Elsevier Business Intelligence. 2006. http://www.sciencedirect.com.ezp.slu.edu/science/article/pii/S0167629605001086# (accessed March 8, 2013).

"The Effect of Physician-Owned Surgicenters on Hospital Outpatient Surgery: What Can Happen When a Hospital's Staff Physicians Become Its Business Rivals?" by William J. Lynk; and Carina S. Longley. *Health Affairs* 21, no. 4. Bethesda, MD: Project HOPE. 2002.

"The Emergence of National Electronic Health Record Architectures in the United States and Australia: Models, Costs, and Questions," by Tracy D. Gunter and Nicolas P. Terry. *Journal of Medical Internet Research* no. 1. London: JMIR Publications. 2005.

"Endoscopic Coronary Artery bypass Grafting with the Aid of Robotic Assisted Instruments," by Didier Loulmet, et al. *Journal of Thoracic and Cardiovascular Surgery* 118, no. 1. St. Louis: Mosby. 1999.

"Fighting Hand to Hand Over Physician Workforce Policy," by Kevin Grumbach. *Health Affairs* 21, no. 5. Bethesda, MD: Project HOPE. 2002.

"Health Affairs: Physicians in Nonprimary Care and Small Practices and Those Age 55 and Older Lag in Adopting Electronic Health Record Systems." *Health Affairs*. Bethesda, MD: Project HOPE. 2012. http://content.healthaffairs.org/content/31/5/1108.full.html. (accessed April 30, 2013).

Health Affairs: "'Personalized Medicine' to Identify Genetic Risks for Type 2 Diabetes and Focus Prevention: Can It Fulfill Its Promise?" Bethesda, MD: Project HOPE. 2012. http://content.healthaffairs.org/content/31/1/43.full.html (accessed April 30, 2013).

"Hospital Revenue Cycle Management and Payer Mix: Do Medicare and Medicaid Undermine Hospitals' Ability to Generate and Collect Patient Care Revenue?" by Simone Rauscher and John R. Wheeler. *Journal of Health Care Finance*. New York: Aspen Publishers. 2010.

"Hospital-Wide PACS Need Tighter Data Security: Federal Regs Will Force Hospitals to Make Changes." *Diagnostic Imaging*. San Francisco: Miller Freeman, 2000.

"How Can We Make More Progress in Measuring Physicians' Performance to Improve the Value of Care?" by Thomas P. Miller, Troyen A. Brennan, and Arnold Milstein. *Health Affairs*. Bethesda, MD: Project HOPE. 2009.

"How One Practice Made EMR Improve Workflow, Patient Care and Revenue." Advisory Publications. Danvers, MA: HC Pro. 2011.

"ICD-10 Mandate and Opportunity," by Marianne Aiello. *HealthLeaders Media*. Danvers, MA: HC Pro. 2011. http://www.healthleadersmedia.com/print/QUA-272629/ICD10Mandate (accessed December 2, 2011).

"The Impact of Osteopathic Physicians' Participation in ACGME Postdoctoral Programs: 1985–2006," by Mark Cummings and Donald J. Sefcik. *Osteopathic Medicine and Medical Education*. New York: Lippincott Williams & Wilkins 2009.

"Increasing Physical Function through Physiatrist Intervention for Children with Paedriatric Neurotransmitter Disorders," by S. Evans, et al. *Journal of Inherited Metabolic Diseases* 32. New York: Springer. 2009.

"The Influence of Payer Mix on Electronic Prescribing by Physicians," by David W. Au, Nir Meanchemi, Anantachai Panjamapirom, and Robert G. Brooks. *Health Care Management Review* 36, no. 1. Philadelphia: Wolters Kluwer Health. 2011.

"Interdisciplinary Treatment for Chronic Pain: Is It Worth the Money?" by Timothy S. Clark. *Baylor University Medical Center Proceedings* 13, no. 3. Dallas. 2000.

"The Internet and Managed Care: A New Wave of Innovation." *Health Affairs* 19, no. 6. Bethesda, MD: Project HOPE, 2000.

"Interprofessional Healthcare: A Common Taxonomy to Assist with Understanding," by Alice B. Aiken and Mary A. McColl. *Journal of Allied Health* 38, no. 3. Washington, DC: Association of Schools of Allied Health Professions, Fall 2009.

"The Joint Commission and Telemedicine: The Final Word?" *Accreditation Monthly*. Danvers, MA: HC Pro. 2009.

"Linear Accelerator Based Stereotactic Radiosurgery for Melanoma Brain Metastases," by Mark E. Bernard, Rodney E. Wegner, Katharine Reineman, Dwight E. Heron, John Kirkwood, et al. *Journal of Cancer Research and Therapeutics* 8, no. 2. Mumbai, India: Medknow Publications 2012.

"Liquidity Constraints on Hospital Investment When Credit Markets Are Tight," by Kristin L. Reiter, John R. Wheeler, and Dean G. Smith. J*ournal of Healthcare Finance*. New York: Elsevier. 2008.

"The Long-Term Effect of Premier Pay for Performance on Patient Outcomes," by Ashish K. Jha, Karen E. Joynt, John E. Orav, and Arnold M. Epstein. *New England Journal of Medicine*. Boston: Massachusetts Medical Society. 2012. http://www.nejm.org (accessed April 17, 2012).

"The Managed Care Backlash: Did Consumers Vote with Their Feet?" by Susan M. Marquis, Jeannette A. Rogowski, and Jose J. Escaree. *Inquiry*. Chicago: Blue Cross Association. Winter 2004/2005.

"Meaningful Use of Health Information Technology: From Public Policy to Changing Care," by Paul Tang. *Healthcare Trends and Implications, Futurescan*. Chicago: Health Administration Press, 2012.

"Medical Homes and Accountable Care Organizations: If We Build It, Will They Come?" Washington, DC: Academy Health. 2009. http://www.academyhealth.org/files/publications/RschInsightMedHomes.pdf (accessed April 30, 2013).

"Minimally Invasive and Robotic Surgery," by Michael J. Mack. *Journal of the American Medical Association* 285, no. 5. Chicago: American Medical Association. 2001.

"Missing Productivity Gains in the Medicare Physician Fee Schedule: Where Are They?" by Jerry Cromwell, Nancy McCall, Kathleen Dalton, and Peter Braun. *Medical Care Research and Review*. Thousand Oaks, CA: SAGE. 2010.

"Models of Physician-Hospital Organization: Possibilities and Pitfalls," by Lawton R. Burns. *Issue Brief* 2, no. 7. Philadelphia: University of Pennsylvania Press. 1995. http://www.upenn.edu/ldi/issuebrief2_7.html (accessed April 30, 2013).

"Molecular Diagnostics: Harmonization through Reference Materials, Documentary Standards and Proficiency Testing," by Marcia J. Holden, Roberta M. Madej, Philip Minor, and Lisa V. Kalman. *Expert Review of Molecular Diagnostics* 11, no. 7. London: Future Drugs Ltd. 2011.

"A New Concept of a Multidisciplinary Wound Healing Center and a National Expert Function of Wound Healing," by Finn Gottrup, Per Holstein, Bo Jorgensen, Michael Lohmann, and Tony Karlsmark. *Archives of Surgery*. Chicago: American Medical Association. 2001. http://173.193.11.201/ (accessed March 18, 2013).

"Night-Shift Solutions" by Lisa Ryan. *The Hospitalist*. Hoboken, NJ: John Wiley & Sons. April 2009. http://www.thehospitalist.org/detains/article/183090/NightShift_Solutions.html (accessed January 5, 2010).

"The Optometrist's Rise to Power in the Health Care Market, or 'It's Optometric Physician to You,'" by Scott Warnock. *Science Communication* 27, no. 1. New York. 2005.

"Perioperative Management of Chronic Heart Failure," by Leanne Groban and John Butterworth. *Anesthesia & Analgesia* 103, no. 3. San Francisco: International Anesthesia Research Society. 2006.

"PET Versus SPECT: Strengths, Limitations, and Challenges," by Arman Rahmim and Habib Zaidi. *Nuclear Medicine Communications* 29, no. 193. Philadelphia: Wolters Kluwer Health. 2008.

"Preparing the Personal Physician for Practice (P4): Meeting the Needs of Patients: Redesign of Residency Training in Family Medicine," by Michael E. Whitcomb. *Journal of the American Board of Family Medicine* 20, no. 4. Lexington, KY: American Board of Family Medicine. July–August 2007.

"Principles of CT: Multislice CT," by Lee W. Goldman. *Journal of Nuclear Medicine Technology* 36, no. 2. Reston, VA: Society of Nuclear Medicine and Molecular Imaging, 2008.

"Productivity and Cost Implications of Implementing Electronic Medical Records into an Ambulatory Surgical Subspecialty Clinic," by Mukul Patil, Lalit Purl,

and Chris M. Gonzalez. *Journal of Urology*. Linthicum, MD: American Urological Association. 2008.

"Proteomic Applications for the Early Detection of Cancer," by Julia D. Wulfkuhle, Lance A. Liotta, and Emanuel F. Petricoin. London: Nature Pub Group. 2003.

"Pursuing Health Equity: Zoning Codes and Public Health." Boston: American Society of Law, Medicine & Ethics. 2011.

"Resource-Based Relative Value Units: A Primer for Academic Family Physicians," by Sarah E. Johnson and Warren P. Newton. *Family Medicine* 34, no. 3. Leawood, KS. March 2002. http://www.stfm.org/fmhub/fm2002/mar02/sa1.pdf (accessed August 22, 2012).

"The Rise in Spending among Medicare Beneficiaries: The Role of Chronic Disease Prevalence and Changes in Treatment Intensity," by Kenneth E. Thorpe and David H. Howard. *Health Affairs*. Bethesda, MD: Project HOPE. 2006.

"Robotic Assisted Laparoscopic Radical Prostatectomy: A Review of the Current State of Affairs," by V. R. Patel, et al. *International RadioSurgery Association* 61, no. 2. Hoboken, NJ: Blackwell. 2007.

"Robotic Cardiac Surgery: Time Told," by Francis Robicsek. *Journal of Thoracic and Cardiovascular Surgery* 135, no. 2. New York: Elsevier. February 2008.

"Robotic Technology in Surgery: Past, Present, and Future," by David B. Camarillo, et al. *American Journal of Surgery*. October 2004. Bridgewater, NJ: Excerpta Medica.

"Robotics in Vascular Surgery," by Bernardo D. Martinez and Catherine Wiegand. *American Journal of Surgery* 188. Bridgewater, NJ: Excerpta Medica. 2004.

"Role of Positron Emission Tomography Computed Tomography in Carcinoma Lung Evaluation." Mumbai, India: Medknow Publications. 2011. http://www.cancerjournal.net (accessed April 30, 2013).

"A Shortage of Physicians or a Surplus of Assumptions: As the Nation's Supply of Health Care Workers Rose, So Did the Numbers of Underserved Citizens. U.S. Workforce Policy Must Address This Imbalance," by Uwe E. Reinhardt. Bethesda, MD: Project HOPE. 2002.

"Sizing Up the Market for Assisted Living," by David G. Stevenson and David C. Grabowski. *Health Affairs*. Bethesda, MD: Project HOPE. 2010.

"Smartphone Teleradiology Application Is Successfully Incorporated into a Telestroke Network Environment," by B. M. Demaerschalk, et al. *Stroke* 43, no. 11. Baltimore: Lippincott Williams & Wilkins. 2012. http://stroke.ahajournals.org (accessed April 30, 2013).

"Specialty Hospitals, Ambulatory Surgery Centers, and General Hospitals: Charting a Wise Public Policy Course," by David Shactman. *Health Affairs*. Bethesda, MD: Project HOPE. 2005.

"SPECT vs. PET, Which Is Best?" by Dave Fornell. *Diagnostic and Interventional Cardiology*. Arlington Heights, IL: Scranton Gillette Communications. 2008. http://www.dicardiology.net/node/28668 (accessed February 10, 2009).

"Success under Duress: Policies and Practices Managers View as Keys to Profitability in Five California Hospitals with Challenging Payer Mix," by Thomas Rundall, Shelley Oberlin, Kurt Salmon, Brian Thygesen, and Katharina Janus. *Journal of Healthcare Management* 57, no. 2. Chicago: Health Administration Press. 2012.

"The Journal of Chiropractic Medicine and Selected Specialties in the Chiropractic Profession," by Claire Johnson. *Journal of Chiropractic Medicine* 9. Lombard, IL: National University of Health Sciences. 2010.

"Toward Developing a Relative Value Scale for Medical and Surgical Services," by William C. Hsiao and William B. Stason. *Health Care Financing Review*. Washington, DC: Centers for Medicare and Medicaid Services. 1979.

"Trends in Midlevel Provider Utilization in Emergency Departments from 1997 to 2006," by Michael D. Menchine, Warren Wiechmann, and Scott Rudkin. *Academic Emergency Medicine* 16, no. 10. Des Plaines, IL: Society for Academic Emergency Medicine. 2009. http://www.aemj.org. (accessed April 30, 2013).

"Trends in Retail Clinic Use among the Commercially Insured," by J. Ashwood, Rachel O. Reid, Claude M. Setodiji, Ellerie Weber, Martin Gaynor, et al. *American Journal of Managed Care*. Plainsboro, NJ: Managed Care & Healthcare Communications. 2011.

"Types of Unintended Consequences Related to Computerized Provider Order Entry," by Emily M. Campbell; Dean F. Sittig; Joan S. Ash; Kenneth P. Guappone, MD; and Richard H. Dykstra. *Journal of the American Medical Informatics Association—Original Investigations* 13, no. 5. Philadelphia: Hanley & Belfus. 2006.

"U.S. Pain Management Device Market: Catering to an Aging Population." New York: Elsevier Business Intelligence. 2011. http://www.ElsevierBl.com (accessed April 30, 2013).

"Uncompensated Care Provided by For-Profit, Non-Profit, and Government Owned Hospitals," by Peter Cram, Levent Bayman, Ioana Popescu, Mary S. Vaughan-Sarrazin, and Xueya Cai. London: BMC Health Services Research. 2010.

"Usefulness of Whole Body FDG18 PET-CT Imaging in Comprehensive Oncologic Management—Initial Experience." *Journal of Cancer Research and Therapeutics* 6, no. 3. Mumbai, India: Medknow Publications. 2010. http://www.cancerjournal.net (accessed April 30, 2013).

"User Satisfaction with Computerized Order Entry System and Its Effect on Workplace Level of Stress," by Nasrollah Ghahramani. *Journal of Medical Systems* 33, no. 199. New York: Springer. 2009.

"Visits to Retail Clinics Grew Fourfold from 2007 to 2009, Although Their Share of Overall Outpatient Visits Remains Low," by Ateev Mehrotra and Judith R. Lave. *Health Affairs* 31, no. 9. Bethesda, MD: Project HOPE. 2012. http://content.healthaffairs.org.ezp.slu.edu/content/31/9/2123.full.pdf+html (accessed April 17, 2013).

"What Is a Biopharmaceutical? Part 1: (Bio)Technology-Based Definitions." St. Petersburg, FL: BioExecutive International. 2005.

"The White Coat Ceremony: A Contemporary Medical Ritual," by S. J. Huber. *Journal of Medical Ethics* 29. London: BMJ Publishing Group. 2003.

"Withering on the Vine: The Decline of Indemnity Health Insurance," by Jon R. Gabel, Paul B. Ginsburg, Heidi H. Whitmore, and Jeremy D. Pickering. *Health Affairs* 19, no. 5. Bethesda, MD: Project HOPE. 2000.

"Working Group 6: The Role of Technology to Enhance Clinical and Educational Efficiency," by Steven E. Nissen, Abdulla M. Abdulla, Bijoy K. Khandheria,

Michael G. Kinezle, and Carol A. Zaher. *Journal of the American College of Cardiology*, 44, no. 2. New York: Elsevier Biomedical. 2004.
"Zoning Law, Health, and Environmental Justice: What's the Connection?" by Juliana Maantay. *Journal of Law, Medicine & Ethics* 30. Boston: American Society of Law, Medicine & Ethics. 2002.

