PRACTICING PATIENT SAFETY *in* PSYCHIATRY

GEETHA JAYARAM

OXFORD

PRACTICING PATIENT SAFETY IN PSYCHIATRY

"Dr. Jayaram's passion for patient safety permeates every chapter. The message clearly is to get us all involved in this effort. Although loaded with many facts, tables and 'how to's' to deliver safe care, the book is a quick and easy read. In spite of all her passion for safety, she recognizes that even in the best systems, mistakes sometimes happen. When that occurs, she admonishes us then "to be honest." I have been there—and she is right!"

—Alfred Herzog, MD, Founding Chair, APA Patient Safety Committee;
Past President, Hartford Hospital, Hartford, CT

"Members of the psychiatric profession have always been uniquely concerned about the well-being of their patients. Despite this, the published literature on safety in psychiatry is surprisingly thin. This ground-breaking volume by Dr. Geetha Jayaram, a recognized leader in the field, identifies key patient safety issues in psychiatry, and provides practical suggestions for improvement. It will be indispensable reading to anyone interested in making psychiatry safer."

—Albert W. Wu, MD, MPH, FACP, Professor and Director,
Center for Health Services & Outcomes Research,
Johns Hopkins Bloomberg School of Public Health, Baltimore, MD

"As in all medical specialties, improving patient care through thoughtful system improvements is critical to keep psychiatric patients safe. Jayaram and her colleagues have written an extremely useful text outlining how specific improvements in inpatient care systems can improve patient outcomes and minimize harm. I highly recommend this book as a guide to improve care to any health professional who practices in inpatient settings."

—Jeffrey S. Janofsky, MD, Associate Professor of Psychiatry and
Behavioral Sciences; Director, Psychiatry and Law Program,
Johns Hopkins University School of Medicine, Baltimore, MD

"This book, if followed, is a big step towards zero suicides on psychiatric units. As a psychiatric malpractice lawyer, I depose more corporate representatives of psychiatric hospitals than anyone in the United States. If a risk manager or hospital administrator reads this book, follows the sage advice provided, and staff documents the advice was followed, hospitals and clinicians will avoid being sued. It is just that simple: just do it."

—Skip Simpson, JD, Adjunct Associate Professor,
The University of Texas Health Science Center at San Antonio,
San Antonio, TX

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FOREWORD: THE EVOLVING FIELD OF PATIENT SAFETY IN PSYCHIATRY

Patient safety has always been of concern to organized medicine and to the psychiatric profession. Since publication in the past two decades of the Institute of Medicine's two highly influential documents focusing on improving quality care and patient safety, *To Err is Human: Building a Safer Health System* (1999) and *Crossing the Quality Chasm: A New Health System for the Twenty-first Century* (2001), research and scholarly efforts directed at patient safety concerns have increased enormously, in both quantity and quality across all fields of medicine. These efforts have been increasingly boosted by federal initiatives; for example, the Center for Medicare and Medicaid Services (CMS) has recently adopted the National Quality Strategy (NQS), aimed toward assessing and improving performance in practice. These efforts have also been supported by a variety of provider, purchaser, and other healthcare stakeholder-supported organizations and various agencies concerned with improving quality care.

To assist practitioners and institutions improve their patient safety activities, the Agency for Healthcare Quality and Research (AHRQ), the branch of the National Institutes of Health most concerned with fostering evidence-based quality care, sponsors a useful "Patient Safety Network," whose websites offer a bounty of useful resources for those interested in patient safety issues, including a

set of Patient Safety Primers that contain checklists, material on diagnostic errors, error disclosure, medication errors, and safety hazard detection; a large collection of published resources and guides on numerous topics; a glossary of terms and organizations pertinent for patient safety, and a "What's New" section that is regularly updated to note recent new journal articles, books, reports, conferences, toolkits, and other resources of interest. The collection's resources cover approaches to improving patient safety that are organized by clinical areas, error types, origin and sponsor of publications in the U.S. and elsewhere, resource type, safety targets, settings of care, and target audiences.

The AHRQ's patient safety net primers include educational materials on root-cause analysis, using a systems-based approach, rather than focusing on mistakes made by individuals, to identify significant safety hazards underlying serious adverse events in medicine. For example, in conducting root-cause analyses, such investigations might methodically consider numerous levels and sets of issues encountered in healthcare systems, including institutional/regulatory issues, organizational/management factors, work environment, team environment, staffing, task-related characteristics, and patient characteristics of settings and situations. One important aspect of this approach is recognizing that, most often, single "root causes" are less likely than finding multiple, intersecting errors and systems flaws that produce the environment in which critical adverse incidents emerge—a so-called Swiss-cheese model.

At the time of this writing, the AHRQ's Patient Safety Network webpage section on mental healthcare (psychiatry and clinical psychology) lists resources published since 2003. These include 68 journal articles, two books or reports, four newspaper or magazine articles, one Web resource, and one piece of legislation/regulation. Most of the articles deal with medication safety, psychological and

social complications, diagnostic errors, and discontinuities, gaps, and handoff problems. Fifty of the articles originated in the United States and 19 in Europe. Settings of care from which these publications appeared were primarily psychiatric facilities but also included hospitals, ambulatory care settings, and residential facilities. These represent important initiatives, effort, and research, but there is obviously still much more to be done; compared to many fields of medicine this output is modest indeed. In contrast, medicine section cites 2747 items, although each of the subspecialties lists far fewer.

Among academic institutions leading research and scholarship in patient safety, Johns Hopkins University ranks in the very top tier. At Johns Hopkins a specialized institute, the Armstrong Institute for Patient Safety and Quality, led by Peter J. Pronovost, MD, PhD, Professor of Anesthesiology and Critical Care Medicine, Surgery, and Health Policy and Management, has been at the forefront of this work. Dr. Provonost's own groundbreaking work, focusing on the use of checklists to ensure that critical steps in care pathways are systematically and universally followed, has been credited with saving untold lives as well as healthcare expense, and among other honors and accolades has earned him a MacArthur Foundation "genius" award.

The mission of the Armstrong Institute spells out the central tenets of patient safety and quality initiatives. The intentions of these efforts are to help practitioners and systems of care to eliminate medical errors and complications of care; enhance clinical and patient-reported outcomes for all patients; deliver patient- and family-centered care; ensure clinical excellence; improve healthcare efficiency and value; eliminate healthcare disparities; and create a culture that values collaboration, accountability, and organizational learning. It is from within this environment that Dr. Geetha Jayaram, a member of the Johns Hopkins faculty and

the Armstrong Institute, and her colleagues have been focusing on patient safety issues in psychiatry for more than two decades. Dr. Jayaram has served on the American Psychiatric Association's Committee on Patient Safety and spearheaded publication of an excellent 2008 resource document on safe psychiatric practice. She now chairs the American Psychiatric Association's Workgroup on Patient Safety.

In *Practicing Patient Safety in Psychiatry*, Dr. Jayaram offers readers a unique, timely, forward-looking, and greatly needed contribution to the psychiatric literature. The chapters focus on practical aspects of patient safety, primarily in hospital settings, covering the wide array of pertinent topics that comprise current professional concerns. In addition to offering thorough discussions of each issue's background and the pertinent professional literature, Dr. Jayaram instructs readers through numerous case examples and by underscoring important "take-home points" at the end of each chapter.

Beginning with an overview of quality factors affecting psychiatry, she considers large systems organizational and facility infrastructure perspectives, interprofessional relationships, and the development of quality processes employed in patient safety considerations—such issues as protocols, checklists, and debriefing procedures. The important roles of physicians as advisors and leaders working with non-physician professionals and paraprofessionals in psychiatric settings are considered, as are quality processes such as those involved in peer review, granting privileges, recertification, and assuring ongoing continuing professional education and training in organizations. Looking at potential fault lines in delivering care, attention is given to how complaints by patients and families are handled and how handoffs are conducted in psychiatry, with special consideration of

the increasingly important role of electronic medical records in communication among staff.

One of the most important patient safety issues in both hospital and ambulatory care concerns assessment, management, and prevention of suicide risk. Dr. Jayaram offers an excellent, thorough analysis of suicide-related factors and suicide prevention measures on inpatient settings, as well as nuanced ways of thinking about and approaching systems and staff contributions when adverse events occur. (Notably, Dr. Jayaram has directed a psychiatric unit since 1991 on which not a single patient suicide has occurred.)

Other important areas considered include medication errors in inpatient settings, factors affecting adherence, and considerations for points for transitions of care. Processes contributing to readmissions within 30 days of discharge from the hospital have become a central focus for the Joint Commission on Accreditation of Healthcare (JCAHO) and federal health planners, and these issues are thoroughly considered.

Additionally, patient safety issues associated with administration of electroconvulsive therapy, patient problems encountered in the general hospital, such as delirium and falls, use of restraints and seclusion, and elopement are discussed.

Guidance is offered on how to conduct a root-cause analysis and on handling adverse events, breaking bad news, and taking steps to reduce the too frequently encountered situation in which various staff people—physicians and others—involved in medical error circumstances suffer alone with their guilt, becoming "second victims."

In all, these chapters offer an excellent introduction to and update of contemporary patient safety concerns in psychiatry and will be of great use to students, practitioners, and health-systems

administrators who are tasked with having to deliver high-quality care in today's environment, primarily on inpatient settings. But, where do we go from here?

This innovative, one-of-a-kind book represents a pioneering effort to delineate the significance of patient safety issues in psychiatry and paves the way for future work in other settings. But, in attending to the patient safety issues outlined in this book, healthcare leaders who are concerned with providing the highest quality, error-free care still have a way to go in achieving the optimum care. In addition to the many issues discussed here, others that are likely to be demand attention in the future include those on the following (far from complete) list of concerns:

- Increasing reliance on the use of data embedded in electronic health records to automatically generate patient safety–related "signals," to alert staff regarding potential safety issues before they emerge
- In addition to the careful attention to violence on inpatient services described in Chapter 8, better assessment, management, and prevention of violence in ambulatory settings
- Next-generation medication errors. As alluded to in Chapter 5, as personalized medicine becomes better established, clinicians will be better able to anticipate and avoid prescribing medications likely to cause significant adverse events; even in situations where medications might be required, anticipating and preventing likely adverse events might be possible (e.g., initiating weight control initiatives prior to prescribing atypical antipsychotics likely to cause weight gain and metabolic disturbances). Next-generation medication errors might also involve increased attention to situations in which multiple providers routinely order

psychoactive, sedative, and narcotic medications, setups for adverse medication effects (e.g., in addition to seeing psychiatrists, patients often concurrently visit pain medicine specialists and neurologists as well as primary care clinicians). With the increasing availability on a national basis of statewide prescription drug monitoring programs, safety procedures might entail routine attention to these sites. Another area of next-generation medication error prevention might be to productively focus on reducing prescriptions of drugs of questionable benefit or increased risk of adversity, particularly in older populations.

- Reducing systems-related adverse events related to situations in which multiple providers provide care (or interact in faulty manner) in integrated care settings
- Reducing nonadherence, readmission, and deterioration in functioning following hospital discharge (or other level-of-care transitions) through better attention to providing those services and psychosocial supports that have demonstrated effectiveness to reduce remissions (e.g., visiting nurse services after hospital discharge, supported employment services, and other effective systems of care interventions)

As comparative effectiveness research continues to progress, we can anticipate that Dr. Jayaram and her dedicated colleagues will be able to rely on increasingly better evidence for generating actionable recommendations to improve patient safety in inpatient and ambulatory environments. For the future, I anticipate that we can look forward to continuous quality improvement in protocols, checklists, and debriefing procedures.