HEALTHCARE REFORM

Book Sources

Accountable Care Organizations: A Roadmap for Success (Guidance on First Steps), 1st ed., by Bruce Flareau, Joanne Bohn, and Colin Konschak. Virginia Beach, VA: Convergent Publishing. 2011.
The AMA and U.S. Health Policy Since 1940, by Frank D. Campion. Chicago: Chicago Review Press. 1984.
AMA: Voice of American Medicine, by James Gordon Burrow. Baltimore: Johns Hopkins Press. 1963.
American Medicine and the Public Interest, by Romans Stevens. New Haven, CT: Yale University Press. 1972.
American Surgery, by Ira M. Rutkow. Philadelphia: Lippincott-Raven. 1998.
The Black Death and the Transformation of the West, by David Herlihy. Cambridge, MA: Harvard University Press. 1997.
Cambridge Illustrated History of Medicine. Cambridge, UK: Cambridge University Press. 1996.
The Canon of Medicine, by Laleh Bakhtiar, O. C. Gruner, Mazar H. Shah, Jay R. Crook, and Seyyed H. Nasr. Chicago: Great Books of the Islamic World. 1999.
Decoding the Codes: A Comprehensive Guide to ICD, CPT, & HCPCS Coding Systems, by Alex Toth. New York: McGraw Hill. 1998.
The Doctor's Duty to the State, by John B. Roberts. Chicago: American Medical Association (AMA). 1908.
Doctors: The Illustrated History of Medical Practices: The Illustrated History of Medical Pioneers, by Sherwin B. Nuland. New York: Random House. 1988.
Futurescan: Healthcare Trends and Implications. American College of Healthcare Executives. Chicago: Society for Healthcare Strategy and Market Development (SHSMD). Published annually.
A Guide to Complying with Stark Physician Self-Referral Rules. Washington, DC: Atlantic Information Service. 2009.
A Guide to Consulting Services for Emerging Healthcare Organizations, by Robert J. Cimasi. New York: John Wiley & Sons. 1999.
Harry S. Truman Versus the Medical Lobby: The Genesis of Medicare, by Monte M. Poen. Columbia, MO: University of Missouri. 1979.
Hippocrates. Hippocrates. Cambridge: Harvard University Press. 1923.
A History of Medicine, 2nd ed., by Arturo Castiglioni. Revised and enlarged. New York: Alfred A. Knopf. 1947.

A History of Medicine, by Lois N. Manger. London: Informa Healthcare. 2007.
Innovation and Entrepreneurship in the Healthcare Sector: From Idea to Funding to Launch, by Luis G. Pareras. Phoenix: Greenbranch Publishing. 2011.
Les Microbes Organisés: Leur Rôle dans la Fermentation, la Putréfaction et la Contagion, by Louis Pasteur; John Tyndall. Paris: Gauthier-Villares. 1878.
The Life of Sir William Osler, vol. 1, 3rd ed., by Harvey Cushing. Gloucestershire: Clarendon Press. 1925.
Medicare Rules & Regulations: A Survival Guide to Policies, Procedures and Payment Reform, by Denise L. Knaus. Los Angeles: Practice Management Information Corporation. 1998.
Medicine: An Illustrated History, by Albert S. Lyons and R. J. Petrucelli II. New York: Harry N. Abrams. 1987.
No Margin, No Mission: Health-Care Organizations and the Quest for Ethical Excellence, by Steven D. Pearson, James E. Sabin, and Ezekiel J. Emanuel. New York: Oxford University Press. 2003.
Pay-for-Performance in Health Care, by Jim Hahn. Washington, DC: Congressional Research Service. 2006.
Principles of Economics: Volume I, by F. W. Taussig. New York: Macmillan. 1918.
Problems in Health Care Law, 8th ed. Burlington, MA: Jones and Bartlett. 2004.
Redefining Health Care: Creating Value-Based Competition on Results, by Michael E. Porter and Elizabeth O. Teisberg. Cambridge: Harvard Business School Press. 2006.
Relieving Pain in America: A Blueprint for Transforming Prevention, Care, Education, and Research. Washington, DC: National Academies Press (NAP). 2011.
The Story of Medicine: From Acupuncture to X Rays, by Judy Lindsay. New York: Oxford University Press. 2003.
Two Centuries of American Medicine: 1776–1976, by James Bordley and A. M. Harvey. Philadelphia: W. B. Saunders. 1976.
The Wellcome Institute for the History of Medicine. London: Cambridge University Press. 1995.
The Western Medical Tradition 800 BC to AD 1800: 800 BC to AD 1800, by Lawrence I. Conrad, Michael Neve, Vivian Nutton, Roy Porter, and Andrew Wear.
Western Medicine: An Illustrated History, by Harold J. Cook, Anne Digby, and Mary Dobson. New York: Oxford University Press. 1997.
Workers' Compensation: Benefits, Coverage, and Cost, 2010, by Ishita Sengupta, Virginia Reno, John F. Burton, and Marjorie Baldwin. Washington, DC: National Academy of Social Insurance. 2012.

Governmental Sources

"An Act Relating to a Universal and Unified Health System (Vermont Bill H.202): VT LEG 264981.2." Larson. House of Representatives. Montpelier, VT: State of Vermont. 2011. http://www.leg.state.vt.us/docs/2012/Acts/ACT048.pdf (accessed April 30, 2013).

"Additional Requirements for Charitable Hospitals: 26 CFR Part 1." *Federal Register* 77, no. 123. 2012.

"The American Recovery and Reinvestment Act of 2009." *Pub. L.* 111–5. Washington, DC: Government Printing Office. February 17, 2009.

Americans Speak on Health Reform: Report on Health Care Community Discussions. March 2009. Washington, DC: U.S. Dept. of Health and Human Services. http://www.healthreform.gov/reports/hccd/concernsd.html (accessed July 2, 2012).

"Appendix 1: FY 2010 Number of Children Ever Enrolled in Medicaid and CHIP." 2010. http://www.insurekidsnow.gov/professionals/reports/chipra/2010_enrollment_data.pdf (accessed August 6, 2012).

"Bundled Payments for Care Improvement Initiative." Washington, DC: Centers for Medicare and Medicaid Services. 2011. http://www.innovations.cms.gov/areas-of-focus/patient-care-models/bundled-paymentsfor-care-improvement.html (accessed April 30, 2013).

"Centers for Medicare and Medicaid Services' Office of E-Health Standards and Services Announces 90-Day Period of Enforcement for Compliance with New HIPAA Transaction Standards." CMS. Washington, DC: Department of Health and Human Services. November 17, 2011.

"Certificate of Need: State Health Laws and Programs," by Richard Cauchi, Karmen Hanson, Andrew Thangasamy, Ariel Victoroff, and Elana Mintz. National Conference of State Legislatures. March 2012. http://www.ncsl.org/issues-research/health/concertificate-of-need-state-laws.aspx (accessed June 7, 2012).

"Congressional Budget Office: Estimates for the Insurance Coverage Provisions of the Affordable Care Act Updated for the Recent Supreme Court Decision." Congressional Budget Office. Washington, DC: Joint Committee on Taxation. July 2012.

"Emergency Economic Stabilization Act of 2008." *Pub. L.* 110–343, HR 1424. Washington, DC: 110th Congress. October 3, 2008.

"Estimated Financial Effects of the 'Patient Protection and Affordable Care Act,' as Amended by Richard S. Foster." Washington, DC: U.S. Department of Health and Human Services. April 22, 2010.

"Fact Sheet: Comprehensive Primary Care Initiative." Washington, DC: U.S. Department of Health and Human Services. 2011. http://www.healthcare.gov/news/factsheets/2011/09/primary-care09282011a.html (accessed March 2, 2012).

"FCC Update on Rural Healthcare Pilot Program Initiative: Six Telehealth Projects Approved for $46 million in Universal Service Funds." Washington, DC: Federal Communications Commission. April 16, 2009. http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-290141A1.pdf (accessed April 30, 2013).

Florida, et al. v. United States Department of Health and Human Services, et al. Writ of Certiotari, Motion No. 11–400. November 14, 2011.

"Health Care and Education Reconciliation Act of 2010." *Pub. L.* 111–152. 123 Stat. 1029 March 30, 2011.

"Health Care Cost Reduction Act of 2012: H.R. 436." 112th Congress. Washington, DC: Government Printing Office. 2012.

"Health Care Quality Improvement Act of 1986." Congress. 42 USC November 14, 1986.

"Health Opportunity Patient Empowerment Act of 2006: HR 6134." USC September 21, 2006.

"The High Concentration of U.S. Health Care Expenditures," by Mark W. Stanton. *Research in Action*, no. 19. Washington, DC: U.S. Department of Health and Human Services. 2006. http://www.ahrq.gov/research/ria19/expendria.htm (accessed January 5, 2010).

"The Joint Commission: Code of Conduct: Code of Conduct." Washington, DC: The Joint Commission. 2009.

"Lower Premiums, Stronger Businesses: How Health Insurance Reform Will Bring Down Costs for Small Businesses," by Meena Seshamani. Washington, DC: Healthreform.gov. 2012. http://healthreform.gov/reports/smallbusiness2/smallbusiness2.pdf (accessed June 7, 2012).

"Medicare Program; Hospital Inpatient Value-Based Purchasing Program." *Federal Register* 76, no. 88. May 6, 2011.

"Medicare Program: Medicare Shared Savings Program: Accountable Care Organizations, Final Rule." *Federal Register* 76, no. 212. November 2, 2011.

National Federation of Independent Business, et al., Petitioners v. Kathleen Sebelius, Secretary of Health and Human Services, et al. Department of Health and Human Services, et al., v. Florida et al. Florida, et al., Petitioners v. Department of Health and Human Services et al.: On Writs of Certiorari to the United States Court of Appeals for the Eleventh Circuit. [Final Ruling]. Supreme Court of the United States. Nos. 11–393, 11–398 and, 11–400, 2012 BL 160004, 53 EBC 1513 (U.S. June 28, 2012). http://www2.bloomberglaw.com/public/document/Natl_Federation_of_Independent_Business_v_Sebelius_No_Nos_11393_1 (accessed July 23, 2012).

"Older Population by Age Group: 1900 to 2050." Administration on Aging. June 23, 2010. http://www.aoa.gov/AoARoot/Aging_Statistics/future_growth/future_growth.aspx#age (accessed June 25, 2010).

"Patient Protection and Affordable Care Act." *Pub. L.* 111–148. March 23, 2010.

"Payment for Covered Outpatient Drugs." 42 USC 1396R-8. 2009.

"Pioneer Accountable Care Organization Model: General Fact Sheet." December 19, 2011. http://www.innovations.cms.gov/documents/pdf/PioneerACOGenerall_Fact_SheetFINAL_12_19_11.pdf (accessed March 2, 2012).

"Preservation of Access to Care for Medicare Beneficiaries and Pension Relief Act of 2010." *Pub. L.* 111–192, H.R. 3962. Washington, DC: U.S. Government Printing Office. 2010.

"President Bush Signs Bill to Make Health Care More Affordable, Accessible." Press release. Washington, DC: U.S. Department of the Treasury. December 20, 2006. http://www.treas.gov/press/releases/hp209.htm (accessed July 1, 2009).

"Private Health Insurance: Early Indicators Show That Most Insurers Would Have Met or Exceeded New Medical Loss Ratio Standards," by John E. Dicken. Washington, DC: U.S. Government Accountability Office. 2011. http://www.gao.gov/products/GAO-12–90R (accessed April 29, 2013).

Report for Annual Public Hearing: Examination of Health Care Cost Trends and Cost Drivers Pursuant to G.L. C. 118G, 6.5(b). Boston: Office of Massachusetts Attorney General. 2011.

"Special Treatment: Sole Community Hospitals." 42 CFR 412.92. October 1, 2012.
"Suburban Poverty and the Health Care Safety Net," by Laurie E. Felland, Johanna R. Lauer, and Peter J. Cunningham. Washington, DC: Center for Studying Health System Change. 2009.
"Tax Relief and Health Care Act of 2006." H.R. 6111. Washington, DC: USC. December 20, 2006.
"Taxable Medical Devices: 26 CFR Part 48." *Federal Register* 77, no. 25. February 7, 2012.
"Taxes on Failures by Hospital Organizations." 26 USC S 4959. 2011.
U.S. and State of Idaho v. Idaho Orthopaedic Society, et al. United States District Court for the District of Idaho. Civil Case No. 10–268-S.EJL. August 30, 2010.
"Why Population Aging Matters: A Global Perspective." National Institute on Aging. Washington, DC: U.S. Department of Health Human Services. 2007.

Standards, Surveys, and Nongovernmental Sources

2009 Programs and Initiatives Case Statement. National Committee for Quality Assurance. April 1, 2009. http://www.ncqa.org/Portals/0/Sponsor/2009_Case_Statement.pdf. (accessed April 29, 2013).
2011 Employer Driven Accountable Care Organizations Survey Report: What They Are and What They Can Do for Your Organization. AON Hewitt, Polakoff Boland. June 2011.
"The Advance of the Retail Health Clinic Market: The Liability Risk Physicians May Potentially Face When Supervising or Collaborating with Other Professionals," by Christopher M. Burkle. *Mayo Clinic Proc* 86, no. 11. November 2011. http://www.mayoclinicprceedings.com (accessed April 17, 2013).
"The Anticipated Physician Shortage: Meeting the Nation's Need for Physician Services," by Gregory C. Kane, Michael R. Grever, John I. Kennedy, Mary Ann Kuzma, Alan R. Saltzman, et al. *APM Perspectives*. Alexandria, VA: Association of Professors of Medicine. December 2009.
"Appendix 1: FY 2010 Number of Children Ever Enrolled in Medicaid and CHIP." 2010. http://www.insurekidsnow.gov/professionals/reports/chipra/2010_enrollment_data.pdf. 2010. (accessed August 6, 2012).
"Best Care at Lower Cost: The Path to Continuously Learning Health Care in America." Institute of Medicine National Academy of Science. September 6, 2012.
"Can Accountable Care Organizations Improve the Value of Health Care by Solving the Cost and Quality Quandaries? Timely Analysis of Immediate Health Policy Issues," by Kelly J. Devers and Robert A. Berenson. Robert Wood Johnson Foundation. October 2009. http://www.rwjf.org/files/research/acosummaryfinal.pdf (accessed January 1, 2012).
"Cancer Facts and Figures 2012." American Cancer Society. Atlanta. 2012.
"Center for Health Policy: Medicaid Expansion in Nebraska under the Affordable Care Act," by Jim P. Stimpson. University of Nebraska Medical Center. August 3, 2012.

"The Changing Approach to Managed Care" in *To Improve Health and Health Care—Volume IV*. Robert Wood Johnson Foundation. January 1, 2001. http://www.rwjf.org/files/publications/books/2001/chapter_04.html (accessed August 22, 2012).

"Children's Health Insurance Program Reauthorization Act of 2009 (CHIPRA): Key Facts: Kaiser Key Facts." Henry J. Kaiser Family Foundation. February 2009. http://www.kff.org/medicaid/upload/7863.pdf. (accessed October 11, 2009).

"CMS Initiatives to Improve Quality of Laboratory Testing Under the CLIA Program." Centers for Medicare and Medicaid Services. July 1, 2006. http://www.cms.hhs.gov/CLIA/downloads/06030.Backgrounder.rlEG.pdf (accessed November 2, 2009).

"Computed Tomography in the 21st Century: Changing Practice for Medical Imaging and Radiation Therapy Professionals," by Sal Martino, Jerry Reid, and Teresa G. Odle. American Society of Radiologic Technologists. 2008.

"Considerations in Assessing State-Specific Fiscal Effects of the ACA's Medicaid Expansion," by Stan Dorn. The Urban Institute Health Policy Center. August 20, 2012. http://www.healthpolicycenter.org.

"CPOE 2011: The ARRA Effect." KLAS Enterprises LLC. July 29, 2011. https://www.klasresearch.com/Store/ReportDetail.aspx?ProductID=640 (accessed September 27, 2012).

"The Crunch Continues: Medicaid Spending, Coverage and Policy in the Midst of a Recession," by Vernon K. Smith, Kathleen Gifford, and Eileen Ellis. Kaiser Commission on Medicaid and the Uninsured. September 2009. http://www.kff.org/medicaid/upload/7985.pdf (accessed April 29, 2013).

"Ensuring an Effective Physician Workforce for the United States: Recommendations for Reforming Graduate Medical Education to Meet the Needs of the Public: The Second of Two Conferences—the Content and Format of GME." Josiah Macy Jr. Foundation. May 2011. http://www.macyfoundation.org (accessed April 29, 2013).

"Federal Health Care Reform: Impacts on Employers." Anthem Blue Cross and Blue Shield April 7, 2010, http://fredv3.sharepointspace.com/admin/Shared%20Documents/SAS%20temp/ABCBS_Employer%20HealthCare%20Reform%20Impact.pdf (accessed May 16, 2012).

"Growth and Dispersion of Accountable Care Organizations: June 2012 Update," by David Muhlestein, Andrew Croshaw, Tom Merrill, and Christian Pena. Leavitt Partners. November 2011.

Hospice Facts & Statistics. Washington, DC: National Association for Home Care and Hospice. March 2005.

"How Registries Can Help Performance Measurement Improve Care." Brookings Institution. Princeton, NJ: Robert Wood Johnson Foundation. June 2010.

"'Incident to' Service." MLN Matters. No. SE0441 Centers for Medicare and Medicaid Services (CMS). 2004. http://www.cms.hhs.gov/mlnmattersarticles/downloads/se0441.pdf (accessed February 1, 2010).

"Joint Principles of the Patient-Centered Medical Home." American Academy of Family Physicians; American Academy of Pediatrics; American College of Physicians;

American Osteopathic Association. February 2007. http://www.aafp.org/online/etc/medialib/aafp_org/documents/policy/fed/jointprinciplespcmh0207.Par.0001.File.dat/022107medicalhome.pdf (accessed January 2, 2012).

"Medicaid Coverage and Spending in Health Reform: National and State-by-State Results for Adults at or Below 133% FPL," by John Holahan and Irene Headen; Menlo Park, CA: Kaiser Family Foundation. May 2010.

"Medicaid's Role for Dual Eligible Beneficiaries." Kaiser Commission on Medicaid and the Uninsured. Menlo Park, CA: Kaiser Family Foundation. 2012. http://www.kff.org (accessed May 1, 2013).

"New Hospital Accreditation Program Offers Hospitals More Choices." Chicago: American Hospital Association. October 7, 2008. http://www.ashrm.org/ashrm/advocacy/advisories/files/2008accreditation.pdf. (accessed April 29, 2013).

"Older Population as a Percentage of the Total Population: 1900 to 2050." June 23, 2010. http://www.aoa.gov/AoARoot/Aging_Statistics/future_growth/docs/by_Age_Total_Popul ation.xls (accessed June 25, 2010).

"Physician Supply Follows Federal Policy: A Lesson from History." Washington, DC: Medical Education Futures Study. October 2008. http://www.medicalfutures.org (April 29, 2013).

"RAC for All: Push for More Audits Could Affect Hospitals: Experts," by Jennifer Lubell Crain. "Healthcare Business News." *Modern Healthcare*. Detroit: Crain Communications, 2010. http://www.modernhealthcare.com/article/20100315/MAGAZINE/303159947 (accessed April 29, 2013).

Results of the 2011 Medical School Enrollment Survey. Center for Workforce Studies. Washington, DC: Association of American Medical Colleges, May 2012.

"Rising Hospital Employment of Physicians: Better Quality, Higher Costs?" by Ann S. O'Malley, Amelia M. Bond, and Robert A. Berenson. *Issue Brief*, Findings from HSC. No. 136. Washington, DC: Center for Studying Health System Change. August 2011.

"Saving Lives, Saving Money: The Imperative for Computerized Physician Order Entry in Massachusetts Hospitals." Boston: Massachusetts Technology Collaborative. 2008. http://www.masstech.org (accessed May 1, 2013).

"The SCOTUS Ruling's Impact on Providers," by Peter A. Pavarini and Matthew J. Lindsay. Columbus, OH: Lancaster Pollard. August 5, 2012.

"Stark Regulations and Health Care in Rural America," by Paul Larson and Deryl Gulliford. Chicago: AAMA. 2005. http://www.aameda.org/MemberServices/Exec/Exec%20Issues/execwinter05.html (accessed June 4, 2008).

"State Progress toward Health Reform Implementation: Slower Moving States Have Much to Gain," by Fredric Blavin, Matthew Buettgens, and Jeremy Roth. Princeton, NJ: Robert Wood Johnson Foundation. January 2012.

"State Trends in Premiums and Deductibles, 2003–2011: Eroding Protection and Rising Costs Underscore Need for Action," by Cathy Schoen, Jacob Lippa, Sara Collins, and David Radley. New York: CommonWealth Fund, December 2012.

"Statement of the American Hospital Association to the Senate Finance Committee Roundtable on Health Care Delivery System Reform, Washington, DC." Chicago: American Hospital Association. April 21, 2009.

"Statement of the American Medical Association before the House Energy and Commerce Committee Subcommittee on Health: RE: The Need to Move Beyond the SGR," by Cecil B. Watson. Chicago: American Medical Association. 2011.

"Statement of the American Medical Association to the Committee on Ways and Means Subcommittee on Health US House of Representatives: Reforming Medicare's Physician Payment System," by Nancy Nielsen. Chicago: American Medical Association. September 11, 2008. http://www.amaassn.org/ama1/pub/upload/mm/399/sgr_test_0911208.pdf (accessed August 3, 2010).

"Supreme Court Upholds Health Care Law; All Tax Measures Preserved." CCH Tax Briefing. Riverwoods, IL: CCH. 2012.

"Supreme Court Upholds Individual Mandate, Modifies Medicaid Expansion: ACA Implementation Continues." Wolters Kluwer Law & Business Briefing. New York: CCH. June 2012.

"The Symbol of Modern Medicine: Why One Snake Is More Than Two," by Robert A. Wilcox and Emma M. Whitham. *Annals of Internal Medicine* 138, no. 8. American College of Physicians. April 15, 2003.

"Tax Provisions in the Health Care Act." American Institute of Certified Public Accountants. *Journal of Accountancy*. March 22, 2010. http://www.journalofaccountancy.com/Web/20102724.htm?action=print (accessed April 14, 2010).

To Err Is Human: Building a Safer Health System. Committee on Quality of Healthcare in America. Washington, DC: National Academy Press. 2003.

"Valuation in the Era of Healthcare Reform: A Brief Primer on the Impact of Recent Legislation," by Robert J. Cimasi, Todd A. Zigrang, and Anne P. Sharamitaro. Business Appraisal Practice Institute of Business Appraisers Inc. Second Quarter 2010.

"Vermont Gov. Proposes Single-Payer Health Plan," by Aimee Miles. Menlo Park, CA: KHN. 2011. http://www.npr.org/2011/02/11/133657928/vermont-gov-proposes-single-payer-healthplan (accessed June 15, 2011).

"Vermont Moving toward Single-Payer Health Care," by Zach Howard. Reuters. Brattleboro, VT: Thomson Reuters. 2011.

Peer-Reviewed Sources

"10 Years beyond the Health Security Act Failure: Subsequent Developments and Persistent Problems," by Peter P Budetti. *Journal of the American Medical Association* 292, no. 16. American Medical Association. October 27, 2004.

"Computed Tomography versus Magnetic Resonance Imaging for Evaluation of the Cervical Spine: How Many Slices Do You Need?" by Carlos Brown, et al. Southeastern Surgical Congress. Atlanta: The American Surgeon. April 2010.

"Converting to Critical Access Status: How Does It Affect Rural Hospitals' Financial Performance?" by Pengxiang Li, John E. Schneider, and Marcia M. Ward. *Inquiry Journal*. Chicago: Blue Cross Association. http://www.inquiryjournal.org. Spring 2009.

"The Cost of Pushing Pills: A New Estimate of Pharmaceutical Promotion Expenditures in the United States," by Marc-Andre Gagnon and Joel Lexchin. PLOS Medicine 5, no. 1. http://www.plosmedicine.org. 2008.

"Defined Contribution: From Managed Care to Patient-Managed Care," by E. H. Morreim. *Cato Journal* 22, no. 1. Cato Institute. Spring/Summer 2002.

"The Discovery of Insulin: The Work of Frederick Banting and Charles Best." *Journal of Biological Chemistry* 709–23 (2002). Rockville, MD: American Society for Biochemistry and Molecular Biology. June 28, 2002.

"State Medical Boards: Future Challenges for Regulation and Quality Enhancement of Medical Care," by James N. Thompson and Lisa A. Robin. *Journal of Legal Medicine*. 33, no. 1. New York: Thomson Reuters. January 2012.

"Future Supply and Demand for Oncologists: Challenges to Assuring Access to Oncology Services," by Clese Erikson, Edward Salsberg, Gaetano Forte, Suanna Bruinooge, and Michael Goldstein. *Journal of Oncology Practice* 3, no. 2 American Society of Clinical Oncology. March 2007.

"Genotoxicity Assessment in Oncology Nurses Handling Anti-Neoplastic Drugs," by P. V. Rekhadevi, N. Sailaja, M. Chandrasekhar, M. Mahboob, and M. F. Rahman. *Mutogenesis* 22, no. 6. Oxford University Press. 2007.

"Governmental Public Health in the United States: The Implications of Federalism," by Bernard J. Turnock and Christopher Atchison. Health Affairs 21, no. 6. Bethesda, MD: Project HOPE. November 2002

"Health Care Reform and Social Movements in the United States," by Beatrix Hoffman. *American Journal of Public Health* 93, no. 1. Washington, DC: American Public Health Association. January 2003.

"A History of William Osler's *The Principles and Practice of Medicine*," by Stephen B. Greenberg. American Medical Association. *Journal of American Medical Association* 293, no. 15. Montreal, Canada. April 20, 2005.

"How Many Doctors Are Enough?" by Jeffrey E. Harris. *Health Affairs* 5, no. 4. Bethesda, MD: Project HOPE. 2012. http://content.healthaffairs.org/content/5/4/73.full.pdf (accessed April 30, 2012).

"Human Skin Wounds: A Major and Snowballing Threat to Public Health and the Economy," by Chandan K. Sen, Gayle M. Gordillo, Roy Sashwati, Robert Kirsner, Lynn Lambert; et al. *Wound Repair and Regeneration*. Maitland, FL: Wound Healing Society. 2009. http://ehis.ebscohost.com/eds/pdfviewer/pdfviewer?vid=4&sid=fc163271-f42d-4e25bd6c-7dbede871e30%40sessionmgr4&hid=7 (accessed April 17, 2013).

"ICD-10 Is Gonna Cost Me How Much?" *HealthLeaders Media*. Danvers, MA: HC Pro. July 26, 2011. http://www.healthleadermedia.com (accessed November 29, 2011).

"ICD-10 Cost, Timing Concerns Explain AMA Vote" by Cheryl Clark. *HealthLeaders Media*. Danvers, MA: HC Pro. 2011. http://www.healthleadersmedia.com/print/TEC-273412/ICD10-Cost-Timing (accessed November 18, 2011).

"Intensity-Modulated Radiation Therapy, Proton Therapy, or Conformal Radiation Therapy and Morbidity and Disease Control in Localized Prostate Cancer," by

Nathan C. Sheets, Gregg H. Goldin, Anne-Marie Meyer, Yang Wu, YunKyung Chang, et al. Chicago: American Medical Association. 2012.

"The Impending Disappearance of the General Surgeon," by Josef E. Fischer. *Journal of the American Medical Association* 298, no. 18. Chicago: American Medical Association. November 14, 2007.

"Implementing Accountable Care Organizations," by Stephen M. Shortell, Lawrence P. Casalino, and Elliott S. Fisher. Berkeley Center on Health, Economic, and Family Security. Berkeley, CA: Berkeley Press. http://www.law.berkeley.edu/files/chefs/Implementing_ACOs_May_2010.pdf. May 2010 (accessed April 29, 2013).

"Improving Health by Taking It Personally," by Ralph Snyderman and Michaela Dinan. *Journal of the American Medical Association* 303, no. 4. Chicago: American Medical Association. January 27, 2010.

"Kentucky's 'Any Willing Provider' Law and ERISA: Implications of the Supreme Court's Decision for State Health Insurance Regulation," by Patricia A. Butler. Portland, Maine: National Academy for State Health Policy. June 2003. http://www.nashp.org/sites/default/files/ERISA_AWP.pdf (accessed September 18, 2012).

"Lessons of The New Jersey DRG Payment System," by William C Hsiao; Harvey M. Sapolsky; Daniel L. Dunn; Sanford L. Weiner. Health Affairs. Bethesda, MD: Project HOPE. 1986. http://content.healthaffairs.org (accessed July 2, 2012).

"Lower Mortality Rates at Cardiac Specialty Hospitals Traceable to Healthier Patients and to Doctors' Performing More Procedures," by Liam O'Neill and Arthur J. Hartz. *Health Affairs* 31, no. 4. Bethesda, MD: Project HOPE. April 2012.

"The OBRA-87 Nursing Home Regulations and Implementation of the Resident Assessment Instrument: Effects on Process Quality," by Catherine Hawes. *Journal of the American Geriatric Society* 45, no. 8. New York: American Geriatrics Society. 1997. http://www.mdconsult.com (accessed August 10, 2012).

"Private Equity Investment and Nursing Home Care: Is It a Big Deal?" by David G. Stevenson and David C. Grabowski. *Health Affairs* 27, no. 5. Bethesda, MD: Project HOPE. 2008.

"Procedures for Detecting Outlying Observations in Samples," by Frank E. Grubbs. *Technometrics* 11, no. 1. American Statistical Association and American Society for Quality. 1969.

"The Rationale behind the Clinton Health Care Reform," by W. A. Zelman. *Health Affairs* 13, no. 1. Bethesda, MD: Project HOPE. 1994.

"Reducing Long-Term Cost by Transforming Primary Care: Evidence from Geisinger's Medical Home Model," by Daniel D. Maeng, Jove Graham, Thomas R. Graf, Joshua N. Liberman, Nicholas B. Dermes, et al. *American Journal of Managed Care* 18, no. 3. Old Bridge, NJ: American Medical Publishers. March 2012. http://www.ajmc.com/publications/issue/2012/2012–3vol18-n3/Reducing-Long-Term-Cost (accessed August 20, 2012).

"The Specialized Wound Care Center: A 7-Year Experience at a Tertiary Care Hospital," by Alina D. Sholar, Lesley K. Wong, Westley Culpepper, and Larry A.

Sargent. *Annals of Plastic Surgery* 58, no. 3. Philadelphia: Lippincott Williams & Wilkins. 2007.
"The US Dermatology Workforce: A Specialty Remains in Shortage," by Alexa B Kimball and Jack S. Resneck Jr. *Journal of the American Academy of Dermatology* 5959, no. 55. November 2008.
"Trends in Care by Nonphysician Clinicians in the United States," by Benjamin G. Druss, et al. *New England Journal of Medicine* 348, no. 2. Massachusetts Medical Society. January 9, 2003.
"Understanding the Managed Care Backlash," by R. J. Blendon, M. Brodie, J. M. Benson, D. E. Altman, and L. Levitt. *Health Affairs* 17, no. 4. Bethesda, MD: Project HOPE. July/August 1998.
"What Happened to Health Care Reform?" by Paul Starr. *American Prospect*, no. 20. Winter 1995. Princeton, NJ: Princeton University Press. 1994.
"Will the Baby Boom Be a Boon to Hospitals? Don't Count on It," by Jeff Goldsmith. *Futurescan 2012: Healthcare Trends and Implications 2012–2017*. Chicago: American College of Healthcare Executives. 2012.