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CHAPTER ONE

Introduction to Patient Safety

GEETHA JAYARAM

INTRODUCTION

The Agency for Healthcare Research and Quality defines patient safety as "a discipline in the health care sector that applies safety science methods toward the goal of achieving a trustworthy system of health care delivery. Patient safety is also an attribute of health care systems; it minimizes the incidence and impact of, and maximizes recovery from, adverse events".[1]

In today's world, *patient safety* is a term used freely by hospitals that appoint a director to lead the safety effort. However, several aspects of patient safety, in its ultimate purpose to do no harm, are missed or need improvement: a deep and personal sense and ownership of care to avoid harm, partnering with patients in that effort; a cohesive and multidisciplinary team to be accountable and fair in owning safe care; and transparency and examination of adverse events, with a sincere commitment to prevent such events from occurring again. Leadership must be involved in the effort consistently—not only when crises happen but also in an ongoing manner. A culture of safety must be promoted by leaders,

evolving into safe processes and systems with fail-safe mechanisms to protect patients. Determining what constitutes an error, agreement on standardization of reports, timely interventions pertinent to psychiatry, and empirical evidence to evaluate true harm all need further study.[2]

On the clinical side, emphasis must shift from mere revenue generation without attention to costs of unnecessary tests, to staff fatigue and poor outcomes, to empirically driven superior outcomes that result in better quality care that is reimbursed according to results. Profit-driven care that results in mistakes, overcharges, and revolving-door patients has become too common in psychiatry.[3]

Episodic care that is fragmented, repetitious, and poorly coordinated, particularly for severely mentally ill patients, results in unsafe care. A single, lean insurance plan with universal coverage is more likely to reduce costs and can be monitored for outcomes. Disincentives for poor patient management have just begun to be put in place and are likely to enhance scrutiny of clinical processes.[4]

Oversight or scrutiny by the federal government or regulatory bodies will continue to drive targets. Finally, the Accreditation Council for Graduate Medical Education will require our professional schools to provide training in basic safety science (e.g., error theory, ergonomics, and system analysis), leadership skills, respect for coworkers, teamwork, communication skills, and emotional support of patients and colleagues.

On a larger scale, collaboration between countries to produce internationally comparable data permits benchmarking and allows policymakers and clinicians to identify specific areas where individual countries could improve. In the United States, sparked by Institute of Medicine (IOM) reports focusing attention on gaps in the quality of medical care, interest in improving quality has

expanded rapidly among policymakers, corporations, clinicians, the media, and the public.[5]

Although most sentinel events occur in hospital settings, mental health settings cover 50% of the top six settings of sentinel events reviewed by the Joint Commission from 2004 to 2012: psychiatric hospitals rank #2; psychiatric units in general hospitals rank #4; behavioral health facilities rank #6. Such sentinel events include inpatient suicide, elopement, medication errors, restraint-related events, falls, violence, and other criminal events. Many of the root causes driving these events can potentially be addressed; applicable solutions are obtainable but lacking. Use of best practices would help psychiatrists succeed in leading a culture of safety, decreasing liability risk, and improving patient safety.[6]

QUALITY FACTORS MOST LIKELY TO IMPACT PSYCHIATRY

Efficiencies in Environmental Modeling

The layout of an inpatient unit, the flow of patient entry and assessments, calming rooms, and safety in individual room construction and equipment are all potential areas that require planning. Such planning should aim to enhance communication among caregivers and ensure that there are areas where patients are always visible to nursing staff and thus pose no problems to patient safety, particularly for patients who are suicidal. Handoffs should occur naturally in an environment that is adequately planned and designed.

A balance between preserving privacy and enhancing safety is a difficult task for psychiatric staff, especially when managing aggressive or self-destructive patients.

Multidisciplinary Effort and Cohesive Teamwork

Healthcare delivery is composed of complex systems, and the characteristics of complex systems need to be appreciated by the leadership of healthcare units. Thus clinicians, administrators, and policymakers who want to improve safety and prevent harm must think of healthcare delivery as complex systems. Systems thinking must be taught, learned, and practiced.

Systems Perspective

Clinicians and administrators must also apply systems thinking to designing and implementing evidence-based changes that are specifically targeted at reducing unintended harm in healthcare. This effort goes beyond personal competence, skill, or commitment. Administrators and clinicians must recognize that the implementation of evidence-based safe practice usually requires more than adding a new process to an existing system. Rather, it often requires a system redesign, with new measures, forcing relevant functions and incentives if the implemented change is to be effective, efficient, reliable, and sustained.

Empirical and Tested Outcomes

Before being widely implemented, in order to identify potential unintended consequences, such planned changes should be empirically evaluated for outcomes.

Built-in Fail-safe Mechanisms with Team Support and Patient Involvement

Because prospective evaluation cannot predict all unintended consequences, vigilance must be built into the system. Through

training and supervision, mistakes can be documented as a team and then studied, in a spirit of transparency and learning. Vigilance must be the responsibility of each person in the system, including patients who can assist in their own care. Databases can be studied to observe changes and unintended consequences.[2]

Development of Protocols, Checklists, and Debriefing Procedures

Policies and protocols must be reviewed periodically so that they are aligned with regulatory expectations, changes in patient composition, or those concerns that emerge from examination of related events. As noted in the fields of anesthesiology, critical care medicine, and surgery, checklists have helped in this regard. Psychiatry, by contrast, has yet to develop them. Application of procedures has to be taught, supervised, and refreshed in order to prevent harm. Debriefing after the use of seclusion and restraints and after use of electroshock therapy should be the norm to avoid negative consequences.

As research emerges, we can identify those mechanisms and staffing models that work well. Clinicians' offices, hospitals, and other healthcare organizations, like healthcare itself, are all complex systems. With the help of systems thinking, these facilities can become dramatically safer; without it, many of the efforts to improve safety will be wasted.

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CHAPTER TWO

The Physician Advisor's Role in Contemporary Psychiatry

GEETHA JAYARAM

Case Examples

1. *A patient who was deeply depressed, needing a course of electroconvulsive therapy (ECT), mistakenly drank water before the treatment while she was supposed to have been observed by a staff member. This prevented her from receiving the much-needed treatment, thereby delaying her hospital stay by 2 days. The attending doctor relayed this to the family, and the hospital bill was adjusted to decrease the charges.*
2. *An attending physician who was a leading researcher did not communicate in a timely manner to several family members of patients who were concerned about their elderly relative undergoing complex procedures in a clinical trial for care. This resulted in a face-to-face meeting with the doctor, who was persuaded to write apology letters to the families and clarify treatment.*

3. *A resident who was sleep deprived and burdened with several admissions forgot to order a critical procedure for a patient. Vigilant nurses noted the problem and informed the attending doctor. In a private interview, the resident indicated that she had several personal stressors and conflicts, and that she had suffered from depressive episodes, resulting in her referral to an outside psychiatrist for support.*
4. *Two services treating patients with a diagnosis of major depressive disorder had varied lengths of stay. Revenue streams therefore differed greatly. An examination of both cohorts of patients, their case complexity, and wellness scores at discharge revealed that one of the services had more medically ill patients, with significantly higher complexity than that of the other service. The quality of care provided on both services was very good and could be documented by objective reviewers.*
5. *Two patients with similar names were admitted to one service. This was not an infrequent occurrence. Staff had to work with the Information Technology Department to introduce a feature that required double-checking the name, along with a query alerting the physician that the name of the patient had to be checked before proceeding with treatment. This is now a regular step in writing orders.*

Discussion

In each instance noted, the physician advisor (PA; also synonymous with psychiatrist administrator) had to be notified and discuss the incident with various team members. The PA also had to allocate responsibilities, train the individual staff member, or have treatment provided for the individual in question, provide confidential

responses, assess if other similar incidents had occurred with the team or person in question, evaluate trends on the service, and outline a plan of action. The PA had to examine the system that allowed the mistake to happen, execute a root-cause analysis, and educate personnel. The multiplicity of the PA's role is illustrated by these examples.

INTRODUCTION

As the Physician Advisor for the Department of Psychiatry at Johns Hopkins University, I have formulated, innovated, and created a system of care for our patients that has impacted several elements of quality: safety, timeliness, efficiency, patient satisfaction, reduction of adverse events (such as medical or medication errors), and prevention of suicide, aggression, and violence. After two decades of consistent effort, we now have no major adverse events related to self-harm, electroconvulsive treatment (ECT), medications, violence, or elopement. The Department of Psychiatry carefully examined errors that had occurred in the past and the flaws in our system that allowed those errors to occur. This effort included working with other physician advisors in the hospital as well as nurses and administrators to target some critical areas in psychiatry for performance improvement. We have set goals for each year and worked annually to meet those goals. We have thus succeeded (till the writing of this book) in establishing and maintaining a pioneering system of quality care that deserves emulation by others in the field.

In this chapter, I will describe the varied and complex responsibilities of the role of physician advisor and its impact on care delivery in psychiatry. I will also note the methods used to influence patient care.

BACKGROUND

The medical profession has always sought to govern itself through standards for teaching, patient care, and avoidance of adverse outcomes for patients. Historically, the work of the physician advisor (PA) has included credentialing, quality improvement, and risk management. Two decades ago, the role of the PA at Johns Hopkins was limited, requiring a fraction of the PA's time, while one focused on other aspects of teaching or research.

With the publication of the Institute of Medicine (IOM) Report in 1999, however, there began a culture of self-examination in leading institutions, enhancing and improving the implementation of existing practices of quality assurance and performance improvement.[1] The focus on quality and safety has grown significantly around the world since that IOM report indicated that at least 98,000 deaths in such institutions were preventable.[2] Also in the last decade, the burdens of self-governance in hospital departments have greatly increased to include performance initiatives, revenue generation, and reduction of financial risks. To lead these initiatives, hospitals have appointed PAs.

POSITION QUALIFICATIONS

Generally, the PA must have had at least 5 years or more of clinical experience, be at the associate professor level, and be a highly respected clinician with academic, teaching, and interpersonal skills. Further qualifications are department or institution specific. Having an advanced business or administrative degree is an additional bonus.

As an effective leader, the PA must work on improving the work environment and be committed to the task of excellence in care and patient safety. A climate of safety evolves only with

time, as systems grow and structures are stable. Also, quality systems are shaped by clinical observations of needs, experience with adversities, and obstacles to good care. In other words, clinical leadership with a view to excellence in care influences the building of good error-prone systems, supported by scientific data.

In order to achieve goals of excellence in patient care and the teaching of such excellence in a climate of investigation through research, both clinically and in the laboratory, the PA's role has been formally defined. The *Medical Staff Bylaws Manual* at Johns Hopkins incorporated the PA's role in 1990 for each department, describing duties and responsibilities and the means to implement them.[3] In 2010, the hospital expanded the role description to emphasize the PA's role as program builder and innovator. Promotional aspects of the role require scholarship in peer-reviewed journals about the PA's work.

Among the expectations of quality, the bylaws include the following:

1. Credentialing, the standardization and oversight of physician performance, affording practice privileges, including peer review;

2. Examination of systems and monitoring of critical aspects of care;

3. Review of the hospital's use of resources;

4. Provision of continued professional education, both academically and related to quality and safety; and

5. Management of clinical affairs within and among departments as deemed necessary by the leadership.

Each of these duties will be discussed further later in this chapter (terms such as *quality* or *performance improvement* are used synonymously).

In leading quality care efforts within the department, the PA works with the chief of service to direct and coordinate the department's work to improve patient care outcomes, service, and efficiency. Also, the PA has to manage and reduce risk of adverse events and conduct medical staff activities to meet external regulations. PAs from all departments meet regularly and are supported by the medical board and, ultimately, the Board of Trustees. They are also assisted through the offices of Performance Improvement, Risk Management, and Medical Affairs. Thus they manage a broad range of responsibilities, which have expanded with the introduction of information technology, greater number of subspecialties, acquisition of community hospitals, and programmatic developments within each department.

The PA's tasks in psychiatry in recent years additionally include promoting appropriate use of certain hospital resources and procedures, such as ECT, by independent chart audit, and examining medical/medication errors, adverse events, patient dissatisfaction, poor interaction among colleagues that affect treatment outcomes, and causes of continued unnecessary hospital stay. The role also calls for diplomacy in confronting colleagues, disseminating information and learning of points, and initiating changes in the system of care to prevent replication of errors, as well as relentless persistence in the face of resistance from fellow physicians.[4–8] Simultaneously, the PA, along with others, has to be mindful of expenditures and costs in the department, and find ways to operate safely within cost parameters. Establishing the structure of governance within a department and developing a strategic plan is the first step in organizing safety efforts.

There are several reasons for this expansion of the duties of a PA:

1. With rapid medical advances in the various specialties and disciplines, including the development of procedures, there is a need to structure, examine, and disseminate information among practitioners, audit their practice, and create ideal systems of care based on new knowledge and insights.

2. Litigation for poor outcomes of care is on the increase.[9,10] The practice of defensive medicine as a response substantially increases healthcare-related costs[11] and promotes both the use of unnecessary procedures and restriction of practice skills and circumstances.[12] Costs increase with payments for disabilities resulting from adverse events.[13]

3. Public accountability in legal, fiscal, and programmatic planning and oversight by regulatory bodies such as the Joint Commission on Accreditation of Hospitals and the National Committee for Quality Assurance,[1,2] as well as the driving force of increasing complexity of healthcare delivery, require increased self-governance within medical systems.[14–16] In the future, payments for services will be increasingly linked to quality of care.

4. The interests of consumers of healthcare[3] and patients' concerns and complaints are being linked to quality improvement to ensure better practice.[4]

5. Analyses of critical incidents and their root cause reveal consequences of safety mechanism failures that promote knowledge and improve outcomes.[5] The examination of systems is central to the evolution of a salutary system of care.

QUALITY OF MECHANISMS OF CARE

In an effort to avoid untoward events and irregular practices, a standard of practice must be agreed upon and established by medical, nursing, and administrative staff. These standards can be shared with the best departments and models in the country, and are included in an Interdepartmental Clinical Practice Manual. These manuals are accessible online in each institution.

What follows is a description of the various duties of the PA in greater detail.

PHYSICIAN ADVISOR DUTIES

Maintenance of Performance and Credentialing, Including Peer Review and Granting Privileges

Credentialing is the process of obtaining, verifying, and assessing the qualifications of a healthcare practitioner to provide patient care services in or for a healthcare organization. In 1986, Congress enacted the Health Care Quality Improvement Act, which for the first time required hospitals to credential doctors before allowing them on staff or to be given clinical privileges.[17] In addition, the Joint Commission on Accreditation of Healthcare Organizations[18] (Hospital Accreditation Standards) and the Johns Hopkins Hospital Medical Staff Bylaws further detail the processes that must be followed in considering whether to appoint a physician to the medical staff. Generally, the same procedures apply to reappointment. The purpose of these standards is to (1) restrict the ability of incompetent physicians to move from state to state without discovery or disclosure of previous damaging or incompetent performance and (2) protect patients from potential harm through early detection of incompetence.

In addition, at the state level certain standards are imposed for primary source verification, peer review, and practice standards for appointments. Among the documents needed for privileging are current licensure, relevant training or experience, current competence, and ability to perform privileges requested.

Within a department of psychiatry, this practice regulates the privileging for and performance of patient assessment and treatment, application of psychotherapeutic techniques, and conducting of cortical function testing and procedures such as ECT, transcranial magnetic stimulation, and lumbar puncture. The standards guide the practice group in best practices for the procedures, ensuring maximum skill, minimal risk to patients, and standardization of protocols.[19–20]

The PA is responsible for overseeing all departmental physician-related credentialing requirements with a central credentialing department that performs primary source verification. In psychiatry, these responsibilities include the following:

1. Revising or expanding privilege lists, using specific granting criteria and a defined Focused Professional Practice Evaluation (FPPE) method;

2. Carrying out FPPE for each new privilege granted and documenting completion;

3. Working with the Department of Quality Improvement to define elements for Ongoing Professional Practice Evaluation (OPPE) and methods to collect them;

4. Carrying out OPPE with a review of each medical staff member semiannually and documentation of that review with department heads.

5. Medical staff applications for privileges are scrutinized by a centrally appointed hospital credentials committee that meets regularly. This committee reviews medical staff applications for the required education, skills, and training to perform work for which privileges are being requested. In each department, the PA chairs a committee that decides on the competency of the individual to evaluate and treat patients, appropriate work hours and skills, particularly in areas requiring special expertise, such as dementia or eating disorders.[14–20]

Ongoing peer review in psychiatric care encompasses the assessment of skills to perform general and special procedures, such as ECT, documentation, continuing education in the field of practice, assessment of adverse events occurring during the individual's care of patients, complaints made by patients or other practitioners, and good citizenship.

A mechanism for addressing physician-related complaints exists within Johns Hopkins, organized and managed by the Department of Patient Relations. Protocols to address complaints are standardized, and the PA evaluates processes and resolves them with administrative, clinical, and nursing personnel and leadership. Models of peer review range from chart audits[21,22] to external peer review resulting in sanctions, when warranted,[23] to group peer review and examination of systems.[24–27] Peer review can either be an empty exercise or energized by cohesive input and discussion in an atmosphere of mutual learning.[28–29]

The process may be potentially hazardous to the institution and the committee if the outcome is viewed as adverse by individual practitioners who may be sanctioned by the hospital or denied privileges. Although this is rarely the case in psychiatry, sound delineation of privileges charts the course of practice and

assignment of duties. For example, training and assessment of knowledge to perform ECT is one such privilege.[30]

In private sessions with practitioners, the PA may mentor, teach, or help individuals to overcome obstacles, including apologizing to patients in a timely fashion, divulging negative outcomes to families in a forthright and honest manner, and admitting wrong-doing, a very difficult task for many doctors. The Johns Hopkins Interdisciplinary Clinical Practice Manual has protocols for these sensitive situations.

Examination of Systems and Processes and Monitoring Critical Aspects of Care

The lack of appropriate training for all medical staff is only one cause of medical errors. When errors occur, the PA will chair meetings at which the prevention of medical errors, analysis of the root causes of such errors, and dissemination of relevant knowledge are discussed and decided on.[31–32] This is standard practice at pioneering institutions such as Johns Hopkins. Additionally, collaboration among department leaders, continued communication between departments, and sharing of leading research and practice is required to provide seamless and integrated care for patients. In so doing, the PA may note that similar errors are possible or occur in several settings. One reason for this pattern may be that new house-staff begin work in July in all the departments each year.

Although we now know the physiological effects of extended work hours and their deleterious effects on interns and residents, as well as that attention failures are reduced with better sleep, we have yet to demonstrate better outcomes with reduced work hours in, for example, mortality reduction. Resident work hours

have been a focus of national attention in recent years, requiring a revision in program requirements.[15]

Outcomes

Outcome measures gained popularity in the 1990s, urged by regulatory bodies, the federal government through the Agency for Health Care Policy and Research, and the American Psychiatric Association through the dissemination of practice guidelines.[20] Their consistent application through the scrutiny of practice systems is less clear.

Risk Management

Risk management, prevention of errors, and delivery of safe care are complex tasks. In psychiatric practice, they require communication and organizational skills, thoughtful assessment of areas of high risk, and, consequently, increased scrutiny, multidisciplinary training and dissemination of data, deployment of new methods of patient care, and monitoring. Also, in a teaching institution, where psychiatrists have multiple roles, teaching of such protocols requires planning, structure, and commitment on the part of leadership to pursue goals of patient safety. When errors in medical care do occur, although there are protocols for disclosure of medical error, prompt remediation needs to be facilitated by the PA with the attending physician. The PA will decide which events need to be disclosed to the patient or family, coordinate such events with the legal department, and formulate a cohesive, respectful, and honest plan for error disclosure to the patient.

Conflicts among staff members or units of service must be resolved prior to error disclosure. Assistance may be sought from

the ethics committee of the medical center, and details of a remediation plan for the individual as well as for protection against future errors must be communicated. Answers to family members and to the patient must be provided by senior staff, without blaming individuals. The error should be disclosed as promptly as possible. Several sessions may be needed for dialogue with family members in private to provide support and education. The remedial plan should be discussed system-wide, and all clinical staff should be apprised.

Preventing Medication-Related Errors

Scientific research in the area of patient safety in psychiatry is at a preliminary stage. A Medline search of the literature (January 2012) yielded only 30+ citations in medical errors and psychiatry, mostly about medication errors. Al Herzog of the American Psychiatric Association (APA) convened the first task force on patient safety in 2003.[28] Further efforts are ongoing to highlight risk-prone areas and ways to define and prevent adverse events. The APA website (www.psych.org) offers practice guidelines that can be implemented. With respect to medication errors, the inclusion of pharmacists in planning a systems change to ensure safe delivery and administration of medications is vital to ensuring safe medication practices.[33] Although automated systems prevent error from bad writing, transcription of errors, and erroneous combinations, doses, and contraindications of medications, there are other problems that may be generated. Deming's principles are worthwhile fundamentals in this regard.[34] Prevention of medication-related errors will be discussed in Chapter 5.

Day-to-Day Implementation

Persuading one's colleagues to buy into the concept of safety and spearheading a team with a commitment to positive outcomes is not an easy task. Resistance to learning can be inherent in a culture that includes fear of blame, lack of objective feedback, and the absence of systematic training. Fractious exchanges must be avoided in order to focus on the goal of safety. The PA must direct the team to develop a cohesive relationship among members.

Other Adverse Events

The PA has overall responsibility with department leaders to investigate adverse events that are potentially harmful or that have harmed patients. Analysis of errors and error-prone systems is relatively new in psychiatry.[31] Dhillon has written masterfully about the analysis of errors in healthcare. Crucial to the process of performing human reliability and error analysis is "avoidance of passing judgment, blame and attribution, [and] to focus on incident facts with care."[32] For example, repeated occurrence of errors, such as infectious outbreaks on one particular service, warrants an epidemiological survey of prevalence, demographics associated with it, and variables that play a critical role in precipitating errors, much as we would investigate a disease process through research.