REVENUE AND EXPENSE

Book Sources

AIS's Directory of Health Plans. Washington, DC: Washington Atlantic Information Services, Inc. 2012.
Analysis of Derivatives for the CPA Program, by Don M. Chance. New York: Association for Investment Management and Research (AIMR) Publishing. 2003.
APC Desk Reference. Salt Lake City: Ingenix. 2003.
Appendix B—A Brief Review of the Development of DRGs, by Nancy L. Kelly, Diane E. Hamilton, and Ralph E. Berry. Princeton, NJ: Princeton University Press. 1983.
Basics of Financial Management for the Medical Practice, by Marcel Frenkel. Phoenix, MD: Greenbranch. 2003.
The Blues: A History of the Blue Cross and Blue Shield System, by Robert Cunningham and Robert M. Cunningham. DeKalb, IL: Northern Illinois University. 1997.
The Capitation Sourcebook: A Practical Guide to Managing At-Risk Arrangements, by Peter Boland, et al. Berkeley, CA: Boland Healthcare. 1996.
The Complete Capitation Handbook: How to Design and Implement At-Risk Contracts for Behavioral Healthcare, by Michael A. Freeman. Tiburon, CA: CentraLink Publications. 1995.
The Cost Disease: Why Computers Get Cheaper and Health Care Doesn't, 1st ed., by William J. Baumol. New Haven, CT: Yale University Press. 2012.
Cost, Quality, and Access in Health Care: New Roles for Health Planning in a Competitive Environment, by Frank A. Sloan, James F. Blumstein, James M. Perrin, Clark C. Havighurst, and Laurence R. Tancredi. San Francisco: Jossey Bass. 1988.

Current Procedural Terminology: CPT. Chicago: American Medical Association. 2011.

A Data Book: Health Care Spending and the Medicare Program. Washington, DC: Medicare Payment Advisory Commission. 2006.

Essentials of Health Care Finance, 4th ed., by William O. Cleverley, Paula H. Song, James Cleverley. Gaithersburg, MD: Aspen Publishers. 1997.

Fundamentals of Corporate Finance, 2nd ed., by Stephen A. Ross, Randolph W. Westerfield, and Bradford D. Jordan. Boston: Irwin. 1993.

Healthcare Finance: An Introduction to Accounting and Financial Management, 3rd ed., by Louis C. Gapenski. Chicago: Health Administration Press. 2004.

Income from Independent Professional Practice, by Milton Friedman and Simon Kuznets. New York: National Bureau of Economic Research. 1945.

Physician Billing Process: Avoiding Potholes in the Road to Getting Paid. Englewood, CO: Medical Group Management Association. 2004.

Physician Compensation Arrangements: Management & Legal Trends. Gaithersburg, MD: Aspen Publishers. 1999.

Physician Market Power: Evidence from the Allocations of Malpractice Premiums, by Norman K. Thurston. Los Angeles: Economic Inquiry. 2001.

Redefining Competition in Health Care, by Michael E. Porter and Elizabeth O. Teisberg. Boston: Harvard Business School Publishing Corporation. 2004.

The Social Transformation of American Medicine: The Rise of a Sovereign Profession and the Making of a Vast Industry, by Paul Starr. New York: Basic Books. 1982.

Starting a Medical Practice, 2nd ed., by Jeffery P. Daigrepont. Chicago: American Medical Association. 2003.

Understanding Health Insurance: A Guide to Billing and Reimbursement, 9th ed., by Michelle A. Green and JoAnn C. Rowell. Independence, KY: Delmar Cengage Learning. 2008.

Valuing a Business: The Analysis and Appraisal of Closely Held Companies, by Shannon P. Pratt and Alina V. Niculita. New York: McGraw Hill. 2008.

Governmental Sources

"Definitions." 45 CFR Section 160.103. Washington, DC: U.S. Government Printing Office. 2007.

"Accounting Periods and Methods." Internal Revenue Service. Washington, DC: Internal Revenue Service. 2012. http://irs.gov/publications/p334/ch02.html (accessed February 26, 2013).

"Administrative Simplification: Adoption of a Standard for a Unique Health Plan Identifier; Addition to the National Provider Identifier Requirements; and a Change to the Compliance Date for the International Classification of Diseases, 10th Edition (ICD-10CM and ICD-10-PCS) Medical Data Code Sets." Washington, DC: U.S. Department of Health and Human Services. 2012.

"Agreements with Providers of Services; Enrollment Processes." United States Code. 42 USC 1395cc. Washington, DC: U.S. Government Printing Office. 2012. http://www.ssa.gov/OP_Home/ssact/title18/1866.htm.

"Ambulatory Surgical Center Fee Schedule: Payment System Fact Sheet Series: Payment System Fact Sheet Series." Washington, DC: Centers for Medicare and Medicaid Services, U.S. Dept. of Health and Human Services. 2013.

"Ambulatory Surgical Centers Payment System." Washington, DC: Centers for Medicare and Medicaid Services. 2012.

"Application of Section 409A to Nonqualified Deferred Compensation Plans: Final Regulations." Washington, DC: Internal Revenue Service. 2007. http://www.irs.gov/irb/200719_IRB/ar07.html (accessed April 30, 2013).

"Assessing Payment Adequacy and Updating Payments in Fee for Service Medicare." Washington, DC: Centers for Medicare and Medicaid Services. 2003. http://www.medpac.gov/publications%5Ccongressional_reports%5CMar03_Ch2.pdf (accessed April 30, 2013).

"The Basics: Relative Value Units (RVUs)" National Health Policy Forum. Washington, DC: National Health Policy Forum. 2009. http://www.nhpf.org/library/the-basics/Basics_RVUs_02–12–09.pdf (accessed February 12, 2009).

"Budget Issues: Compliance Report Required by the Budget Enforcement Act of 1990," by Susan Irving. Comptroller General of the United States. Washington, DC: U.S. United States Government Accountability Office. http://www.gao.gov/assets/230/223566.pdf (accessed April 30, 2013).

"Business Activities" Washington, DC: Internal Revenue Service. 2012. http://www.irs.gov (accessed February 26, 2013).

"CBO Estimate Changes in Net Federal Outlays from Alternative Proposals for Changing Physician Payment Rates in Medicare: by Fiscal Year, in Billions of Dollars." Congressional Budget Office. Washington, DC: United States Congress. April 30, 2010. http://www.coburn.senate.gov/public//index.cfm?a=Files.Serve&File_id=a7b5187f-39984685–9a5a-6b764e8ba14f (accessed April 30, 2013).

"Continuing Extension Act of 2010." *Pub. L.* 111–157. Washington, DC: U.S. Government Printing Office. 2010.

"Deducting Business Expenses." Washington, DC: Internal Revenue Service. 2013. http://www.irs.gov/Business/Small-Business-&-Self-Employed (accessed February 16, 2013).

"Defined Contribution Health Insurance," by Greg Scandlen. Washington, DC: National Center for Policy Analysis. October 26, 2000. http://www.ncpa.org/pdfs/bg154.pdf (accessed September 10, 2009).

"End Stage Renal Disease Drugs: Facility Acquisition Costs and Future Medicare Payment Concerns." Office of the Inspector General. Washington, DC: U.S. Department of Health and Human Services. 2010.

"Estimated Sustainable Growth Rate and Conversion Factor, for Medicare Payments to Physicians in 2013." Baltimore: Centers for Medicare and Medicaid Services. March 2011. http://www.aans.org/~/media/Files/Legislative%20Activities/Medicare_Physician_Fee_Schedule__MPFS__Final_Rule_Summary.ashx (accessed June 29, 2012).

"Exclusions from Medicare and Limitations on Medicare Payment." 42 CFR 411.357. Washington, DC: Department of Health & Human Services. 2012.

http://www.gpo.gov/fdsys/granule/CFR-2011title42-vol2/CFR-2011-title42-vol2-sec411–357/content-detail.html (accessed April 30, 2013).

"Exempt Organizations; Examination Guidelines for Hospitals." Announcement 92–83, 1992–22 I.R.B. 59, 1992 WL 400443. New York: Thomson Reuters. 2011.

"Failure by Certain Charitable Organizations to Meet Certain Qualification Requirements; Taxes on Excess Benefit Transactions: 26 CFR Parts 53 and 301." *Federal Register* 63, no. 149. Washington, DC: Internal Revenue Service. 1998.

"Frequently Asked Questions about Health Insurance Reform." Health Insurance Reform Reality Check. Washington, DC: U.S. Government Printing Office. 2010. http://www.whitehouse.gov/realitycheck/faq#c1 (accessed June 16, 2010).

"Health Savings Accounts." 26 USC §223 or I.R.C. §223. Washington, DC: U.S. Government Printing Office. 2006.

Holeproof Hosiery Co. v. Commissioner. 11 B.T.A. 547. Washington, DC: U.S. Government Printing Office. 1928.

"INFO 2002–0021: IRS Tax Exempt and Government Entities Division." Washington, DC: Internal Revenue Service. 2002.

"Insurance Programs: Glossary: Definition of Fee for Service." Washington, DC: U.S. Office of Personnel Management. 2009. http://www.opm.gov/insure/glossary/index.asp (accessed October 5, 2009).

"Internal Revenue Code 223: Health Savings Accounts." Washington, DC: Internal Revenue Service. 2003.

"Medical Loss Ratio Requirements under the Patient Protection and Affordable Care Act: Issues for Congress," by Suzanne M. Kirchhoff and Janemarie Mulvey. Washington, DC: Congressional Research Service. 2012.

"Medicare Durable Medical Equipment: The Competitive Bidding Program," by Paulette C. Morgan. Washington, DC: Congressional Research Service. 2013. http://www.crs.gov (accessed April 30, 2013).

"Medicare Program Payment Policies under the Physician Fee Schedule and Other Revisions to Part B for CY 2011: Corrections; Final Rule." *Federal Register* 76, no. 7. Washington, DC: U.S. Dept. of Health and Human Services. January 11, 2011. http://www.gpo.gov/fdsys/pkg/FR-2010–11–29/html/2010–27969.htm (accessed April 30, 2013).

"Medicare Program; Provisions of the Benefits Improvement and Protection Act of 2000; Inpatient Payments and Rates and Costs of Graduate Medical Education." *Federal Register* 66, no. 114. 2001.

"Medicare Telehealth Enhancement Act of 2009: H.R. 2068." Washington, DC: 111th Congress. April 23, 2009. http://www.govtrack.us/congress/billtext.xpd?bill=h111–2068 (accessed April 30, 2013).

"National Health Expenditure Projections 2011–2021." Baltimore: Centers for Medicare Medicaid Services. 2012. http://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/NationalHealthExpendData/Downloads/Proj2011PDF.pdf (accessed June 25, 2012).

"National Health Expenditures Aggregate, Per Capita Amounts, Percent Distribution, and Average Annual Percent Change: Selected Calendar Years 1960–2010."

Baltimore: Centers for Medicare Medicaid Services. 2011. https://www.cms.gov/Research-Statistics-Data-and-Systems/StatisticsTrends-and-Reports/NationalHealthExpendData/downloads/tables.pdf (accessed March 16, 2012).

"Payment for Physicians Services: Social Security Act Sec. 1848." 42 USC 1395w-4. Washington, DC: Social Security Administration. 2012. http://www.ssa.gov/OP_Home/ssact/title18/1848.htm; http://uscode.house.gov/uscode-cgi/fastweb.exe?getdoc (accessed August 23, 2012).

"Private Health Insurance: Early Indicators Show That Most Insurers Would Have Met or Exceeded New Medical Loss Ratio Standards," by John E. Dicken. Washington, DC: U.S. Government Accountability Office. 2011. http://www.gao.gov/products/GAO-12–90R (accessed April 29, 2013).

"Private Health Insurance: Federal and State Requirements Affecting Coverage Offered by Small Businesses." Washington, DC: U.S. Government Accountability Office. 2003.

"Prohibition against Any Federal Interference." 42 USC 1395. 110th Congress. Washington, DC: United States Code. 2011. http://www.gpo.gov/fdsys/granule/USCODE-2011-title42/USCODE-2011-title42-chap7subchapXVIII-sec1395/content-detail.html (accessed April 30, 2013).

"Requirements for Home Health Services: §424.22." 42 CFR Ch. IV (10–1–04 Edition). Baltimore: Centers for Medicare and Medicaid Services. 2010.

"Section 506 of the Medicare Prescription Drug, Improvement, and Modernization Act of 2003 Limitation on Charges for Services Furnished by Medicare Participating Inpatient Hospitals to Individuals Eligible for Care Purchased by Indian Health Programs." Indian Health Services. *Federal Register* 72, no. 106. Washington, DC: U.S. Government Printing Office. June 4, 2007.

State Operations Manual. "Chapter 1—Program Background and Responsibilities." Baltimore: Centers for Medicare and Medicaid Services. 2004.

"The Sustainable Growth Rate Formula for Setting Medicare's Physician Payment Rates." Washington, DC: United States Congress. September 6, 2006. http://www.cbo.gov/ftpdocs/75xx/doc7542/09–07-SGR-brief.pdf (accessed July 2, 2012).

"Title 26 Internal Revenue Code—Chapter 1: Subtitle A—Income Taxes Subchapter B- Computation of Taxable Income." 26 USC Sec. 162. Washington, DC: U.S. Government Printing Office. 2012. http://uscode.house.gov/uscodecgi/fastweb.exe?getdoc+uscview+t26t28 (accessed April 30, 2013).

"Title 26 Internal Revenue Code—Chapter 1: Subtitle A: Income Taxes—Part III: Taxation of Business Income of Certain Exempt Organizations—Subchapter F: Exempt Organizations." 26 USC Sec. 513. Washington, DC: U.S. Government Printing Office. 2012. http://uscode.house.gov/uscode-cgi/fastweb.exe?getdoc+uscview+t26t28 (accessed February 26, 2013).

"Title 26 Internal Revenue Code Chapter 42—Subchapter D: Failure by Certain Charitable Organizations to Meet Certain Qualification Requirements: Subtitle D- Miscellaneous Excise Taxes." 26 USC Sec. 4958. Washington, DC: U.S. Government Printing Office. 2012. http://uscode.house.gov/uscode-cgi/fastweb.exe?getdoc+uscview+t26t28 (accessed February 26, 2013).

TRICARE Provider Handbook. Louisville, KY: Humana Military Healthcare Services. 2013.

United States of America, ex rel. Juan Villafane, et al., Plaintiffs: Civil Action No. 3:03-CV-519-H. Federal Supplement 543. Washington, DC: U.S. Government Printing Office. 2008.

Standards, Surveys, and Nongovernmental Sources

2012 Survey of Optometric Practice: Income from Optometry—Detailed Survey Analysis Report. American Optometric Association. St. Louis, MO: 2012.

"ACC 2009 Survey Results and Recommendations: Addressing the Cardiology Workforce Crisis: A Report of the ACC Board of Trustees Workforce Task Force," by George P Rodgers. *Journal of the American College of Cardiology* 54, no. 13. New York: Elsevier Biomedical. 2009.

AHA Hospital Statistics: The Comprehensive Reference Source for Analysis and Comparison of Hospital Trends. 2002 ed. American Hospital Association. Chicago: Health Forum. 2002.

"AMA/Specialty Society RVS Update Committee: The RUC Is . . . The RUC Is Not . . ." Chicago: American Medical Association. 2008.

"AMA/Specialty Society RVS Update Committee (RUC)," by Barbara S Levy. Chicago: American Medical Association. 2010. http://www.ama-assn.org/ama/pub/physicianresources/solutions-managing-your-practice/coding-billing-insurance/medicare/theresource-based-relative-value-scale/the-rvs-update-committee.page (accessed August 15, 2012).

Basic Facts and Figures: Nonprofit Health Plans (2012). Washington, DC: Alliance for Advancing Non-Profit Health Care. 2012.

Bundled Payment: AHA Research Synthesis Report. Chicago: American Hospital Association. May 2010.

"Can the Massachusetts Blues Revive Capitation? New Twist Includes Quality Bonus," by Emily Berry. *American Medical News*. Chicago: American Medical Association. Feburary 11, 2008. http://www.amaassn.org/amednews/2008/02/11/bil10211.htm (accessed May 1, 2013).

"Capturing Charges on the Go: Billing Software Saves Money When It Complements Hospitalists' Workflow," by Susan Fitzgerald. *ACP Hospitalist*. Philadelphia: American College of Physicians. 2009. http://www.acphospitalist.org/archives/2009/05/software.htm (accessed May 1, 2013).

Community Tracking Report, CTSonline Physician Survey Results. Washington, DC: Center for Studying Health System Change. 2003. http://ctsonline.s-3.com/displaytable.asp?xtopic=18 (accessed May 1, 2013).

Cost Containment Measures Under Healthcare Reform. Washington, DC: Small Business Majority. December 2, 2011, http://smallbusinessmajority.org/policy/docs/SBM_Small_Biz_Cost_Containment_120211.pdf (accessed January 20, 2012).

"Factors to Weigh When Deciding Whether to Buy or Rent," by Julie A. Jacob. Chicago: American Medical Association. April 2, 2001. http://www.ama-assn.org/amednews/200104–02-bica0402.htm (accessed May 1, 2013).

"The Five Pitfalls of Congregate Care Development." *Apartment Resources* 7, no. 8. Columbus, OH: Danter Company. 1992.

Genworth 2012 Cost of Care Survey: Home Care Providers, Adult Day Health Care Facilities, Assisted Living Facilities, and Nursing Homes. New York: Genworth Life Insurance Company. 2012.

Global Molecular Diagnostics Market & Future Forecast 2010–2014. Noida, India: Renub Research. 2011.

"Health Care Reform Memo: 12-Apr-10." Health Care Reform Memo. New York: Deloitte Center for Health Solutions. April 12, 2010.

"Health Insurance Market Reforms: Rate Restrictions." Menlo Park, CA: The Henry J. Kaiser Foundation. 2012.

ICD-10 Transformation: Five Critical Risk-Mitigation Strategies. G7 Advisory Report. Chicago: Healthcare Information and Management Systems Society. 2011.

"Key Findings from HSC's 2010 Site Visits: Health Care Markets Weather Economic Downturn, Brace for Health Reform," by Laurie E. Felland, Joy M. Grossman, and Ha T. Tu. Washington, DC: Center for Studying Health System Change. 2011.

Medicare Advantage Plan Star Ratings and Bonus Payments in 2012: Data Brief. Menlo Park, CA: Kaiser Family Foundation. 2011.

"Member Publications: Fair Market Value in Health Care Transactions," by Lewis Lefko. Dallas: Haynes and Boone. 2007.

National Correct Coding Initiative. Washington, DC: Centers for Medicare and Medicaid Services. 2010. http://www.cms.hhs.gov/NationalCorrectCodInitEd/ (accessed May 1, 2013).

A National Study of Resource-Based Relative Value Scales for Physician Services: Final Report, by William C. Hsiao, Peter Braun, Edmund Becker, Daniel Dunn, Nancy L. Kelly, et al. Boston: Department of Health Policy and Management, Harvard School of Public Health. 1988.

"Overview of the RBRVS." Chicago: American Medical Association. 2009. http://www.ama-assn.org/ama/pub/physician-resources/solutions-managingyourpractice/coding-billing-insurance/medicare/the-resource-based-relative-valuescale/overview-of-rbrvs.shtml (accessed September 5, 2009).

"Patient Outcomes and Evidence-Based Medicine in a Preferred Provider Organization Setting: A Six Year Evaluation of a Physician Pay-for-Performance Program," by Amanda S. Gilmore, et al. *Health Services Research* 42, no. 6. Malden, MA: Blackwell. December 2007. http://findarticles.com/p/articles/mi_m4149/is_6_42/ai_n21157693/print (accessed April 21, 2008).

"PET and SPECT Markets Should Reach $6 Billion by 2018," by Marvin Burns. Marina Del Ray: CA Bio-Tech Systems. 2011. http://www.biotechsystems.com (accessed May 1, 2013).

Point-of-Service Plans. Brookfield, WI: International Foundation of Employee Benefit Plans. 2003.

"Professional and Technical Component Modifiers," by Donna Tyler. Washington, DC: American College of Obstetricians and Gynecologists. 2009. http://

www.acog.org/departments/dept_notice.cfm?recno=6&bulletin=4672 (accessed August 19, 2009).

The RBRVS and the AMA Specialty Society RVS Update Committee (RUC) Process. Chicago: American Medical Association. 2008.

"RBRVS: How New Physician Fee Schedule Will Work—Resource-Based Relative Value Scale Payment System," by Paul L. Grimaldi. Healthcare Financial Management 45, no. 9. Westchester, IL. September 1991.

Report of the Council on Medical Service: Improving the Medicare Economic Index, by David O. Barbe. CMS Report 6-I-08. Chicago: American Medical Association. 2008.

Representing Professional and Closely Held Businesses: Qualified Plans, Welfare Benefits, and Tax Planning, by Martin R. Alson. Chicago: American Bar Association. 2006.

Revenue Cycle Management: A Life Cycle Approach for Performance Measurement and System Justification. Chicago: Healthcare Information and Management Systems Society. 2010.

"Self Insurance in Times of Growing and Retreating Managed Care," by Jon R. Gabel, et al. *Health Affairs* 22, no. 3. Bethesda, MD: Project HOPE. March/April 2003.

"State Health Care Fraud Laws." Kaiser State Health Facts. Menlo Park, CA: Kaiser Family Foundation. 2009. http://www.statehealthfacts.org (accessed August 3, 2012).

"The State of Seniors Housing." Washington, DC: American Seniors Housing Association. 2011.

Summary of HHS Recovery Operational Plan. Chicago: HIMMS Analytics. May 2009. http://www.himss.org/advocacy/d/HIMSS_Summary_HHS_RecoveryProgram_May2009.pdf (accessed June 3, 2009).

"The Value of Group Purchasing—2009: Meeting the Needs for Strategic Savings," by Eugene S. Schneller. Princeton, NJ: Mathematica Research. 2009.

"What Is Telemedicine and Telehealth?" Washington, DC: American Telemedicine Association. 2012. http://www.americantelemed.org/learn (accessed May 1, 2013).

"Will Pay-for-Performance Work?" by Daniel Cook Herrin. Publishing Partners LP. 2011. http://www.outpatientsurgery.net/newsletter/eweekly/2012/04/17#1 (accessed April 17, 2012).

Peer-Reviewed Sources

"Analysis: Private Equity Funds Rapid Growth of Walk-in Clinics," by Atossa A. Abrahamian. New York: Thomson Reuters. 2013. http://www.reuters.com (accessed April 2, 2013).

"Cardiology Workforce Crisis: Shortage or Surplus? [Reply]," by Joseph E. Marine. *Journal of the American College of Cardiology* 55, no. 8. New York: Elsevier Health. 2010.

"Consolidation and the Transformation of Competition in Health Insurance: Health Insurance Will Be Either Revitalized by the Private Sector or Disliked by the

Public Sector," by James C. Robinson. *Health Affairs*. Bethesda, MD: Project HOPE. 2004.

"Do Health Care Costs Matter?" by William J. Baumol. *The New Republic*. Washington, DC: The New Republic. 1993.

"Estimating Physicians' Work for a Resource-Based Relative Value Scale." *New England Journal of Medicine*. Boston: Massachusetts Medical Society. 1988.

"Expanding Use of Imaging Technology and the Challenge of Measuring Value," by Laurence C. Baker, Scott W. Atlas, and Christopher C. Afendulis. *Health Affairs* 27, no. 6. Bethesda, MD: Project HOPE. 2008. http://content.healthaffairs.org (accessed September 21, 2012).

"The Health Insurance Picture in 1990: Data Watch," by Cynthia B Sullivan and Thomas Rice. *Health Affairs* 10, no. 2. Bethesda, MD: Project HOPE. May 1991. http://content.healthaffairs.org/content/10/2/104.full.pdf (accessed August 15, 2012).

"IT Investments for Naught Unless They Cut Healthcare Costs, Says Greenspan," by Neil Versel. New Gloucester, ME: MedTech Media. April 9, 2009. http://www.healthcareitnews.com/news/it-investments-naught-unless-they-cut-healthcarecosts-says-greenspan (accessed August 26, 2009).

"Market Impact of Specialty Hospitals: A Study of the Profitability of General Short-Term Acute Care Hospitals Post Market Entry of Specialty Hospitals," by Robert J. Cimasi, Anne P. Sharamitaro, Lance A. Haynes, and Rachel L. Seiler. *Journal of Health Care Finance* 35, no. 2. Wolters Kluwer. 2008.

"The New Language of Medicine," by Pamela Hartzband, MD, and Jerome Groopman, MD. *New England Journal of Medicine* 365, no. 15. Boston: Massachusetts Medical Society. 2011.

"Opportunities and Challenges for Episode-Based Payment," by Robert E. Mechanic. *New England Journal of Medicine* 365, no. 9. Boston: Massachusetts Medical Society. 2011.

"Optimizing Advanced Practitioner Charge Capture in High-Acuity Surgical Intensive Care Units," by Karyn L. Butler, Rebecca Calabrese, Manish Tandon, and Orlando Kirton. *Archives of Surgery* 146, no. 5. Chicago: American Medical Society. 2011.

"Physician Reimbursement under Medicare," by Alan M. Scarrow. *Neurosurg Focus* 12, no. 4. Rolling Meadows, IL: American Association of Neurological Surgeons. 2002.

"Removing Costs from the Health Care Supply Chain: Lessons from Mass Retail," by John Agwunobi and Paul A. London. *Health Affairs* 28, no. 5. Bethesda, MD: Project HOPE. 2009.

"A Systematic Approach to Containing Health Care Spending," by Ezekiel Emanuel, Neera Tanden, Stuart Altman, Scott Armstrong, Donald Berwick, et al. *New England Journal of Medicine* 367, no. 10. Boston: Massachusetts Medical Society. 2012.

"Unhealthy Trends: The Future of Physician Services," by Hoangmai H. Pham and Paul B. Ginsburg. *Health Affairs* 26, no. 6. Bethesda, MD: Project HOPE. 2007.

"What Every Physician Should Know about the RUC: A Small Group of Physicians Has a Big Say in What You Get Paid," by Kent J. Moore, Thomas A. Felger, Walter L. Larimore, and Terry L. Mills. *Family Practice Management* 15, no. 2. Kansas City, MO: American Academy of Family Physicians. February 2008. http://www.aafp.org/fpm/2008/0200/p36.pdf (accessed August 15, 2012).

Glossary

501(c)(3) Exemption Healthcare providers may qualify for a federal tax exemption if they meet the Internal Revenue Service (IRS) requirements for charitable organizations under section 501(c)(3) of the Internal Revenue Code (IRC), if the enterprise is "organized and operated exclusively for exempt purposes," and none of its earnings are allocated to private shareholders or individuals. Exempt purposes include those that are charitable, religious, educational, and scientific.

Accountable Care Organization (ACO) Healthcare organization in which a set of providers, usually physicians and hospitals, is held accountable under a contract with a payor(s) (i.e., Medicare for federal ACOs and any number of commercial payors for commercial ACOs) for the cost and quality of care delivered to a specific local population.

Accreditation Accreditation is a process in which private organizations assess participating institutions and programs and issue accreditation certificates to those that meet their requirements. Ensuring the quality and safety of services is the focus of most accreditation standards; however, many also include documentation and other requirements.

ACO Participant "An individual or group of ACO provider(s)/supplier(s), that is identified by a Medicare-enrolled TIN, that alone or together with one or more other ACO participants comprise(s) an ACO, and that is included on the list of ACO participants that is required under [42 CFR] § 425.204(c)(5)."

ACO Professional "An ACO provider/supplier who is either of the following: (1) A physician legally authorized to practice medicine and surgery by the State in which he performs such function or action; (2) A practitioner who is one of the following: (i) A physician assistant (as defined at [42 CFR] § 410.74[a][2]); (ii) A nurse practitioner (as defined at [42 CFR] § 410.75[b]); (iii) A clinical nurse specialist (as defined at [42 CFR] § 410.76[b])."

ACO Provider/Supplier "An individual or entity that (1) is a provider (as defined at 42 CFR § 400.202) or a supplier (as defined at [42 CFR] § 400.202); (2) is enrolled in Medicare; (3) bills for items and services it furnishes to Medicare fee-for-service beneficiaries under a Medicare billing number assigned to the TIN of an ACO participant in accordance with applicable Medicare regulations; and (4) is included on the list of ACO providers/suppliers that is required under [42 CFR] § 425.204(c)(5)."

Activity Ratios Ratios that indicate how efficiently the organization uses its resources or assets, including cash, accounts receivable, salaries, inventory, property, plant, and equipment.

Ad Valorem Tax A tax that is generally determined to be a fixed or calculated proportion of the value of the property as assessed or appraised on a regular basis.

Adverse Drug Effect (ADE) An injury caused by drugs, typically in the form of an allergic reaction or adverse physiological responses to a certain combination of medications. Preventable ADEs are injuries that are caused by human error.

Alert Fatigue CPOE error caused by a combination of critical medical alerts and a high volume of marginally medically consequential alerts.

Allied Health Professionals Providers who practice "parallel" to physicians but provide a scope of services that is distinctly different from physicians, representing 60 percent of the U.S. healthcare workforce, providing diagnostic, technical, and therapeutic services both incident to (supporting) or in lieu of (replacing) physicians.

Allopathic "A method of healing founded on a scientific basis."

Allopathy The traditional form of medicine, whereby interventions and remedies are used to treat various illnesses or conditions.

Ambulatory Surgery Center (ASC) A freestanding facility that is certified by Medicare that performs certain types of same-day procedures on an outpatient basis without hospitalization.

Ancillary Services and Technical Component (ASTC) Professional charges for patient services that are delivered in conjunction with the principal practitioner who diagnoses and treats the patient. The technical component of billing, with its own CPT codes, includes equipment, supplies, and facilities.

The Anti-Kickback Statute The federal Anti-Kickback Statute makes it a felony for any person to "knowingly and willfully" solicit or receive or to offer or pay any "remuneration" directly or indirectly in exchange for the referral of a patient for a healthcare service paid for by a federal healthcare program.

Antitrust A body of law charged with combating anticompetitive behavior that would impair the ability of free markets to function properly. Antitrust involves the regulation of mergers and acquisitions, as well as scrutiny of behavior between competitors that may restrain trade.

Any Willing Provider Laws Laws that require managed care plans to contract with all healthcare providers that meet their terms and conditions.

Appraisal Consulting The development and reporting of a recommendation, analysis, or opinion to solve a problem.

Appraisal Report The development and reporting of an opinion of value of a business enterprise or equity interest in a business entity.

Appraisal Review The development and reporting of an opinion regarding the quality of an appraisal report.

Arithmetic Mean The average value of historical data used as a measure of central tendency.

Assisted Living A type of living arrangement in which meals, shelter, transportation, and the activities of daily living are provided either in-home or in a centralized location.

Average Sales Price (ASP) A way of calculating a benchmark, from which Medicare reimbursement for drugs may be determined, based on average manufacturer prices supplied by pharmaceutical companies.

Average Wholesale Price (AWP) A way of calculating a benchmark from which pharmacy contracting and Medicare reimbursement for drugs may be determined, based on the average price a drug wholesaler sells a particular drug.

Avoided Costs A quantifiable amount of a future necessary economic operating expense that a purchaser will not have to pay on purchasing certain intangible assets, for example, a trained and assembled workforce.

Benchmark A reference point derived from similar processes or services in an industry, among competitors, or in an internal organization, in order to set a level of care as a goal to be attained.

Beta Estimation A regression technique that measures the marginal sensitivity of the selected publicly traded entity's returns to changes in the returns of the market as a whole or a suitable proxy for the market.

Biobank/Biorepository A "warehouse" that collects, catalogs, and stores samples of bodily substances and reference materials, which may then be used to identify unknown samples in furtherance of scientific research and development.

Biologics Therapeutic products that are developed using living sources; examples of biologics include vaccines, blood and blood products, and allergenic extracts and tissues.

Biomarkers An important tool for diagnosing and monitoring cancer; however, some critics believe biomarkers, as a clinical treatment process, were a failure.

Biopharmaceuticals A pharmaceutical product manufactured by biotechnology methods (involving live organisms or bioprocessing).

Biosimilar Production The redevelopment of new generation biologics.

Blockage Discount A price concession that will typically be accepted by a controlling interest holder of a freely traded company when selling a large block of stock at one time.