Significant errors in a psychiatry unit or clinic may result in completed suicides, wrong diagnoses, and elopements of severely ill patients; aggressive acts; delays in discharge due to medication errors; oversight in treating medical comorbidity; or falls resulting in injury. These problems will all be individually addressed in subsequent chapters in the book.

Patient Complaints

Understanding the role of patients, their concerns, and lack of satisfaction with care is crucial to effect changes in systems that call themselves "patient centered." Two editorials in the *Journal of Health Care Quality Assurance* speak to this fact.[35,36]

Examination of the content of complaints can facilitate organizational changes that may not require major revisions—for example, greeting a new patient within 3 minutes of arrival on an inpatient service, or informing family members of discharge plans as soon as they are made by the treating team. The PA can take the lead in disseminating this information to one's colleagues. Complaints should be addressed quickly, at least by acknowledgement to the complainant that an investigation into the complaint has begun. Resolving complaints takes tact, diplomacy, and forethought.

Safe Practices and Resource Use

The PA is only one participant in a team of care supervisors that ensures safe practices. Nurses, security personnel, residents and staff physicians, pharmacists, and a host of other caregivers who routinely play a role in caring for some aspect of medical care must be regularly updated on concerns and allowed to contribute to improved performance initiatives in any care setting. The PA synthesizes efforts to produce a coherent practice model that is repeatedly examined for better results.

Communicating regularly, within a structure of governance, is imperative to maintaining standards, reiterating goals, and updating training. Training of security personnel by nurses and doctors to work cohesively in preventing harm to and from patients who are aggressive, for example, or in transporting

patients from the Emergency Department should be ongoing. Also, while security personnel is a costly resource, at times its use is unavoidable.

The use of costly medications when cheaper, equally effective ones are available needs to be studied continuously by the hospital pharmacy and therapeutics committee with the PA. The interests of patients as well as research supporting the effectiveness of the medication in question, its safety, and tolerability must all be considered.

Provision of Continued Professional Education

The psychiatry department conducts structured activities that have the support of several disciplines related to dimensions of care quality. Such activities involve the following:

Program efficiency assessment;

Improvement of documentation, reducing days denied by insurance, maintenance of appropriate records;

Dissemination of lessons learned, teaching junior faculty and residents about quality;

Systems process flow problems and multidisciplinary solutions;

Efficiency (reduction in redundancy, greater number of safe discharges, utilization review);

Effectiveness (improved outcomes);

Timeliness of care (reduced wait time and decreased cancellations of procedures);

Continuity of care (safe, complete handover charge of patients, reconciliation of medications from intake to discharge);

Privacy of care (confidentiality of records and communications and steps to enforce them);

Patient satisfaction (as measured by Press Ganey reports, with increase in percentage of satisfied customers, inclusion of family in treatment planning); and

Safety of the care environment and supports for care (engineering inspection of ECT machines, defibrillators, etc.).

Trainee Education

The PA works with residency program directors and nursing leadership in the following training and educational activities regarding quality and safety for faculty, residents, and nurses:

1. The clinical quality team participates in quality training using quality evaluation methods such as Lean Sigma, failure mode effects analysis, and chart audits using the Trigger Tool method.
2. Communicating quality and safety goals to trainees and driving implementation of goals (working in coordination with program directors).
3. Integrating quality improvement efforts into departmental morbidity and mortality rounds monthly or more often.

Management of Clinical Affairs to Promote Safety

The PA may choose areas of clinical service internally to assess and monitor outcomes of clinical indicators. Some of these are patient or staff injury, self-injury, medical morbidity or mortality, falls with injury, noncognitive complications of ECT, and elopements of

certifiable patients. By creating a database, examining the number and type of incidents annually, and modifying the process, one can demonstrate a decline in such events. The PA can also investigate incidents involving high-volume procedures in depth, by conducting clinical or grant-supported research to demonstrate valid results.

NONACADEMIC SETTINGS

In a nonacademic setting, the PA's task may be more onerous. Physicians of varied backgrounds and motivation may admit patients, be averse to corrective interventions, and not buy into the mission of the facility in which they practice. The denials of payments by insurance companies is one bugbear with which the PA has to contend; persuading one's colleagues to work in congruence with the institutional mission may be his or her initial task. Particular attention may have to be paid to minimizing variations and reducing outliers in performance.

FUTURE DIRECTIONS

Research in the area of quality in psychiatry is much needed. We could, for example, determine the relationship of patient and hospital characteristics to performance measures and then select reimbursement based on case-mix severity as determined by actual costs of treating a patient along a continuum of psychiatric and medical variables. Per-diem payment systems may not capture the resource intensity per case, nor the complications that may arise if adverse events were not prevented by diligent nursing and medical care. Pay-for-performance models for inpatient psychiatry could

potentially take into consideration avoidance of risk, patient satisfaction, and reduction in previously documented complications, to name a few such factors. Also, payers should take note of the fact that complete care reduces repeat hospitalizations in addition to averting complications. Severely ill psychiatric patients commonly suffer from hypertension, alcohol related conditions, diabetes, and cardiac disease.[37,38] Comorbid conditions must therefore be addressed to improve patient safety. Demonstration of added costs and resource use to treat these additional diseases will increase revenues to the institution.

CONCLUSIONS AND TAKE-HOME POINTS

Regulations, current revenue streams, rising malpractice costs, awareness of errors causing morbidity and mortality, systems failures, and the erosion of boundaries between physician and administrator roles have necessitated the development of performance improvement programs in major hospitals directed by physician advisors. These programs address performance dimensions of credentialing, risk management, documentation, reduction in adverse events, improvement of care processes, and, finally, education of physicians and research in care quality. This chapter has described the details of such a role. Setting annual goals that apply to clinical service and quality as well as support hospital utilization management and performance goals is integral to this development. The PA leads these performance initiatives, both scrutinizing systems and educating staff to deliver quality care, thereby influencing care delivery. These physicians must be valued through appropriate time allocation, compensation, and promotional opportunities.

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CHAPTER THREE

Handoffs in Psychiatry

GEETHA JAYARAM

Case Example

Ms. X, a 26-year-old married, white female nursing student with a history of obsessive-compulsive disorder, bipolar disorder type 2, and anorexia nervosa restricting type was admitted to the Eating Disorders service, upon recommendation of outpatient psychiatrist Dr. Y. The patient was brought to the floor from the Admissions office. Ms. X had signed a voluntary admission form.

The patient came with her husband and sister. At admission, the nurses checked in her belongings that were stored in the nurse's station, with the exception of her pocketbook, which remained with her. When they requested that she hand over her pocketbook, the patient refused. The nurse backed off and did not demand the pocketbook from the patient. It would have been customary protocol to search her pocketbook as well.

The patient had recently overdosed impulsively on three grams of Tylenol and had been admitted to an University Hospital and stayed a few days as an inpatient. The admitting attending physician had knowledge of the fact that the patient

was impulse ridden, somewhat oppositional, and quite ambivalent about the admission. As the admitting procedure continued and her physicians interviewed her family extensively for over a couple of hours, the patient was outside the office and began expressing to her nurse a desire to be discharged. The patient was told about the protocol of placing a 72-hour notice. At change of nursing shift, the previously assigned nurse, as well as the incoming nurse, asked to take her vital signs, which the patient refused.

When the patient's nurse attempted to obtain vital signs again, particularly her weight, which the resident had requested, the patient once again refused. The resident and attending MDs were informed about her refusal and they spoke to the patient again and to her family.

During this time, admitting orders had not been placed in the Physician Order system. After hearing about the anorexia/eating disorders protocol, the patient left the resident's office while the family continued to talk to him. She began attempting to leave the unit, as noted by a vigilant support associate, who notified the nurse. The nurse then tried to talk to the patient about her trying to leave. Ms. X then attempted to lock herself in a bathroom with her pocketbook but was prevented from doing so. The patient was informed that the staff would be observing her for her safety. The patient began pacing around the unit, with the nurse following her. The nurse briefly stopped at the nurse's station to inform other staff about placing the patient on close observation. In the meantime, the patient walked rapidly down the hall and around the corner and by the time the nurse caught up with her, she had swallowed the contents of two pill bottles, as observed by the support associate.

She gave the empty vials to her family soon after this. The patient later stated that she had not consumed all of the contents

of the pill bottles. The resident, directed by the attending physician, called security and escorted the patient to the emergency department, where she underwent a gastric lavage and was admitted to the medical intensive care unit. In the emergency department, the patient did talk about her overdose. The patient subsequently was stabilized and was sent back to the Eating Disorders service, where she underwent further treatment prior to discharge. She was later apologetic about the events that had occurred.

Discussion

The patient, a nurse, refused to hand over her pocketbook. The unit nurse deferred to the patient, when in fact protocol dictates that all belongings be searched, including pocketbooks and backpacks. This patient should not have received special treatment that may have been afforded because she was an RN. This triggered a series of events that were detrimental.

The patient was oppositional, refusing to have her vital signs taken. Although the resident and attending MD were informed, they did not intervene immediately. Had they done so, they may have noted the patient's ambivalence and her reluctance to participate in the program, and may have been able to diffuse her concerns. Ms. X had recently made a near-lethal suicide attempt and was noted to be impulse ridden—all the more reason to take all of her belongings that needed to be searched.

The change of shift is a critical time when lapses occur. The patient took advantage of this interval to try and elope. Luckily, a vigilant support associate stopped her, yet did not take away her pocketbook. Support staff should be included in enforcing safety protocols. Had the associate taken her pocketbook, Ms. X could not have overdosed.

No patient who is admitted should be on the floor without "holding orders" in the event of an emergency. Orders allow nurses to medicate patients readily without looking for a resident or attending doctor. The patient's ambivalence toward treatment should have been addressed before her admission was planned.

DEFINITION

A *handoff* or *handover* is defined as the transfer of role and responsibility from one person to another in a physical or mental process.[1] The Joint Commission on Accreditation of Healthcare Organizations (JCAHO) defines a handoff as a contemporaneous, interactive process of passing patient-specific information from one caregiver to another for the purpose of ensuring the continuity and safety of patient care. Handoffs can have additional purposes beyond transferring information about responsibility, including shared decision-making and social interaction and development of team solidarity.[2]

Since the advent of the Accreditation Council for Graduate Medical Education (ACGME)'s 80-hour work week rule in 2003, handoffs have received more attention. These guidelines have also resulted in increased patient care transfers.[3]

Research related to the design and improvement of handoffs in the fields of nursing and, to a lesser degree, medicine, spans nearly 30 years and has emphasized continuity of patient care as a critical goal.[4,5]

Elements of handoff practices during end-of-shift transfers in high-risk industries, such as space shuttle in-flight management, nuclear power plants, and dispatch services, have been studied by human factors engineering researchers. Their approaches may offer guidance for medical handoffs, such as how to standardize

the sequence of information items and ensure that the individual receiving the information has the opportunity to ask questions and clarify responses. This research has contributed to the Joint Commission's recommendation to standardize patient handoffs in medicine.[6,7]

Although structured handover processes are required in the Joint Commission guidelines, how to implement these processes is not defined. Handoffs can occur on average 15 times during a 5-day hospitalization, with interns engaging in 300 or more each month.[8] Handoffs have become more important not only because of greater number of shift changes but also because patients are managed by a larger team of people and at several transition points.[9]

In psychiatry, handoffs or transfer of professional responsibility occur during shift of care from

a. The primary team to the on-call resident and from that resident back to the primary team;

b. The post-call resident to covering person;

c. The Emergency Department (ED) to the admitting resident/team;

d. The day shift ED resident to night shift ED resident;

e. The consult team to admitting resident/team (medical to psychiatric floor or vice versa);

f. The doctor going on or returning from vacation;

g. At discharge to other services or outpatient providers;

h. At the end of the month from rotating-off resident to rotating-on resident;

i. From therapist to resident or attending physician or vice versa; or

j. At the end of year or beginning of new year from the previous team to a new team.