BlueCross BlueShield BlueCross provides beneficiaries with health insurance to cover hospital expenses, while BlueShield provides insurance to cover expenses associated with physician services. Together, they form BlueCross BlueShield, and the BlueCross Blue Shield Association (BCBSA) works to coordinate the nationwide plans by establishing standards for new plans and programs; assisting local plans with enrollment activities, national advertising, public education, professional relations, and statistical and research activities; and serving as the primary contractor for processing Medicare hospital, hospice, and home health claims.

Bond Issue The underwriting of the bond issuance by an investment bank, often referred to as "floating" the bond, which is then auctioned to the market, and the required return is inferred from the price information provided by actual transactions in that specific debt offering.

Brachytherapy A cancer treatment that allows for higher doses of radiation to treat a smaller area in a shorter time by placing radiopharmaceuticals directly inside or next to the tumor. Brachytherapy can be temporary or permanent, with variable administration rates and doses.

Brownfield Site An abandoned, idled, or underused industrial or commercial site that is difficult to expand or redevelop because of environmental contamination.

Bundling A form of reimbursement that combines institutional and professional charges into a single payment, including all staff for preoperative and

postoperative care. Bundled payment schemes generally include outlier provisions for cases that become catastrophic.

Butler-Pinkerton Method A valuation calculator that attempts to measure total cost of equity and public company–specific risk.

Caduceus Double serpent winding around a staff; a symbol for medicine.

Cancer Treatment Center A facility that provides treatment for the chronic condition and focuses on disease management; often provides chemotherapy and radiation therapy.

Capital Asset Pricing Method A technique that defines the riskiness of an investment relative to the overall riskiness of the market, resulting in the assumption that all things being equal, investors will require greater compensation for greater risk.

Capitation Capitation is a prepaid reimbursement method that pays a provider a set price for providing medical services to a defined population for a defined set of services, regardless of service utilization. Providers must manage the financial risk of providing adequate care by calculating the expected volume of referrals, the average cost, and their ability to control utilization.

Cash Flow The reported net income of a corporation, plus amounts charged off for depreciation, depletion, amortization, and extraordinary charges to reserve accounts for the particular year under consideration.

C-Corporation A taxable entity where earnings given to shareholders are subject to double taxation as corporate earnings and as personal dividends.

Centers for Medicare and Medicaid Services (CMS) An agency within the U.S. Department of Health and Human Services responsible for the administration of Medicare, Medicaid, and other programs.

Certificate of Need (CON) The formal justification of capital expenditures from a governmental healthcare agency, especially for a new specialty hospital, outpatient center, medical clinic, and so forth.

Charge Capture Charge capture entails the transfer of the provider's coding and documentation to the actual bill. Providers are tasked with recording the appropriate procedure and diagnosis codes on an encounter form, and the business staff is responsible for ensuring that the encounter form is accurate and then using it to bill patients and third-party insurers.

Children's Health Insurance Program (CHIP) CHIP is a state-federal partnership that provides assistance to children and pregnant women in families whose income is above the threshold for Medicaid. It was formerly known as the State Children's Health Insurance Program (SCHIP).

Chiropractic A form of alternative medicine originating from the belief that vertebral lining would serve to remedy diseases.

Chiropractors Chiropractic treatment focuses on spinal manipulation (referred to as spinal adjustment) and the body's natural power to heal itself without relying on drugs or surgery. Chiropractors use various forms of therapy, including massage, ultrasound, electric, acupuncture, or heat, and various supports (e.g., braces) in providing patient care.

Civil Monetary Penalty Financial penalties levied against parties found guilty of violating the Anti-Kickback Statute or submitting false claims for government reimbursement.

Civilian Health and Medical Program of the Department of Veteran Affairs (CHAMPVA) The Civilian Health and Medical Program of the Department of Veteran Affairs is the Department of Veterans Affairs' (VA) healthcare program for the spouses and the children of veterans who meet certain eligibility requirements.

Civilian Health and Medical Program of the Uniformed Services (CHAMPUS) CHAMPUS is the former name for TRICARE.

Clearinghouses Companies that assesses provider claims for errors and securely forward the bill to the correct payor.

Clinical Decision Support (CDS) Clinical decision support is a technology that provides clinicians with real-time feedback about a wide range of diagnostic and treatment-related information as they are entering electronic orders.

Clinical Laboratory Services provided at these sites involve the collection and examination of bodily materials for the purpose of diagnosing, preventing, treating, and assessing an illness or condition.

Co-Management Arrangements A Co-Management Arrangement is formed between a hospital and a group of physicians for the purpose of the physicians providing "co-management" services for a portion of the hospital's business, typically a service line related to the specialty of the participating physicians.

Commercial Reasonableness The Department of Health and Human Services has interpreted *commercially reasonable* to mean that an arrangement appears to be "a sensible, prudent business agreement, from the perspective of the particular parties involved, even in the absence of any potential referrals." The Stark II, Phase II, commentary also suggests that "an arrangement will be considered 'commercially reasonable' in the absence of referrals if the arrangement would make commercial sense if entered into by a reasonable entity of similar type and size and a reasonable physician of similar scope and specialty, even if there were no potential DHS referrals."

Complementary and Alternative Medicine Healthcare services that fall outside the scope of conventional allopathic and osteopathic medical practice.

Computerized Physician Order Entry A computer system that permits clinical providers to electronically order laboratory, pharmacy, and radiology services.

Conditional Mean Predictive models that condition their expected value based on the time path of the endogenous variable and/or the level (or changes) in certain exogenous variables.

Congregate Care A combination of "private living quarters with centralized dining services, shared living spaces, and access to social and recreational activities," as well as "transportation services, personal care services, rehabilitative services, spiritual programs, and other support services," but that are not licensed to provide healthcare services.

Control Interest An ownership interest with the authority to alter the strategic financial and economic operations and goals of the firm.

Cosmetic and Aesthetic Medicine Centers These centers provide outpatient surgical services related to the elective enhancement of an individual's appearance.

Cosmetic Surgery The elective enhancement of an individual's appearance and self-esteem through fundamental medical and surgical knowledge and expertise.

Cost of Capital A key component of the income-based valuation approaches is the determination of the appropriate discount rate to apply to the expected future economic benefit to be derived from the ownership of the subject entity.

C-suite A slang term used to describe the top tier of decision makers within an enterprise, based off the first letter of their title, for example, CEO, CMO, COO, and so on.

CT Scanning The process of making a computed tomography image.

Current Procedural Terminology (CPT) A system developed by the AMA that is used by providers to report information to patients and insurers about services and procedures provided to patients.

Customary Prevailing and Reasonable (CPR) The historically implemented methodology that based Medicare-allowed amounts on past payments for the service.

Debt All monies, notes, and bonds owed by an enterprise.

Degrees of Freedom The number of possible rotations that can be made by a robotic "hand."

Dental HMOs Capitation plans in which a dental provider is paid a fixed amount per patient, regardless of the number of dental services actually provided for that patient.

Depreciation The continuous decline in value of an asset (including buildings, instruments, and equipment) in the course of its operations.

Designated Health Professional Shortage Area Areas designated by the Health Resources and Services Administration (HRSA) as having shortages of primary medical care, dental, or mental health providers and may be geographic (a county or service area), demographic (low-income population), or institutional (comprehensive health center, federally qualified health center, or other public facility).

Designated Health Service "Categories of healthcare entities subject to the Stark Law: (1) Clinical lab services; (2) Physical therapy, occupational therapy, and speech-language pathology services; (3) Radiology and other imaging services (including nuclear medicine as of January 1, 2007); (4) Radiation therapy services and supplies; (5) Durable medical equipment and supplies; (6) Prosthetics, orthotics, and prosthetic devices and supplies; (7) Home health services; (8) Outpatient prescription drugs; (9) Inpatient hospital services; (10) Outpatient hospital services; and (11) Parental and enteral nutrients, associated equipment, and supplies."

Diagnostic Imaging Centers An outpatient service center that provides CTs, PETs, MRIs, X-rays, and other imaging procedures.

Diagnostic Related Groups (DRG) A classification system of patients by surgical procedure or diagnosis into major diagnostic categories for the purpose of Medicare reimbursement of hospitalization costs.

Dialysis Centers Centers that provide in-center hemodialysis, hemofiltration, peritoneal dialysis, pharmacy, and lab services, as well as home hemodialysis and home peritoneal dialysis training and services.

Discount The percentage or dollar amount below net asset value at which an entity is sold.

Discount for Lack of Marketability The reduction in price demanded by investors as compensation for the perceived difficulty in converting an asset into cash or its equivalents, relative to a similar, more easily converted asset.

Discounted Payback Period An analytical technique that determines the number of discrete periods "until the sum of the discounted cash flow is equal to the initial investment."

Discounting The reduction in value caused by uncertainty.

Disproportionate Share Hospital (DSH) Payments A form of additional reimbursement under Medicaid for hospitals that care for a large number of Medicaid and uninsured patients. DSH payments are allotments from the federal government that augment basic Medicaid reimbursement, and under federal law, states are required to supplement disproportionate share hospitals in order to receive this additional Medicaid funding.

Distributor In the supply chain, a distributor is a company that acts as middleman between the manufacturer and the seller.

Dual Eligibles Those beneficiaries who are eligible for benefits under both the Medicare and Medicaid programs, traditionally consisting of older, poor, costly patients with lower health status.

Durable Medical Equipment (DME) Medical equipment designed to improve the quality of life of patients with illnesses or injuries and must be able to withstand repeated use, primarily serve a medical purpose, and generally not be useful to a person lacking an injury or illness.

Easement An interest in land owned by another person, consisting in the right to use or control the land, or an area above or below it, for a specific limited purpose.

Eclectic Medicine A school of medicine that uses herbal medicines and remedies to treat pathologic conditions; among less threatening therapies, eclectics were branded for their use of arsenic and mercury treatments.

Electronic Health Record (EHR) "An electronic record of health-related information on an individual that comes to nationally recognized interoperability stands and that can be created, managed, and consulted by authorized clinicians and staff across more than one health care organization."

Electronic Medical Record (EMR) "An electronic record of health-related information on an individual that can be created, gathered, managed, and consulted by authorized clinicians and staff within one health care organization."

Emerging Healthcare Organization (EHO) Physicians, hospitals, healthcare systems, clinics, and payors who are innovating, integrating, or merging because of the constant competitive influx of the healthcare industry.

End Stage Renal Disease The final stage of kidney failure, marked by the complete or nearly complete irreversible loss of renal function, where the body retains fluid and harmful waste build-up.

Enteral Into the digestive system.

Epidural Into the membranes surrounding the spinal cord.

Episode-Based Payment A form of Episode of Care payment that is synonymous with bundling.

e-Prescribing Submitting drug prescriptions to pharmacies via an electronic system.

Equity The money value of property, or interest in property, after all claims have been deducted.

Essential Coverage A federally mandated minimum level of coverage that every U.S. citizen must obtain unless an exemption applies. Coverage includes government-sponsored programs, eligible employer-sponsored programs, plans in the individual market, and grandfathered group health plans, as well as some other types of coverage.

Exam Lane Refers to the area where optometrists assess the patient's visual acuity, eyes, and systemic health, in determining the appropriate prescription and/or course of treatment required by the patient.

Excess Benefit Transactions A transaction in which an economic benefit is provided by an applicable tax-exempt organization, directly or indirectly, to or for the use of a disqualified person, and the value of the economic benefit provided by the organization exceeds the value of the consideration received by the organization.

Excess Capacity The actual output of a firm, an industry, or an economy is below the rate at which all resources are fully employed.

Exclusive Provider Organization A managed care plan in which patients must use a participating, in-network provider for nonemergency services or receive no insurance reimbursement and have to self-pay.

External Beam Radiation Therapy (EBT) Involves the administration of high-energy X-ray beams to kill cancer cells and treat tumors. Often, some X-ray, ultrasound, or CT imaging is used prior to the delivery to ensure that the path of the beam will align with the target area.

Extraordinary Collection Actions Actions taken by a hospital facility against an individual related to obtaining payment of a bill for care covered under the hospital facility's FAP that (1) require a legal or judicial process, (2) involve selling an individual's debt to another party, or (3) require reporting adverse information to consumer credit reporting agencies or credit bureaus.

Fair Market Value (FMV) The value in arm's-length transactions, consistent with general market value, without taking into account any ability between parties to refer business to each other.

Fair Value The price that would be received to sell an asset or paid to transfer a liability (an exit price) in an orderly transaction between market participants at the measurement date.

Fairness Opinion "[A] view as to whether the consideration offered in a deal is within the range of what would be considered 'fair.'"

False Claims Act (FCA) Creates civil liability for knowingly presenting false or fraudulent claims for reimbursement to the federal government. Amended in 1986, it has become one of the primary weapons used to combat healthcare fraud. Under the statute's qui tam (whistleblower) provisions, any private citizen can enforce the FCA by filing a complaint alleging fraud against the federal government. The incentive is the potential to share in the recovery of any ill-gotten funds.

Fee-for-Service A payment policy under which providers receive a fee for each service provided (e.g., an office visit, test, procedure, etc.).

Fee Schedule A fee schedule is a payment system under which the fees for procedures are explicitly laid out and the physician agrees to accept those fees as full payment, unless the discounted charges are less than the fee schedule, in which case the plan pays the lesser of the two.

Financial Relationship An ownership or investment interest in the DHS entity, or a compensation arrangement between the DHS entity and the referring physician or a member of his immediate family. The law further describes "ownership/investment interest" to include debt, equity, or other means. The term also includes an interest in an entity that holds an ownership or investment interest in any entity providing DHS services.

Financial/Revenue Stream–Related Intangible Assets Includes office share arrangements, management service agreements, and financing agreements, including options.

Follow-On Biologics New generation biologics.

Full-Time Employees Employees who work, on average, at least 30 hours of service per week.

Functional Obsolescence The loss of utility resulting from the inefficiencies of the asset, as compared to a more efficient or less costly replacement asset.

Fundamental (Intrinsic) Value A representation of an analytical judgment of value based on the perceived characteristics inherent in the investment, not tempered by characteristics peculiar to any one investor, but rather tempered by how these perceived characteristics are interpreted by one analyst versus another.

Fungible Commodity A good whose units are freely exchangeable and interchangeable.

Gainsharing An arrangement "under which a hospital gives physicians a share of the reduction in the hospital's costs (that is, the hospital's cost savings) attributable in part to the physician's efforts."

Gamma Knife A therapy that employs computerized robotic technology to move patients at submillimeter increments during treatment.

Gene Therapy Molecular means of cancer treatment.

General Data General industry research and information relative to the economic, demographic, industry, competition, healthcare industry and medical specialty trends, and the managed care environment surrounding the subject entities, as well as transactional data, investment risk/return information, and market environment reports.

General Research General industry research and information relative to the general economic and demographic trends, competition, general healthcare industry trends, specialty trends, and managed care environment, specific to the subject property interest.

Genomics The evaluation of the hereditary information provided by an organism's DNA and the application of research findings to the fields of genetic engineering and enhancement, cloning, stem cell research, and eugenics.

Goodwill An intangible asset arising as a result of name, reputation, customer loyalty, location, products, and similar factors not separately identified.

Governance/Legal Structure–Related Intangible Assets Organizational documents, income distribution plans, and covenants not to compete.

The Great Recession An 18-month global economic recession lasting from December 2007 to July 2009, in which industrial production fell 16 percent in the United States.

Gross Domestic Product (GDP) A measure of the total flow of goods and services produced by the economy over a specified time period (e.g., one year), calculated using an aggregate value of the output of goods and services used for final consumption or investment.

Group Purchasing Organization (GPO) An organization that leverages the buying power of a group of healthcare organizations to obtain contracted discounts from vendors.

Health Information Technology (HIT) A technology that improves "the health of individuals and the performance of providers, yielding improved quality, cost savings, and greater engagement by patients in their own health care."

Health Insurance Exchange (HIE) "Public markets" for health insurance plans available within a state.

Health Maintenance Organization (HMO) Any organization that, through an organized system of healthcare, provides or ensures the delivery of an agreed-on set of comprehensive health maintenance and treatment services for an enrolled group of persons, commonly under a capitation or prepaid fixed sum arrangement.