Consequently, there is a need for better systems of communication across disparate parts of the healthcare system, including ambulatory practices, or from the home to the hospital and back, to ensure safe care transitions.[10]

In any given day, patient care in the hospital setting is transitioned between multiple shifts of staff. Staff members thus rely on handoff communication to gain insight into the needs and risks associated with each patient. However, these transitional periods can also create gaps in communication because of oversights in patient care and a significant breakdown in continuity of care.[2] The "problem" with handoffs appears to be a universal concern across medical specialties, as well as an international concern, with incidents reported from the United States to Australia to Northern Ireland.[11–15]

Numerous methods for improving handoffs across fields have been proposed to enhance patient overall safety. Several methods, including implementing electronic medical records, have been initiated, with actual data regarding their efficacy still pending. For now, it appears that the safest method for performing accurate handoffs includes a face-to-face meeting between as many relevant healthcare professionals as possible, allowing time to ask questions and following a standard method each time a handoff is performed.[11–13]

PROBLEMS IN HANDOFFS IN MEDICINE AND SURGERY

Research on handoffs is inadequate. Problems recognized by practitioners include dissatisfaction expressed by residents on the

quality of handoffs; communication failures; lack of standardization in handovers; incorrect, incomplete, or missing information; and harm caused by faulty handoffs.[14–24] Increases in mortality at shift change or year-end transitions have been noted as well.[16,17]

NEED FOR ASSESSMENT, STANDARDIZED PROCESS, AND IMPROVEMENT

Through interviews with residents in internal medicine, surgery, pediatrics, and obstetrics/gynecology, four goals of handoffs were identified: (1) conveying the outgoing person or team's recommendations for plans and contingencies, (2) providing the incoming person or team with up-to-date information, (3) ensuring an unambiguous transfer of responsibility, and (4) transparency to others about who is responsible for the patient. Other solutions proposed refer to resident training and supervision in handoff accuracy.[15–18] Structured handoff education, it appears, is still required.[18]

The investigators concluded that face-to-face communication is best and that the process must be standardized. Effective July 1, 2011, the ACGME revised its Common Program Requirements for training programs to have specific provisions regarding transitions of care, including clinical assignments that minimize the number of transitions in patient care. Programs must ensure and monitor

1. Effective, structured handover processes to facilitate both continuity and patient safety;
2. That residents are competent in communicating with team members in the handover process; and
3. That residents are sure at any moment about who is responsible for the patient's care.[19,20]

There are also lessons to be learned from medical and surgical subspecialties. For instance, in a study of communication breakdown in the perioperative period, Greenberg and colleagues found that emergency cases and handover of care were especially vulnerable times for information loss.[20] Vulnerable handovers also occur during the transfer of care for an admitted patient from one clinician to another.

Today's acute care surgery (ACS) service model requires multiple handovers to incoming attending surgeons and residents on call. These services were created to address quality of care, education, and academic issues. However, the lack of patient overlap and increased handover may be creating harms affecting ACS patients. Understanding the impact of this problem is a big priority.

Overall, enhancement of clinic handoffs can improve the handoff process, increase the likelihood of patients seeing the correct primary care provider within the target time frame, reduce the number of missed tests, and possibly reduce acute care visits.[21] One group proposed the utilization of the mnemonic PACT (**P**riority, **A**dmissions, **C**hanges, **T**ask) to standardize handoff communication and reduce discrepancies. Key elements of such a standard protocol may differ for psychiatry. Others have suggested templates as well.[4,24,25]

Outside of an inpatient unit, if a patient's transition from the hospital to home is less than optimal the repercussions can be far-reaching, such as hospital readmission, adverse medical events, and even mortality.

A number of factors have been found to contribute to ineffective handover processes:

1. Lack of formal policies and standard handover protocols regarding health provider communications;

2. Less time being devoted to teaching and oversight in the workplace due to an increase in service workload, and
3. Nonsupportive attitudes and organizational culture, such as lack of responsibility to cross-cover patients, and a pervasive "culture of blame."[26–28]

Other authors have reported eight central factors that have an impact on patient safety in handover situations: communication, information, organization, infrastructure, professionalism, responsibility, team awareness, and culture. All of these factors are equally applicable to psychiatric care.[29]

Education and training in handover are considered effective means to address these issues. However, research assessing the impact of educational interventions on patient outcomes is still limited and fragmented.[30,31] Despite much thought and discussion regarding patient handoff, there is no agreement on what constitute the core content areas to address, nor on the instructional methods to apply in formal handover training.[32]

A systematic review of English-language articles on patient transitions found the following areas to improve handoff: standardization, which was noted most frequently (44%), followed by technological solutions such as computerized handoffs (16%), improving communication skills (11%), providing training or education (10%), evaluating the process (7%), and addressing environmental issues such as limiting interruptions and noise, creating checklists, using guidelines or mnemonics, and having an opportunity for questions or feedback.[31–34] In addition, Berger et al. have proposed a tool for the person receiving the relevant information, to ensure that he or she is actively involved in the handoff process and that a complete handoff is communicated.[22] Two other approaches being used are examination of the work-flow process,

and use of a flow diagram to gain insight into colleagues' visualization of the process.[23,31]

THE ROLE OF ELECTRONIC INFORMATION

Providers utilize three types of handoffs: the electronic handoff, the provider-to-provider handoff, and the collaborative handoff that includes the patient present.

Electronic handoffs included in electronic medical records (EMRs) are increasingly being used and should be highlighted.[1] The University of Washington developed a computerized rounding and sign-out system that shortened duty hours by facilitating sign-out, decreased rounding time, and reduced the time spent in pre-rounds data recopying.[2]

In another study, standardization of information using a structured, Web-based application led to consistent transfer of patient information, and residents were more confident in their patient handovers than when using traditional practices.[3] Others have noted improvements in consistency of information transfer for all handoff content with the EMR handoff and that it was well received.[4,5]

When using electronic handoff, processes must be put in place to ensure that the electronic sign-out is updated regularly. Patient identifiers and medications, allergies, and code status need to be uniformly addressed, and plan of care needs to be spelled out clearly.[6]

Electronic handoffs can be used as part of a larger handoff process that should include education and ongoing assessment and evaluation. A combined intervention of an alteration of the shift model to facilitate verbal face-to-face communication along with an electronic template may result in fewer omissions.[7] Use

of a structured, electronic template helps to avoid omissions and promotes compliance and education.[34–38]

HANDOFFS IN PSYCHIATRIC CARE: CURRENT EVIDENCE AND SPECIFIC ISSUES

Very little has been published on improving flow between different levels of care within psychiatric hospitals and clinics. In one study, Young and Wachter applied Toyota Production System principles to a psychiatric hospital and enhanced access and safety through marked and sustained improvements in the transfer process's timeliness and reliability.[39] The team, including the director of the clinic, practice manager, patient safety officer for the entire system, and clinicians from stakeholder services, including the social worker from the inpatient service, developed a flow chart for the existing process, identified sources of error, and then designed a new transfer process. This study provides an example of how institutions can evaluate and design safer systems for psychiatric care.

In psychiatry, our most serious adverse events are suicide and homicide; we must develop handoff processes that communicate the risk for an individual and minimize that risk.

Young and Eisendrath have proposed important features for the year-end transfer process, including preparing patients, balancing caseloads, identifying high-risk patients, increasing supervision, and monitoring for high-risk patients. Written and verbal sign-out should be required, as should phone contact with the patient during first week. Hand-off training should also be provided.[40–41] Just as an acuity rating was developed in internal medicine, Young et al. included an "acute" designation ("acute" or "non-acute") to communicate if a patient is at high risk or not for

self-harm. The acute designation had sensitivity of 80% and specificity of 70% for predicting hospitalization, and the negative predictive value was 99%.[41]

One way to improve the efficacy of handoffs is to have face-to-face communication that includes precise, unambiguous information.[12,13] Additional techniques that may be effective in increasing efficiency and safety during patient handoffs is to have a standardized way of communicating for every handoff.[14–17] For example, in psychiatry, this should always include the observation status, preferably at the same point in the handoff every time, so that caregivers can know what to expect and will ask questions if it is overlooked during the handoff. In addition, rounds that include various caregivers such as social workers, occupational therapists, and psychologists at a wide range of levels may also aid in effective handoff communication.[12,13] Patients and families should be included in the process as often as possible as they are often the only variable that does not change from day to day. Specifically in psychiatry, patients will often confide in family members before talking to their in-hospital caregivers.[18]

Providers determine whether to include the patient in the hand over process, balancing efficiency with patient-centeredness. In psychiatric care, with acutely ill psychotic patients, it may not always be feasible or ideal to include the patient in their own handovers until they are fully treated and can actively participate in their own care.[19,20]

There are also periods when patients are known to be at higher risk, and this information could be included in an assessment along with other risk factors such as substance abuse history, history of prior attempt, and low social support. For example, the highest risk period is 12 weeks after inpatient

hospitalization. Specifying risk levels for patients should be standard practice.[21] The identified risk level and vulnerable times for individual patients could be included in a standardized handoff process for psychiatry.

Psychiatry as a field needs to develop a standardized way to communicate acuity and risk for suicide and homicide. Acuity must be assessed regularly and at each time point of care and then communicated during each transition of care. Those at high risk likely need additional procedures in place to ensure their safety. Enhanced treatment follow-up for patients assessed to be at risk of suicide needs to be developed.[22]

TAKE-HOME POINTS

Psychiatry has many of the same needs as medicine and surgery in developing handoff processes that improve patient care. However, special attention should be paid to suicide and homicide risk, and we must continue to develop ways to better communicate those risks during transitions of care and develop processes that minimize those risks.[43]

Handoffs are effective when they are evaluated and continually improved along with the larger system in which they take place. At any one point in a transition, all staff should be aware of who is responsible for the patient. Collaboration and continued focus on the patient is needed at all times. At each transition all those who are important to the patient's care (e.g., the patient, family, nursing, social work, inpatient physicians, and outpatient providers) must be included in the process. Handoffs should be analyzed and developed with the larger system in mind and in a larger framework of patient safety and meeting patient needs.[44–46]

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CHAPTER FOUR

Suicide Risk Management and Prevention

GEETHA JAYARAM

Case Example

Mr. C was admitted to an inpatient psychiatric unit in an academic center on 1/17/02 and was noted by the inpatient examining psychiatrist Dr. A to be a 41-year-old married male who had been transferred from a local emergency room (ER). He had presented to the ER with confusion, some "aphasia," and paranoia. The examining ER physician Dr. J, and mental health counselor interviewed his brother and father, who accompanied the patient.

As part of the initial history and examination at the academic center, the examiner noted that the patient had a "new job in DC" and was employed by the National Safety Foundation. Also, the family stated that the patient had been declining for a year, with clear worsening of symptoms over the past 3 days. The patient had not slept well for many months. Documentation included the statement that the patient "was in and out of responding" to the

family. Also, the ER counselor (social worker [SW]) had documented "a lot of depression and anxiety, mood swings, a lot of rage."

The family noted that Mr. C was extremely anxious, experienced "highs and lows," and was paranoid. They also said he "wasn't trusting anybody." He did ask the examining physician if he was a real mental health professional. Mr. C reported having suicidal thoughts "almost daily." The note from the ER described the patient as being "very regressed at times." He also appeared "confused and was afraid of what he might do."

The patient was noted to be anxious, guarded, and having a difficult time answering questions. He was willing to accept help. There was no prior history of harming anyone or harming himself. Under the Risk Assessment section, there was a notation that if he had access to means of ending his life he would take pills, cut his wrists, or jump out of a car. He reported having had daily suicidal ideations. He also stated that if he had had the opportunity he would have killed himself. Under Additional Suicide Risk Factors the following were checked as part of a checklist: male, anxiety, impulsiveness, hopelessness, aggression, Caucasian. This was documented by Dr. J. in the ER.

The patient's lab results and physical examination were all normal. There were no prior hospitalizations, illicit drug or alcohol use, significant family history of mood disorder or psychosis, or prior suicide attempts documented. No further history about premorbid personality was noted. Mr. C was a long-distance runner in good health.

The SW in the ER had noted that the patient had "imminent risk" of suicide before transfer to the inpatient psychiatric service.

On the unit, the patient was noted to be confused, disheveled, uncooperative, and hypoactive, with slurred speech, depressed mood, and flat to blunted affect. He denied having suicidal ideation

but reported paranoia. His memory was poor. He was noted to have poor insight and impaired judgment as well as impaired abstract thinking. No details of cognitive examination were noted.

Dr.A judged the patient as having an ongoing psychotic break, and diagnosed him as having a major depressive disorder with psychotic features.

The patient was started on Abilify 5 mg bid. His wife was informed of the same per the doctor's note.

At the time of admission on 1/17/02, it was noted that the patient should be in the line of sight of staff, and one-to-one was checked on the form. However, for unclear reasons, the next day (1/18) he was placed on 15-minute checks.

The patient was also noted to be anxious, at times mute and not speaking with the staff. Throughout his stay, the patient refused follow-up care and refused to sign a number of forms. He refused medications. At times, he appeared disoriented, did not answer many questions, and was confused and preoccupied or unable to answer. He was also noted to be withdrawn and have a depressed to blunted affect, at 9:20 A.M. on the 18th.

The nurse noted his inability to sleep and that he was "anxious and pacing." He attended but did not participate in group therapy on the 18th and denied suicidal ideation to the nurse on morning rounds, as he did on the 19th as well.

On 1/19/02, between 9:30 and 10:00 A.M., an RN noted the following: "did not set goal, is withdrawn to himself, distracted, guarded and cooperative." He also expressed "feeling some improvement in mood with decreased level of depression." At 12 noon, there was a notation in the record that Dr. A had found the patient at 10:28 A.M. hanging from the bathroom door with a sheet around his neck, when Dr. A went in to his room to talk to him.

Discussion

Numerous factors emerge as points for improvement and change in this scenario:

1. Lack of risk awareness or of the ability to anticipate and predict hazards, risks, and incidents that will reduce harm to patients and the institution;
2. Lack of a culture of safety that promotes an understanding that all human endeavors are error prone, thus a cohesive multidisciplinary team is needed to prevent harm;
3. Institutional, personal, or systems barriers that do not empower individuals to act independently and proactively to prevent harm or protect the patient;
4. Lack of training and tools that are incorporated into a daily routine and triggered immediately as a precautionary measure to avoid or mitigate harm to patients.

Any one of these factors, had one been applied consistently or updated regularly, would have prevented the death of Mr. C.

BACKGROUND

Suicide is a high-risk, low-frequency event. There are at least 30,000 suicides per year in the United States; 1,800 per year (5–6%) occur in hospitals, on inpatient services.[1]

Among 15- to 24-year-olds, suicide accounts for 20% of all deaths annually.[2,3] The Agency for Health care Research and Quality notes the highest rates of suicide among Native American and Alaskan native children.[4] In 2011, the Centers for Disease Control and Prevention reported that 15.8% of

high school students had seriously considered attempting suicide during the year preceding the survey.[5] In 2010–2012, suicide was among the top five causes of a sentinel event. Suicide was ranked as the 10th leading cause of death among persons 10 years of age and older, accounting for 36,891 deaths in 2009.

A sentinel event, such as suicide, as defined by the Joint Commission, is "an unexpected occurrence involving death or serious physical or psychological injury, or the risk thereof" not related to the natural course of the patient's illness; such events are called "sentinel" because "they signal the need for immediate investigation and response."[2] An April 2012 Joint Commission report noted that psychiatric hospitals were the most frequent setting for a sentinel event.[2] From 2010 to 2013, suicide was among the top seven categories of sentinel events voluntarily reported by hospitals to the Joint Commission. As the most frequent sentinel event in hospitals, suicide on inpatient psychiatric services occurred at a rate of 811 per year until June of 2013. Of these, 402 were on a psychiatric unit of a general hospital.[2]

Suicide is the most common hospital sentinel event after wrong-site surgeries, operative and postoperative complications, and treatment delays, and it is more common than significant medication errors. It is also the number one cause of psychiatric malpractice settlements and verdicts, and one of the top five causes of sentinel events since 1995.[1,4–11]

Between 4% and 7% of suicides occur while the patient is an inpatient in the hospital. The weeks and months following discharge are a period of particularly high risk. Twenty percent of unplanned and 60% of planned first attempts occurred within 1 year of the onset of ideation.[12]

Given that researchers have demonstrated that it is not possible to predict suicide, even among a group of high-risk patients, despite using sophisticated statistical models, this chapter will focus on prevention rather than on prediction.[13] The goals of this chapter are to focus on particular error-prone areas that are repeatedly noted as areas of failure in protecting patients, especially patients who are seriously ill in an inpatient setting. (We will not repeat the epidemiology of suicide that is available in the published literature. These articles are summarized in Table 4.1. The chapter will additionally address clinical factors that have an impact on patient care on a daily basis. These factors will be

Table 4.1. Assessment Levels

Risk Level	Risk/Protective Factor	Suicidality	Possible Interventions
High	Diagnoses with severe symptoms; acute precipitating event; protective factors not relevant	Potentially lethal attempt with low rescue, high intent, or rehearsal of attempt	Admit, place on close observation with specific instructions to observers, RNs
Moderate	Many risk factors, few protective factors	Suicidal ideation with plan; no intent or behavior	Develop plan to avoid crises; diminish risk by treatment, give emergency plan or numbers
Low	Modifiable risk factors, strong protective factors	Thoughts of death, no plan, intent, or behavior	Outpatient numbers, treat for symptom reduction; give emergency contact numbers

discussed under unit safety, epidemiology, systems issues, patient assessment, nursing concerns, treatment interventions, and general precautions.

UNIT SAFETY IN SUICIDE PREVENTION

When reviewing the settings in which suicides occur, one notes that psychiatric units are not always designed with safety in mind. Environmental risk factors, such as anchor points for ligatures and various materials used as ligatures, are generally not taken into consideration during construction or modification of a unit. Even though hanging in a bathroom, bedroom or closet, or a hidden area of the unit is a common mode of self-harm, the facility is not always inspected with a view to eliminating such error-prone areas. Since bell cords, sheets, belts, tubing, bandages, and shoelaces are all used in such attempts, regular searches for ligature points and ligatures need to done consistently.[4]

EPIDEMIOLOGY AND STATIC FACTORS

Among risk factors published in the literature that are predisposing to or associated with a completed suicide or increase this risk are the following:

1. A positive family history of mental illness, mood disorder, and attempted or completed suicide
2. Prior attempts
3. Presence of depression or any affective illness, or schizophrenia. Any of these is highly correlated with risk.

4. Male gender in the West; female gender and age 15–24 in Asia; being divorced, single, separated, or widowed
5. Stressors such as loss of a loved one, failure in exams, loss of a job or pending loss, financial problems, shame, stigma and poor social support. These are are all contributory factors.
6. Chronic medical illness, chronic and intractable pain, diagnosis of incurable cancer or other disease with a poor prognosis, post-traumatic stress disorder (PTSD), war or other trauma, sexual assault, incarceration, or physical/sexual abuse. Among chronically ill patients, schizophrenia and mood disorders predispose them to self-harm.

Among symptoms, sleeplessness, agitation, and anxiety increase risk, as does panic.[14]

Personal factors include a history of substance abuse and dependence; impulsivity; and borderline, narcissistic, or antisocial personality disorder. Other factors that increase risk of completed suicide are loneliness, lack of social interaction, estrangement from friends and family, poor engagement in treatment, and poor adherence to medications.[15,16]

SUICIDE AMONG VETERANS

Military suicides have been a matter of grave concern in the last several years. The U.S. Department of Defense Suicide Event report indicated that in 2011, 301 service members died by suicide (Air Force = 50, Army = 167, Marine Corps = 32, Navy = 52).[3]

The Ontario Hospital Association (OHA) report details warning signs in military personnel, classification of risk, and excellent algorithms for assessment and management of risk levels. The Suicide

Risk Assessment Guide from the OHA documents thoroughly a process of care from assessment to management and treatment of all vulnerable patients.[18]

Among service personal, suicide has grown to be the second leading cause of death, nearly outpacing combat-related mortality. Deployment-related factors are contributory. In 2010, 53% of all military suicides were Army related. In general, veterans who use Veterans Affairs (VA) services have a 1.5-fold increased risk compared with that of the general population. Many risk factors are the same for military personnel as for the general population, but being white, male, divorced, and older are more preponderant factors in completed suicides. Being impulsive, feeling rage or anger, or being revenge-seeking, feeling trapped, with increasing use of alcohol or drugs may be proximal warning signs, in addition to anhedonia and feelings of hopelessness. Traumatic brain injury is an additional risk.[3,17]

SYSTEMS PROBLEMS

A review of sentinel events done by the Joint Commission indicates the following problem areas: poor staff/patient ratio; poor training of staff; poor assessment and diagnosis; inadequate observation and lack of intervention; staff failure to monitor patient sufficiently; poor communication; lack of crisis numbers and information given to the patient or family; and poor handoffs and transitions.

Other systems-related factors are as follows:

1. Unplanned discharge
2. Key personnel leaving or changing or on leave
3. Short admissions <7 days

4. Long lag time for transition to outpatient care
5. Lack of social supports post-discharge, with poor handoffs or transitions to outpatient care providers

FACTORS RELATED TO NURSING

Nursing concerns that affect patient safety on inpatient units are related to poor staff/patient ratio, poor training of staff and lack of familiarity with protocols or procedures, lack of communication regarding handoffs, and lack of attention to observation requirements. Additionally, a lack of supervision, poor assessment or diagnosis, and increased case-mix severity on units requiring nursing time allocated to very ill, violent, or disruptive patients may interfere with assessing suicidal patients adequately.