Health Savings Account (HSA) Special accounts into which employers and employees both contribute, and from which the employee can draw funds to pay for health services. If the employer contributes, the value of those contributions is not taxable to the employee. Similarly, if the employee makes contributions, they count as "above-the-line" deductions.

Hemodialysis The process of filtering blood through an artificial membrane, known as a dialyzer, to remove wastes and excess fluids, which is most often provided in a dialysis facility three times a week for three to four hours per treatment.

Hemofiltration A technique for the treatment of ESRD patients that removes fluid, electrolytes, and other toxic substances from the blood by filtration.

High Deductible Health Plan (HDHP) A type of "catastrophic coverage" health insurance coverage with lower premiums and higher deductibles than traditional plans; it is a requirement for having an HSA. Defined by the IRS as a "health plan with an annual deductible that is not less than $1,200 for self-only coverage or $2,400 for family coverage, and the annual out-of pocket expenses (deductibles, co-payments, and other amounts, but not premiums) do not exceed $6,050 for self-only coverage or $12,100 for family coverage."

Home Health Healthcare services that are offered to patients in their homes, including (1) home healthcare enterprises, which provide medical and supportive care; (2) home care aide enterprises, which provide nonmedical care or custodial care; and (3) hospice enterprises, which provide end-of-life care.

Homeopathic Medicine CAM whole medical system centered on the belief that "like cures like," in which small, diluted medicinal remedies are given to cure symptoms that, in high concentrations, these substances would actually induce.

Homogeneous Enterprise An enterprise that is similar or uniform in structure and quality to a subject enterprise.

Hospital Outpatient Department A department that typically offers many of the same services provided by freestanding outpatient enterprises, has access to the market leverage maintained by the parent hospital organization, and is reimbursed under the OPPS.

Hospitals Institutions where the sick or the injured are given medical or surgical care.

Human Capital–Related Intangible Assets Staff/employee and provider employment agreements, trained and assembled workforce in place, policies and procedures, and depth of management.

Independent Laboratory A laboratory that receives samples from a hospital or a physician practice for diagnostic or pathologic testing; does not collect specimens from patients directly.

Independent Practice Association (IPA) An IPA is an association of independent physicians who maintain their own private practices but have joined together to enter into an agreement to treat the plan's enrollees.

Individual Mandate An ACA requirement that U.S. citizens and legal residents maintain minimum amounts of health insurance coverage, that is, "essential coverage."

Industrial Hygiene "The science of keeping people safe at work and in their communities. Industrial hygienists (IHs) are professionals dedicated to the health and well-being of workers. Originally, industrial hygienists worked primarily in factories and other industrial settings but as our society has changed, so has the definition of industrial hygiene. Today, IHs can be found in almost every type of work setting. Industrial hygienists also use the term OEHS or occupational and environmental health and safety to refer to the work that they do."

Industrial Medicine Casualty insurance for laborers that delineated between medical care for work-related injuries and that for work-acquired diseases.

Initial Public Offer (IPO) The first time a business, which was previously a privately held firm, issues publicly traded shares of stock.

Intangible Assets Nonphysical business assets that grant certain rights and privileges, including copyrights, trade names, services marks, brand names, and so on.

Integrated Delivery System An organized system of healthcare providers spanning a broad range of health services, optimizing costs and outcomes, and accepting and managing financial arrangements to deliver care to a defined population.

Integrated Outpatient Facility A center that involves a multidisciplinary program whereby a team of medical specialists provides services to patients at the same location, allowing for a true multidisciplinary assessment of the patient's condition and the development of a cohesive and integrated plan of care.

Intellectual Property–Related Intangible Assets Practice protocols, treatment plans, procedure manuals, technical and specialty research, patents and patent applications, copyrights, trade names, and trade secrets.

Intensity Modulated Radiation Therapy (IMRT) An advanced form of radiation therapy using three-dimensional (3D) imaging and treatment delivery.

Internal Rate of Return An analytical technique that determines discount rate, which, when applied to the expected net economic benefits of the subject property interest, results in a zero net present value.

International Classification of Diseases, Ninth Revision (ICD-9) The ICD-9 system has codes that supply the payor with information regarding both the patient diagnosis and the procedures performed in treating the diagnosis. HIPAA requires all healthcare providers to use the ICD-9 codes when reporting diagnosis information to payors. In addition, HIPAA requires that hospitals use the ICD-9 procedural codes when reporting information to payors detailing the treatment of hospital inpatients.

International Classification of Diseases, Tenth Revision (ICD-10) In early 2009, the United States Department of Health and Human Services (HHS) announced a final rule that called for the replacement of the current ICD-9 code set used to report healthcare diagnoses and procedures with the ICD-10 code set by October 1, 2013. The adoption of the new system offers several benefits, including the facilitation of quality data reporting, support for pay for performance payment methodologies, improved billing accuracy, and allowances for international comparison of the incidence and spread of disease.

Intravenous Through the bloodstream.

Inurement of Private Benefits An exempt organization is organized or operated for the benefit of private interests. The IRS has stated that "[n]o part of the net earnings of a section 501(c)(3) organization may inure to the benefit of any private shareholder or individual[, whereby] a private shareholder or individual is a person having a personal and private interest in the activities of the organization."

Investment Value The specific value of an investment to a particular investor or class of investors based on individual investment requirements, distinguished from market value, which is impersonal and detached.

Key Person Discounts A reduction in the ownership value of an entity due to the actual or real loss of an owner or a key person.

Kickback Remuneration received in return for referring an individual to a person for the furnishing of any item or service for which payment may be made under a federal health care program, or remuneration received in return for purchasing, leasing, ordering, or arranging for or recommending purchasing, leasing, or ordering any good, facility, service, or item for which payment may be made under a federal health care program.

Laboratories Facilities that provide an isolated setting in which samples of tissues, fluids, and other bodily substances can be tested and/or stored; may be located within an inpatient or outpatient facility or may operate as a freestanding facility.

Land Improvements Relatively permanent structures built on, or physical changes made to, a property to increase its utility and value.

Laparoscopy Minimally invasive surgery that involves the insertion of a slender tubular endoscope through the abdomen wall. A laparoscopy involves the use of surgical instruments that the practitioner controls and fiberoptic technology for visual navigation.

Legal Medicine A branch of medicine also referred to as medical jurisprudence; involves the implementation of medical expertise for legal and judicial purposes.

Length of Stay (LOS) The number of consecutive days a patient is hospitalized.

Leverage Ratios Ratios used to illustrate the proportion of funds, or capital, provided by shareholders (owners) and creditors to aid analysts in assessing the appropriateness of an organization's current level of debt.

Licensure Licensure is a governmental body's process of issuing a license, or a federal or state charter granting its holder the right to practice a profession, such as medicine, podiatry, dentistry, law, and so on.

Linear Accelerator (LINAC) A cancer treatment that delivers uniform doses of high-energy X-rays to the localized area of the patient's tumor, while sparing the surrounding normal tissue. It is the device most commonly used for EBT treatments for patients with cancer.

Liquidity Ratios Ratios that measure the ability of an organization to meet cash obligations as they become due, that is, to support operational goals.

Lockboxes Instead of handling the collection and processing of payments themselves, providers may decide to use a lockbox service. For a fee, lockbox services open a provider's mail, collect payments, and deposit the money into the provider's account.

Long-Term Care Ongoing health and social services provided for individuals who need assistance on a continuing basis because of a physical or mental disability; can be hospital-, home-, or community-based and involve formal and informal care by friends, family, or professionals.

Long-Term Care Hospital A Medicare term for a hospital whose average length of stay (LOS) is more than 25 days and is not otherwise a mental health or rehabilitation hospital.

Managed Care Managed care plans integrate the financing (i.e., insurance) and provision of health services under the administration of one organization in an effort to contain costs.

Management Service Organization A corporation owned by the hospital or by a physician-hospital joint venture that provides management services to one or more medical group practices.

The Market Approach The approach to value where recent sales and offering prices of similar property are analyzed to arrive at an indication of the most probable selling price of the property being appraised.

Market Basket A varied combination of healthcare products, goods, and services.

Market Basket Index An index of the annual change in the prices of goods and services providers used to produce health or other goods and services. There are separate market baskets for prospective payment systems (PPSs), hospital operating input and capital input, skilled nursing facilities (SNFs), and outpatient services and facilities.

Marketing and Business Development–Related Intangible Assets Advertising, franchise/licensing agreements, and joint ventures/alliances.

Median of the Historical Data A measure of central tendency that establishes the value of a data set with an equal number of greater and lesser values within the dataset and is resistant to the effects of outliers.

Medicaid Medicaid is a means-tested, state-administered health insurance program for individuals below certain income thresholds predetermined by the state in which they reside. The federal government establishes coverage requirement

guidelines for the categorically needy (e.g., children, pregnant women), medically needy (e.g., individuals with income above the threshold but who have a large amount of medical bills), and special groups. Although the federal government determines the medical services that will be covered and paid for by the federal portion of the program, Medicaid programs vary widely from state to state, as the state governments are free to add additional services or expand eligibility to additional groups.

Medical Imaging A "non-invasive process used to obtain pictures of the internal anatomy or function of the anatomy using one of many different types of imaging equipment and media for creating the image."

Medical Laboratory A facility that offers isolated conditions for which samples of tissues, fluids, and other bodily substances can be tested or housed.

Medical Loss Ratio (MLR) The relationship of medical insurance premiums paid out for claims, comparing the cost of providing services to the amount paid for that service.

Medicare Medicare is an entitlement program available to individuals over the age of 65 and individuals with End Stage Renal Disease (ESRD). Medicare is divided into four parts: (1) Part A, which covers inpatient hospital care; (2) Part B, which covers outpatient visits; (3) Part C, which people can choose as a managed care replacement of Part A and B; and (4) Part D, which covers prescription drug benefits.

Medicare Part A "The Democratic plan for a compulsory hospital insurance program under Social Security."

Medicare Part B "The revised Republican program of government-subsidized voluntary insurance to cover physicians' bills."

Metropolitan Statistical Area Typically, a geographic area that includes one city with at least 50,000 inhabitants.

Midlevel Provider Health practitioners who must hold a license to practice medicine and may (in some capacity) practice independently.

Minimum Essential Coverage Level of coverage that includes insurance offered in the individual market (such as a qualified health plan enrolled in through an Affordable Insurance Exchange), an eligible employer-sponsored plan, or government-sponsored coverage, such as Medicare, Medicaid, the Children's Health Insurance Program, TRICARE, or veteran's health.

Minority Interest An ownership interest that lacks the aspects of control necessary to direct the economic and financial strategies employed by the firm, that is, anything less than a majority interest in a firm.

Modifier A code that is added to a base code (e.g., DRG or CPT) to take into account a circumstance that may affect the cost of care.

Monopsony "A single purchaser in a healthcare market without rivals."

National Center for Human Genome Research Institute (NCHGRI) A research institute composed of more than 50 researchers who are each dedicated to specific facets of genetic and genomic research and contribute accordingly to one of seven branches of the NCHGRI.

National Committee on Quality Assurance (NCQA) A not-for-profit organization that works to improve the quality of healthcare through the accreditation of

managed care plans. NCQA performs this duty, much as do other accrediting bodies, through the setting of standards and the collection of outcome and performance data.

Naturopathic Medicine A school of medicine that uses natural elements (such as water, heat, and massage) in its therapies.

Naturopathy A whole medical system centered on the belief that the body's healing power is responsible for sustaining, maintaining, and restoring health.

Net Present Value An analytical technique that determines the difference between the total initial economic expense burdens (e.g., initial cash outlays) and the total expected risk-adjusted future net economic benefits (e.g., present value of the future net cash flow).

Niche Providers Providers who focus on a section or a group of buyers, a segment of a product line, or a specific area of a geographic market. What specific area niche providers focus on will change, based on who is creating the definition.

NightHawk Radiology Services The nation's first nighthawk company. The company was acquired by Virtual Radiologic in September 2010.

Nonparenteral Drug Delivery A means of drug delivery where the distribution is through a method other than a digestive one.

Nonparticipating Provider Nonparticipating providers are providers that have not agreed to accept the Medicare reimbursement amount for every claim. Yet nonparticipating providers are allowed to accept Medicare assignment on a claim-by-claim basis, if they agree certain conditions. However, it should be noted that even though they have not accepted Medicare's fee as payment in full, nonparticipating providers are subject to a "limiting charge," which dictates what they may charge Medicare beneficiaries for covered services.

Normalized Earnings Amount The single dollar amount, derived from the adjusted earning of the subject entity over a number of years, which best represents the earnings capacity of the subject entity, based on the historical performance.

North American Industry Classification System (NAICS) Adopted in 1997 to replace the SIC code system, the one- to six-digit NAICS codes have become the primary standard for industry classification for U.S. statistical purposes.

Nurse Licensure Compact An interstate license for nurses created in 2000 by the National Council of State Boards of Nursing.

Omnibus Budget Reconciliation Acts Acts that make changes to taxes and other various payment systems, including fraud and abuse, that affect healthcare delivery.

One-Sided Model "A model under which the ACO may share savings with the Medicare program, if it meets the requirements for doing so, but is not liable for sharing any losses incurred under subpart G of this part."

Operations-Related Intangible Assets Computerized management information systems that produce customized reports on the financial, operating, and patient outcome performance of the subject enterprise to aid in future management decision making and strategic planning.

Operatory The space and equipment used in the provision of professional dental services.

Optometrists Optometrists are the primary providers of eye and vision-related care, providing primary eye care to two-thirds of U.S. patients. Optometrists are

trained to examine patients' eyes to determine the nature and degree of vision problem and to diagnose, treat, and manage diseases, injuries, and disorders of the visual system, including a patient's eyes and associated structures.

Osteopathic A school of medicine that involves the assessment of overall health and environment, not just symptoms.

Osteopathy A "whole person" approach to medicine, whereby physicians examine the whole body under the philosophy that health systems, for example, the musculoskeletal system, assist the body's natural ability to heal.

Outliers Data points included within the data set that appear to be significantly different than the other members.

Pain Management Center A center offering services that focus on the diagnosis and management of chronic pain, generally through the use of a multidisciplinary approach. Multidisciplinary pain centers typically include physicians, psychologists, nurses, and physical and occupational therapists.

Participating Provider A participating provider is one who has agreed to accept the reimbursement amount set by the Medicare Fee Schedule as payment in full for every claim. The physician may bill the patient for his or her share of the coinsurance and the deductible, but the physician cannot balance bill the patient, (i.e. attempt to collect the difference between his or her usual fee and Medicare's lower allowed charge).

Pasteurization Widely used today in the preservation of perishable products, pasteurization involves the strategic application of heat to kill microbes without injuring the quality of its media (i.e., wine, beer, etc.).

Patient-Centered Medical Home (PCMH) A model of healthcare delivery that approaches the delivery of services through coordinated, centralized patient care, with an emphasis on the primary care physician as the manager of a beneficiary's care.

Patient Protection and Affordable Care Act (ACA) Landmark U.S. healthcare reform legislation passed on March 23, 2010.

Payback Period An analytical technique that determines the number of discrete periods "it takes before the cumulative forecasted [undiscounted] cash flow equals the initial investment."

Pay-for-Performance (P4P) Pay-for-performance (P4P) is a remuneration system in which part of the payment is dependent on performance as measured against a defined set of criteria. Although a P4P system can be structured in several ways, the common elements to all systems are (1) a set of targets or objectives that define what will be evaluated; (2) measures and performance standards for establishing the target criteria; and (3) rewards—typically, financial incentives—that are at risk, including the amount and the method for allocating the payments among those who meet or exceed the reward threshold.

Payor Mix The allocation of reimbursement sources for a medical facility, clinic, or provider.

Personal Health Record (PHR) "An electronic record of health-related information on an individual that conforms to nationally recognized standards and that can be drawn from multiple source while being managed, shared, and controlled by the individual."

Personalized Medicine The fusion of molecular diagnostics and therapeutic measures for specialized screening and treatment plans.

Pharmaceutical Benefit Management (PBM) Generally, a private firm that contracts with pharmacies to provide drug administration services, particularly claims processing and administrative functions.