Other non-environmental nursing concerns that have resulted in patient harm are poor leadership and lack of caring on the part of the staff, with little commitment to keeping the patient safe.[19]

ENVIRONMENTAL FACTORS

Environmental issues related to patient harm include a host of predisposing factors, such as poor design of the unit of care, access to doors and elopement, and leaving blind spots where nurses are unable to fully see patients. Poor protocols for patient management and excessive reliance on procedures without independent assessment and judgment of the patient by the nurse can also lead to patient harm. Finally, poor evaluation of risk of privileges, poor coordination with team and outpatient staff, and poor step-down care are contributing factors.

The presence of accessible doors or windows that may lead to a patient's elopement, and exposed pipes, hooks, sprinkler heads, shower pipes, curtain rods, and door jambs that lend themselves to hanging must all be regarded as unsafe. Also, access to belts, shoelaces, robe belts, drawstrings from pajamas, or contraband brought in by friends or relatives in the form of knives, sharp objects, and telephone cords can all lead to suicide completion. Regular room searches and having a procedure to search objects or luggage brought onto the unit are needed to avoid mishaps. Among objects listed under the environment of care, glass objects, light fixtures, mirrors, razors for shaving, and metal utensils may be used to harm oneself or others.

The literature notes that common modes of suicide in the hospital are hanging, jumping from a height, throwing oneself in front of a bus or train, poisoning or overdose, drowning, and cutting oneself, in that order. Consequently, limiting access to these opportunities must be foremost on the minds of care providers.[20–21]

OBSERVATION LEVELS AND PROTOCOLS

No two hospitals use the same terminology for the same observation level. Once the patient is placed on observation, it is the duty of the charge nurse and the attending physician to frequently evaluate this need and any alterations needed to the order per shift. Various observation levels are used on inpatient services that are poorly understood and poorly communicated to the observer who is nonclinical and may have no decision-making capacity or training or has a poor understanding of the therapeutic plan. By close observation I mean 'eyes on the patient at all times'. Handoffs

and feedback from the observer are critical for the next shift. It is also important to standardize protocols for each service.[20]

DYNAMIC FACTORS

Suicide is preventable on inpatient units because

- Suicidal intent is not static and decreases over time.
- The environment can be carefully controlled.
- We know that the risk is highest soon after hospitalization, so it behooves us to keep the patient safe through intense observation early in the admission.
- We can safely treat the majority of patients for illnesses such as schizophrenia and severe depression, which account for many attempts.
- Sleeplessness and anxiety can be immediately treated with medications.
- Efforts can be made to check past use of medications and to obtain family input, as well as check support systems.
- Command hallucinations and withdrawal from substances can be adequately treated.
- Patients can be confined until symptoms abate.[21,22]

The process of complete assessment must include the following steps (Table 4.1):

- Identifying risk factors
- Identifying protective factors
- Conducting a suicide inquiry

- Determining risk level
- Documenting interventions, including emergency numbers and plan for the patient
- Documenting risk reduction and how it was achieved

REASONS FOR FAILURE

The Joint Commission has determined that failure to prevent suicide is due to

- Failure to adequately assess patients, take an adequate history, or properly diagnose a patient's condition or disorder
- Lack of control, supervision, or restraint of a patient
- Lack of repeated assessment and documentation of suicidal intent at each shift (since other variables may cause a change in intent)
- Failure to provide adequate monitoring or to provide medications in a timely manner to alleviate symptoms (insomnia, anxiety, agitation, restlessness)
- Failure to remove harmful objects (e.g., belts, shoelaces, robes, plastic bags, medications, removable light fixtures or covers) or to otherwise secure the patient's environment.[2]

Systems changes that need to be monitored and modified to prevent suicide are as follows:

1. **Types of settings** in which suicides occur that are of concern (open access units with unclear privileges); poor patient assessment while granting privileges each time a patient is permitted to go off an inpatient unit

2. **High-risk patients** that need to be identified and monitored (those who have recently made a suicide attempt, have continued depression and suicidal thoughts, and exhibit no change despite treatment)
3. **Staff-related factors**, such as nursing strategies employed and actively discussed (change from locked to open unit, on-campus privileges given, or private room with no observation)
4. **Management strategies or techniques** that need to change with a changing case mix on a service (change in the case mix of patients on the unit, increase in acuity level).

TREATMENT

Treatment must incorporate all interventions designed to mitigate harm quickly and effectively. Medications need to be chosen for immediate relief of symptoms, such as anxiety and sleeplessness, and that have benefited the patient in the past. Medications must be safe, tolerable, and efficacious in proven clinical trials and suited to the patient's needs. Also, price and simplicity of dosing and administration should be considered. The quickest way to provide relief from a severe depression is through electroconvulsive therapy (ECT), and patients who are to undergo this treatment need to be prepared quickly for it (details of ECT safety are addressed in Chapter 6). Additionally, one must review

1. The appropriate level of observation
2. Appropriate transitions and support
3. Appropriate and frequent communications and handoffs among all caregivers

4. Appropriate instructions to observers and feedback about the patient
5. Adequate training and supervision of all staff, with easy access to supervision as needed

Psychotherapeutic interventions may consist of therapeutic interventions aimed at developing coping strategies and ego strength, such as the Collaborative Assessment and Management of Suicidality (CAMS) framework, to develop and maintain a collaborative relationship as an agent of change, done with several weeks' length of stay and twice-weekly therapy sessions. Attention must also be paid to identifying skill deficits and psychological vulnerabilities that play a role in suicidal episodes. The goals of such therapy may not be accomplished in days but rather in weeks, with consistent input and sessions.[23]

It is important to plan thoroughly for follow-up and step-down care and, ideally, to obtain an outpatient appointment within a week of discharge. The receiving care providers must be educated about risks for the patient and other individual concerns that pertain to risk of self-harm. Also, caregivers should provide a crisis intervention plan and phone numbers for easy access to assistance. It is a good policy to limit medications to quantities needed until the next appointment; refills can be given to avoid lethal quantities from being dispensed. Always ask about access to guns, and engage family members in getting rid of guns or storing them in a place unknown to the patient until the patient is safe.

Clinical factors that are critical to patient safety are as follows:

- Changes in suicidal intent (i.e., intent is dynamic rather than static); changes with shifts and with conversations during ongoing conflicts

- The need to *assess* rather than merely ask about motivation; "contracts" do not prevent self-harm.
- The lethality, motivation and intent, risk, and rescue potential of any suicide attempt must be individually evaluated.
- Three quarters of patients arriving in an emergency department (ED) in the evening must be hospitalized overnight in the ED until further information is obtained to ascertain lethality.

Elopements from the ED must be prevented, and discharges from the ED must be carefully reviewed case by case.[24,25]

GENERAL PRECAUTIONS

Four main factors that contribute to the prevention of inpatient suicides are as follows:

- Comprehensive patient assessment and treatment management based on findings in the literature as well as clinical experience
- Staff deployment, communication, education, training, and self-improvement through information sharing
- Periodic environmental assessment and correction of practices to accommodate the patient population and unit changes
- Thorough root-cause analyses of events with continuous feedback and modification of practice, as described in a SAFE MD report.[1]

Hospital practices must incorporate regular discussions at meetings or teaching sessions to raise awareness and secure the environment, as well as to protect patients. Strong clinical and administrative leadership focusing on safety is important. Other suggested meetings or rounds may include the following:

- RN/MD monthly meetings with attending MDs and residents
- Environmental rounds done weekly or less frequently
- Morbidity and mortality rounds done monthly for residents
- Annual risk management meetings
- Monthly faculty meetings with discussions on clinical concerns
- Rotation of RNs in the ED and acute service through shifts or visits with each other's services
- Performance improvement meetings held monthly, with clear goals and outcomes
- Continuous training
- Root-cause analyses of "near-miss" events or "close calls," with changes in systems
- Promoting a culture of safety through constant input from all personnel who come in contact with patients
- Multidisciplinary discussion about changes that contribute to safety
- Annual lectures about suicide prevention, and learning from other hospitals

Although rules and protocols regarding suicide prevention and patient safety exist in many institutions, they are nevertheless ignored or not systematically applied. Rules are only as good as the practitioner; the weakest link is often the observer; and datasheets to communicate with the observer are not always used and are critical. Feedback from the observer must be sought to include her or him in the team. Finally, 15-minute checks or half-hour checks for suicide prevention (Table 4.2) are useless and must be avoided for suicidal patients.

Table 4.2. Suicide Prevention and Assessment Checklist for Safety

Identify Risk Factors	
History	
Suicidal behavior or chief complaint Prior attempts Access to firearms Current/past psychiatric illness, especially psychotic symptoms Personality disorder/Cluster B traits Aggression/impulsivity Substance abuse, recent onset of medical illness, chronic pain, CNS disorders Family history of illness, hospitalization, completed suicide	Do not be satisfied with merely recording facts. Corroborate with previous care providers, old records, and family members.
Precipitants, stressors, interpersonal factors	
Financial, personal, or health status loss Events leading to shame, despair, or humiliation Intoxication Chaos or turmoil in family History of physical or sexual abuse Social isolation	Unusual circumstances, numerous stressors need to be actively addressed and actions or interventions documented. Mitigate stressors through family meetings and education and by developing support systems.
Change in treatment	
Discontinuation of care, medications Step-down to open unit from locked unit Discharge to outpatient care Provider or treatment change Other	

(*continued*)

Table 4.2 (*continued*)

Identify Risk Factors	
Internal protective factors	
Resilience, ability to cope with stress Religious faith Frustration tolerance	Protective factors do not prevent suicide, but they may serve as supports for the patient.
External protective factors	
Responsibility to children, pets Positive therapeutic relationships Social and economic supports	
Suicide inquiry	
Ideation, including frequency, intensity, duration, in past 48 hours, past month, and if worst ever Plan: method, lethality, plan, knowledge of lethality, availability of method, preparatory acts, expectation to carry out plan Behavior: past attempts, aborted attempts, rehearsals (tying a noose, loading a gun)	The patient's knowledge of lethality must be gauged. If a cognitively impaired patient thinks 4 pills constitutes a lethal dose, the intent is nevertheless high.
Explore ambivalence—reasons to die vs. reasons to live For youths or children, ask parents about evidence of suicidal thoughts, plans, behaviors, changes in mood, disposition, or behavior	Transitions are critically important. Communication and handoffs must be thorough. Patients and family members must be instructed about where and when to ask for assistance.

TAKE-HOME POINTS IN SUICIDE PREVENTION

Besides assessing risk factors, pay attention to the following factors (see also Table 4.2).

Patient-Related Factors

1. **Do not rely on checklists.**
   There are lots of risk-assessment scoring protocols out there, and they probably help clinicians and others to look for risk. However, people have died despite risk being scored as high because scores were misinterpreted or misapplied, either because of flaws in the protocol or sloppiness of assessment.

2. **Do not be content with only the patient's narrative.**
   One big omission in the process is source of the information. Do not rely solely on the patient for information. This is acceptable in some situations, but when there is a reasonable suspicion of moderate or greater risk, or when any person is psychotic, intoxicated, or otherwise unable to communicate adequately, corroboration is always required, if feasible (and when not feasible, the patient should be protected until the information is clearer). Psychotherapy aims to promote feelings of self worth, decrease hopelessness and despair.[27]

3. **Assess intent frequently.**
   Suicidal patients lie all the time, for all kinds of reasons, and clinicians cannot tell when these patients are lying (even though most clinicians will say they can). Patient's feelings can change from hour to hour or from day to day. Suicide is often an impulsive act in the midst of an ongoing difficulty.