Physician Hospital Organization (PHO) Organizations that unite a hospital, or a group of hospitals, and a physician organization through a contractual relationship for the purpose of contracting with managed care organizations.

Physician Practices Management Company (PPMC) Management firms that specialize in the management of large group practices or independent practice associations through ownership, management agreements, or both.

Physician Preference Items (PPI) Expensive medical devices, such as orthopedic implants, heart valves, bone products, balloons, and wires.

Physiotherapy A term used to describe various kinds of medical therapy, including hydrotherapy, massage, mechanotherapy, electrotherapy, and heat therapy.

Picture Archives and Communications Systems (PACS) Systems that connect digital X-rays and other imaging modalities. Has become a must for efficient imaging services, as it provides improved access to images with reduced delays.

Podiatrists Podiatrists are the only medical professionals trained exclusively to provide total care of the foot. Podiatric treatment can include a multitude of invasive and noninvasive therapies. Treatments can include the prescription of medication and/or orthotics, surgical procedures, the establishment of the therapeutic programs for patients, and the application of appliances to feet or footwear.

Podiatry A health profession concerned with medical and surgical treatment of disorders of the foot, the ankle, and related structures of the leg.

Point-of-Care Technology New Technologies that help manage patient treatment plans.

Point-of-Service Plans (POS) POS plans combine many of the elements of HMOs and PPOs. POS plans are usually an addition to an HMO product that allows members the benefit of seeking care from nonparticipating providers. As with an HMO, when members seek care from in-network providers, they typically pay no deductible or coinsurance. However, similar to a PPO, members are free to seek services outside the network, subject to higher cost sharing in the form of deductibles and coinsurance.

Preferred Provider Organization (PPO) The PPO, a hybrid of an HMO and a traditional health insurance plan, is a managed care plan that allows members to choose from an array of healthcare providers that have contracted with the plan to provide services on a discounted basis.

Primary Care Physician (PCP) A physician who provides general treatment for routine illness and injuries; his or her practice focus includes internal medicine, preventive medicine, family or general practice, OB/Gyn, and pediatrics.

Private Equity Any nonpublic source of equity.

Profitability An indication of the overall net effect of managerial efficiency of the enterprise.

Prospective Payment System (PPS) A system used by Medicare to pay medical providers, hospitals, and clinics a set amount of money per diagnostic related group (DRG).

Protected Health Information Protected health information is individually identifiable health information that is transmitted by, or maintained in, electronic media or any other form or medium. This information must relate to (1) the past, present, or future physical or mental health or condition of an individual; (2) the provision of healthcare to an individual; or (3) the payment for the provision of healthcare to an individual.

Provider-Sponsored Organization A cooperative venture of group providers who control an integrated provider system engaged in both delivery and financing of healthcare services.

Provider-Based Status The relationship between a main provider and a provider-based entity or a department of a provider, a remote location of a hospital, or a satellite facility that complies with the provisions of the provider-based rule.

Psychologists Psychologists conduct psychological and neuropsychological testing, make clinical diagnoses, and design treatment plans for patients.

Public Health An area of healthcare centered around "community health point of view" that considers "the means of defense(s) against disease a social problem."

Purchase Option The right, but not the obligation, to purchase an asset, an enterprise, or a service at a predetermined point or within a predetermined period in the future, typically for a predetermined price.

Quality Review The final review of a valuation report checking for errors in the assemblage of the final reports, including printing errors, page layout errors, and quality assurance of the materials used.

Qui Tam Action Also known as a whistleblower suit, a qui tam action is an action brought under the False Claims Act or a similar statute that allows a private person (e.g., employees, former employees, competitors, subcontractors) to sue for a penalty, part of which the government or some specified public institution will receive.

Radiation Therapies A cancer treatment that uses high-energy light beams or charged particles to stunt tumor cell proliferation.

Real Estate The physical land and all appurtenances affixed to the land, such as structures.

Real Estate Investment Trusts (REITs) A method of financing that involves investment in a wider portfolio of real estate assets than simply acquiring a single property (typically, real property). The owner of the premises may obtain REIT financing by agreeing to sell his or her real estate assets to the trust and subsequently leasing back the property, thereby acquiring cash to invest in its core healthcare functions.

Real Property Land and anything growing on, attached to, or erected on it, excluding anything that may be severed without injury to the land. Can be either corporeal or incorporeal, including all interests, benefits, and rights inherent in the ownership of real estate.

Reasonable Compensation The amount that would ordinarily be paid for like services by the enterprises (whether taxable or tax-exempt) under like circumstances.

Reciprocal (Limited) Licensure An interstate license for use by telemedicine practitioners, applied for through a simple application process and reduced licensing fees. This license is solely used for telemedicine and may not be used to physically practice in another state.

Regulatory/Legal–Related Intangible Assets Facility licenses, medical licenses, permits, litigation awards and liquidated damages, certificate of need, Medicare certification, and other certifications and accreditations.

Rehabilitative Therapy Centers Centers that focus on an interdisciplinary approach to treatment, due to the scope of the conditions treated, as well as the wide range of providers who typically work together in developing and executing a patient's treatment plan.

Relative Value Units (RVUs) Fungible units of physician clinical services composed of three components: work RVUS, practice expense RVUs, and malpractice RVUs.

Reparative Medicine Therapies that heal the body's natural tissue.

Resource-Based Relative Value Scale (RBRVS) The RBRVS is the scale on which Medicare bases its standardized physician payment schedule. The RBRVS determines payments based on the value of the resources necessary to provide a particular service.

Restricted Stock Publicly traded stocks that are prohibited from being traded for a designated period of time (e.g., six months, one year, or two years).

Retail Clinics Those facilities owned by, and operated within, retail grocery stores or department stores, offering walk-in services for basic treatment and care.

Revenue The product of price and quantity.

Revenue Cycle The process by which a provider practice schedules patients, diagnoses conditions, documents diagnoses, bills payors, and collects billable charges from the payor and the patient to recover revenue for the services provided.

Risk Uncertainty, or the assignment of outcomes and their associated probabilities of occurring.

Risk-Adjusted Rate of Return Net income expressed as a percentage of total equity adjusted for financial risk.

Safe Harbor Specific regulatory criteria that must be met to shield an arrangement from liability, which are meant to protect practices that are unlikely to result in fraud or abuse.

Safety-Net Hospital A hospital, often an academic hospital, that provides care to low-income, uninsured, or vulnerable patient populations.

S-corporation A flow-through taxable entity where earnings are taxed only once they are paid out to shareholders.

Secondary Equity Offering (SEO) Shares of stock that are purchased from publicly traded firms.

Self-Insurance Self-insuring employers make a conscious choice to undertake the risks associated with the cost of healthcare and set aside money to pay these costs as they arise. Often, a self-insurer will hire a commercial insurer or a third-party administrator to run the firm's medical benefits program and adjudicate claims.

Self-Referral The practice of referring a patient for a designated health service (DHS) to an entity in which the referring physician (or a member of his immediate family) has an ownership or investment interest.

Shared Losses "A portion of the ACO's performance year Medicare fee-for-service Parts A and B expenditures, above the applicable benchmark, it must repay to CMS. An ACO's eligibility for shared losses will be determined for each performance year. For an ACO requesting interim payment, shared losses may result from the interim payment calculation."

Shared Savings "A portion of the ACO's performance year Medicare fee-for-service Parts A and B expenditures, below the applicable benchmark, it is eligible to receive payment for from CMS. An ACO's eligibility for shared savings will be determined for each performance year. For an ACO requesting interim payment, shared savings may result from the interim payment system calculation."

Short-Term Acute Care Hospital A short-term hospital that has facilities, medical staff, and all necessary personnel to provide diagnoses, care, and treatment of a wide range of acute conditions, including injuries.

Skilled Nursing Facility (SNF) An institution that has a transfer agreement with one or more hospitals to provide 24-hour skilled nursing and rehabilitative care on an inpatient basis.

Small Business Health Option Programs (SHOPs) Programs enacted as part of the ACA that are designed to assist qualified employers in the state who are small employers in facilitating the enrollment of their employees in qualified health plans offered in the small group market in the state.

Sole Community Hospital (SCH) Short-term acute care hospitals that are located at least 35 miles from like hospitals in rural areas, located 25 miles from other similar hospitals and have fewer than 25 percent of its patients admitted to similar hospitals, located 25 miles from other similar hospitals and fewer than 50 beds, or are at least 45 minutes from the nearest like hospital.

Specialty Hospital A hospital that limits its focus and scope of services to provide treatment for a single medical specialty or cluster of specialties (e.g., surgical, pediatric, or women's care).

Specialty Service Hospital (SSH) A hospital that limits its focus and scope of services to provide treatment for a single medical specialty or cluster of specialties (e.g., surgical, pediatric, or women's care).

Specific Data Data specific to, and obtained from, the subject entities. Specific data includes, but is not limited to: financial statements, tax returns, productivity reports, supplies inventory, accounts receivable schedules, fixed asset schedules, prior valuation or consulting reports, budgets and projections, and documentation on transactions involving the subject entity.

Specific Research Data specific to, and obtained from, the sources at each subject enterprise. Specific research may include, but is not limited to: financial statements, tax returns, productivity reports, supplies inventory, accounts receivable schedules, fixed asset schedules, prior valuation or consulting reports, budgets and projections, and documentation on transactions involving the subject entity.

Standard Industrial Classification (SIC) Codes Originally developed in the 1930s, SIC codes are one to four digits in length and employed for classifying the type of industry under which a business primarily operates. They are currently still used by the U.S. Securities and Exchange Commission (SEC).

Stark Law A federal law prohibiting physicians from referring Medicare or Medicaid patients to an entity for designated health services if the physician or an immediate family member has a financial relationship with that entity.

State Health Benefit Exchange A state-established marketplace through which low- and moderate-income individuals and families and employees of small businesses will receive premium and cost-sharing subsidies in an effort to make private health insurance coverage more affordable.

Stem Cells Unspecialized cells capable of (1) renewing themselves through cell division, sometimes after long periods of inactivity, and (2) specializing to a certain type of tissue or organ under the proper conditions.

Stereotactic Radiosurgery A highly precise procedure involving the single, high-dose delivery of precisely targeted gamma-ray or X-ray beams that is used in different parts of the body, but most frequently to treat brain tumors.

Store and Forward The transfer of digital images between locations, most commonly seen in teleradiology and telepathology.

Studia Generalia Universities in the Roman Empire where law, theology, and philosophy were taught, in addition to medicine.

Subcutaneous Under the skin.

Superbills and Charge Tickets Another name for a patient encounter form.

Supplier A provider of healthcare services, other than a practitioner, that is permitted to bill under Medicare Part B, including for DME, prosthetics, orthotics, X-rays, and so on.

Supply Chain A complex and dynamic system through which information and supplies flow upstream and downstream between manufacturers, distributors, purchasers, providers, and consumers.

Sustainable Growth Rate (SGR) "The SGR is the current mechanism for updating payment rates for physicians' services and has two key components: an expenditures target level (measured both annually and cumulatively), and a method for adjusting payment rates over time in an attempt to bring expenditures in line with the target level."

Tail/Nose Coverage Professional liability insurance coverage related to future services rendered after employment has terminated, or covering prior acts, respectively.

Tangible Assets Physical assets, including cash, accounts receivable, inventory, property, plant and equipment, and so on.

Tangible Personal Property Tangible things capable of ownership not classed as realty, such as furniture, fixtures, equipment, machinery, inventories, vessels, precious metals, vehicles, gems, evidences of debt, and money.

Tasks, Duties, Responsibilities, and Accountabilities The specific tasks and duties to be performed by a person and an area of the organization or processes for which that person is responsible and accountable to management.

Tax-Exempt, Not-for-Profit Organization An exempt organization is organized or operated for the benefit of private interests. The IRS has stated that "[n]o part

of the net earnings of a section 501(c)(3) organization may inure to the benefit of any private shareholder or individual[, whereby] a private shareholder or individual is a person having a personal and private interest in the activities of the organization."

Taxpayer Identification Number (TIN) "A federal taxpayer identification number or employer identification number as defined by the IRS in 26 CFR 301.6109–1."

Technicians and Paraprofessionals Nonphysician practitioners who work as physician extenders, providing physical and technological manpower support during the provision of physician services, and who are unauthorized to independently bill for services.

Technological Obsolescence The loss of utility resulting from the differences in capabilities between the old asset and the replacement asset.

Technology-Related Intangible Assets Computer software/network integration, technical/software documentation, and maintenance/support agreements.

Telehealth Closely related to telemedicine and is used to describe the broader definition of remote healthcare that does not always involve clinical services, although the two terms are often used interchangeably.

Telemedicine The transfer of electronic medical data (high-resolution images, sounds, live video, and patient records) from one location to another, in order to enhance the quality and efficiency of patient comfort and care.

Teleradiology Electronic transfer and storage of electronic imaging data.

Tick and Tie A correction of any errors in a report's narrative, schedules, or appendices.

Tiered Productivity–Based Compensation Paying a specific rate for productivity amounts in a certain range (or tier) and then paying a different rate for productivity amounts that are in a higher tier.

Treble Damages Damages equal to three times the amount of the illegal remuneration, in violation of the Anti-Kickback Statute.

TRICARE The Department of Defense's healthcare program for active-duty military personnel, members of the National Guard and Reserves, retirees, and their dependents, survivors, and certain former spouses. The program uses military healthcare as the main provider of services, supplemented by civilian healthcare providers, facilities, pharmacies, and suppliers. TRICARE covers approximately 9.7 million beneficiaries worldwide through a variety of plans.

Trimmed Mean An arithmetic mean with certain extreme values eliminated from the data set prior to calculation.

Two-Sided Model "A model under which the ACO may share savings with the Medicare program, if it meets the requirements for doing so, and is also liable for sharing any losses incurred under subpart G of this part."

Two-Way Interactive Television (IATV) A treatment approach that uses telemedicine for face-to-face consultations.

Upcoding The practice of improperly assigning a diagnosis code to a patient discharge that is not supported by the medical record for the purpose of obtaining a higher level of reimbursement from Medicare for that hospital discharge than the hospital would otherwise receive.

Urgent Care Healthcare that is delivered on a walk-in basis, with no appointment, for acute illness.

Utility An abstract concept that encompasses not only the satisfaction that an individual enjoys from the ownership or use of a good, but also the satisfaction received from a reduction in pain or discomfort.

Valuation Date The date specified for when an indication of value will be reported. The valuation date limits the information available to the analyst to that which would have been available prior to the valuation date.

Value "The present worth of all the rights to future benefits arising from ownership of the thing valued" (i.e., the expectation of future benefit).

Value in Use The premise of value that assumes that the assets will continue to be used as part of an ongoing business enterprise, producing an economic benefit of ownership of a going concern.

Venture Capital A subset of private equity financing that focuses on smaller emerging companies.

Walk-In Clinics Centers that provide treatment of nonacute illnesses and conditions after hours and on weekends.

Weighted Average Cost of Capital (WACC) A blend of the cost of an enterprise's various capital components, including the cost of debt capital and the cost of equity capital of the enterprise, representing the expected return demanded by the blend of both debt and equity investors in the subject entity and the capital cost to the entity for financing future projects.

Wellness Programs Plans offered to employees by employers that encourage healthier living habits, such as weight loss initiatives and assistance in quitting smoking.

Wound Treatment Centers Facilities that treat chronic wounds; they may be freestanding or affiliated with a hospital or a health system.

About the Companion Website

This book includes a companion website, which can be found at http:// www .wiley.com/go/healthcarevaluation (password: cimasi234). The companion website contains five comprehensive bibliographies to serve as a useful reference of sources related to healthcare valuation on the topics of healthcare reform; regulatory pronouncements; economics; revenue and expense considerations; and general trends related to healthcare enterprises, assets, and services. Also included is a compendium of professional tools and practice aids, including over 50 sample valuation schedule templates; various process diagrams and flowcharts; engagement checklists; illustrative valuation methodology schematics; and detailed examples of tables of contents for various types of valuation reports.

Index

NOTE: Page references in *italics* refer to exhibits and tables.
The volume is indicated by the *italic* number before the colon.