4. **Do not hide behind HIPAA.**
   One rationale often given for failure to corroborate is "confidentiality." Clinicians are generally far too cautious (and often ill-informed) about letting confidentiality interfere with risk assessment. We psychiatrists need to realize—and teach—that suicide risk for us is analogous to surgical risk for surgeons and trauma crises for ED doctors. That is, let's take these risks seriously and do what's right (in this case, seeking corroborating information such as past records, information from current and past clinicians, and information from family members).

Risk Assessment

1. **Assess lethality, knowledge of lethality, and rescue level.**
   The "suicide inquiry" step should be very clear that "inquiry" needs to include corroborative sources such as family, other clinicians, and other persons with relevant information. The importance of reviewing past medical and psychiatry records, especially recent ones, should be included as well. Assess the likelihood of being rescued during the attempt, and the patient's awareness or knowledge of lethal amounts of medication, cutting major arteries or veins (such as the jugular) and so on. Have family check the patient's car- the trunk, glove compartment, other hidden areas for guns or other weapons.

2. **Check all risk factors.**
   Risk levels categorized as low, moderate, or high are not mutually exclusive. It is inaccurate and misleading to try to fit items into only one of the broad risk categories. One approach to increase accuracy and move toward smoother

discrimination would be to list risk factors, conditions, and behaviors with a number of gradations for each (e.g., level, context, temporal proximity, combinations with other items, synergy with other items). The gradations could have a numeric score, which could be combined with others for a composite risk score (but see the next point for cautions).

3. **Assign critical value to some factors that trump all else.**
   There are at least two big problems with combining risk factors toward some sort of "score" or categorization. (1) The factors are not remotely additive, and they are not additive even when weighted. Any combining "equation" should consider combination effects and—particularly—synergistic effects. (2) There are several factors that trump everything, and these should send the assessment directly to high or very high risk, regardless of any other data. Such factors include a recent lethal attempt, with knowledge of lethality, and a suicide rehearsal, such as loading a gun and holding it against one's head, or making a noose. For a parent, loss of a young child or infant or of children is another critical factor.

4. **Do not rely on protective factors to prevent self-harm.**
   References to "protective factors" should be played down. Protective factors do not prevent suicide. As suicide becomes a focus for the person, protective factors fade quickly into the background and other factors become far more important. Suicide occurs in loving families and in broken families. Treat suicide risk with the same seriousness that a cardiologist would when assessing cardiac risk.

5. **Err on the side of caution.**
   The probability may be low, but the stakes are very high to take a risk. If you are uncertain, place the patient on close observation until further data emerge. Assure yourself of a safe discharge.

6. **Place the safety of the patient ahead of other factors.**
   Once risk is determined, do not allow nonclinical issues to interfere with clinical processes and judgments. The doctor is often the only person between the patient and good care. If administrative issues, finances, patient preferences, or even legal limitations (e.g., rights of patients not to be hospitalized) threaten good care, be a strong advocate for what is right for the patient.

7. **Documentation**
   Document your thinking meticulously. Describe the rationale and changes in decision making. Document what has improved.

CONCLUSIONS

Suicide is rarely "voluntary" in any clinical sense of the term. A great many suicides are preventable once a clinician becomes involved and the patient is treated. Suicide is worth preventing. There are practical approaches to prevention that work.[26]

Inpatient suicides are tragic events that affect both staff and families, causing immense distress. A review of the literature yields critical information that can be incorporated into daily monitoring of patients, from the point of initial assessment to post-discharge, and to shape systems of care. Multidisciplinary teams that work cohesively, communicate often, and care about patients can greatly reduce the loss of lives.

TAKE-HOME POINTS

Steps

- Identify risk factors
- Identify protective factors
- Conduct suicide inquiry
- Determine risk level
- Document interventions
- Conduct assessment daily or more often
  - Observation level
  - Environmental safety steps taken
  - Communication with other team members
  - Communication with family
  - Documentation of risk reduction
  - Emergency/crises numbers and plan

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CHAPTER FIVE

Medication Errors in Psychiatry

An Examination of Error Proneness of Psychotropic Medications

GEETHA JAYARAM AND BRIAN PINTO

Case Example 1

The internal medicine team discharged a psychiatric patient with a prescription for a long-acting antipsychotic, fluphenazine. The patient received a once-monthly dose 2 days prior to discharge. Five days post-discharge, the patient filled the prescription and injected herself. She was readmitted with a QTc prolongation on her electrocardiogram due to toxicity. The team should have coordinated discharge with the patient's outpatient psychiatrist and not provided a prescription.

Case Example 2

A patient with clozapine-induced agranulocytosis on the national non-re challenge list within the Teva Clozapine Registry received a dose of clozapine. The psychiatry team did not contact the Teva Registry and were not aware that a waiver was needed from the Registry to restart therapy.

Discussion

Case Example 1

Errors can occur when psychotic patients who may have a cognitive decline are treated for medical or surgical conditions. Treatment with long-acting fluphenazine in schizophrenia prevents frequent visits to outpatient clinics as well as relapses causing admission. Drug interactions, contraindications with allergies and other medical conditions, and the ability of the patient to explain symptoms all play a role in drug administration. It is imperative that the treatment teams communicate with the care providers who will follow the patient in order to avoid mistakes and support the patient who may not be able to manage his or her own medications. Family education and medication handouts, with written instructions at discharge, are critical. Typically, long-acting medications are not provided directly to the patient. Errors in this case are the absence of medication reconciliation and patient education, and a poor handoff and transfer.

Case Example 2

Patients with major mental illnesses such as schizophrenia and bipolar disorder have a prevalence of several modifiable

cardiometabolic risk factors, such as obesity, dyslipidemia, diabetes, hypertension, and smoking, compared with the general population. Patients with major mental illnesses have a 25- to 30-year shorter life span than that of the general population due to premature cardiovascular disease (CVD). This increased risk of cardiovascular morbidity and mortality is compounded when patients receive antipsychotic agents that have the propensity to cause adverse metabolic effects. Consensus guidelines and recommendations for appropriate monitoring in the community have been published.[1]

All psychiatrists treating patients with Clozaril are required to register on the Teva-enabled Clozaril patient registry. Serious side effects such as agranulocytosis, seizures, metabolic syndrome, cardiopulmonary dysfunction, muscle spasms, and neuroleptic malignant syndrome are all potential problems. Treating teams must be vigilant when monitoring patients on Clozaril with adequate laboratory tests and visits. In the second scenario presented here, the absence of knowledge of current guidelines and failure to check with the pharmacy staff are major errors that could jeopardize the patient's health.

Discussion Points

Psychiatric patients cannot always manage their medications independently. Cognitive dysfunction may interfere with treatment. Medication reconciliation, proper handoffs and transitions of care, along with adequate communication with the receiving care providers, pharmacists, and family members are necessary.

BACKGROUND

Landscape of Medication Errors in Psychiatry

Medications are the primary therapeutic intervention in the treatment of mental illness. In 2011, an estimated 26.8 million U.S. adults used prescription medications for treating mental illness.[2]

Over the past decade, the number of pharmacological treatment options has increased significantly, for both acute and chronic mental illness. While this is certainly a welcome advance in therapeutic options for prescribers and patients, it also requires physicians, pharmacists, nurses, and other healthcare providers to be vigilant in keeping current regarding adverse effects, drug interactions, and dosing considerations for these medications. Additionally, the proliferation in new drugs for treatment of sleep disorders, psychiatric illness, and behavioral disorders comes at a significant financial cost. Medicaid, the largest funder of mental health services in the United States, paid out a total of $4.5 billion for behavioral health drugs in 2008. Given the high clinical stakes associated with psychiatric disorders, combined with the complicated pharmacology and expense of medication treatment, healthcare providers caring for mental health patients must be vigilant when dealing with these medications.

In 2006, the Institute of Medicine issued a report on the prevalence of medication errors in the United States. In their report, the authors included both the nature and causes of medication errors; incidents, severity, and costs related to them; alternative approaches to reducing such errors; and guidance to consumers, providers, payers, and other key stakeholders. They did not however, report errors related to the field of psychiatry. Studies have found that psychotropic medications represent a significant source of adverse events, with "CNS agents" accounting for 42% of

such events in a general hospital survey.[3] These medications have also been identified as the most common class of medications associated with preventable adverse events in nursing homes, as well as with emergency department visits.[4,5]

Medications errors are defined as any adverse drug event (ADE) related to the use of a prescribed medication while it is in the control of a healthcare professional or patient. Errors may occur in the prescribing, transcribing, dispensing, or administration by a healthcare provider, by the caregiver, or by the patient himself or herself, or in documentation.[6]

Lazarou and colleagues' meta-analysis of 39 prospective studies in *JAMA* (1998) revealed that the overall incidence of serious ADEs was 6.7% in U.S. hospitals, ranking it as the fourth to sixth leading cause of death in hospitalized patients. Many factors influence ADEs, including type of hospital and medication, medication practices, demographics, sampling strategies, honesty in reporting, protocols for reporting, and vigor of audits conducted.[7]

A comprehensive review of medication errors in psychiatry and factors related to morbidity and mortality indicated involvement of patient-, provider-, and systems-related factors.[8] We reported errors in areas of prescribing, transcribing, dispensing, and administration of medications, and noted that errors could be decreased by using an electronic order entry system and a patient safety net reporting database to enter and examine errors systematically.[6] This report indicated problems with all of the areas already noted. Therapeutic drug monitoring has stimulated clinical pharmacological research, including investigations on inherited differences in drug metabolism that are closely linked to drug monitoring in psychiatry. Pharmacokinetic drug interactions play a role in adverse events. Complexity involving the prescriber, the lab specialist, and the clinical pharmacologist as well as the patient may

result in errors that can be detected by the appropriate use of therapeutic drug monitoring.[9]

Other adverse events commonly discussed for their role in clinical psychiatry are the pharmacokinetics of atypical antipsychotics, plasma concentration of second-generation antipsychotics, and clinical responses.[10]

Glassman and others have described the mechanisms that lead to torsade de pointes and sudden death with antipsychotic drugs. Prolongation of the QTc interval and drug–drug interactions that may pose a risk have been described in the literature as well.[11]

PROCESS OF ERROR DETECTION

Medication administration errors and near-misses are common in mental health settings and can involve physicians, nurse, pharmacists, and other staff.

For Physicians

Illegible writing, error in transcribing, and lack of reading back orders can all start the error process. Psychiatrists must check the past history, problems patients have had with prior prescriptions, allergies and intolerance, and safety issues. At times, it may be easier to call the previous prescriber or the pharmacy from where the patient typically obtains medications to expedite information gathering. Judicious prescribing includes knowledge of efficacy of medications, safety concerns for each one, tolerability for the individual or his/her ethnic group, medication price, and simplicity of dosing and administration. Drug interactions can be checked with the pharmacist, especially if the patient is on a complicated

regimen, for example, that of a patient with human immunodeficiency virus (HIV) or liver disease.

For Nurses

Both nurses and pharmacists can contribute to error prevention by routinely checking unclear orders. Nurses should report all errors and near-misses so that lessons can be learned and future mistakes avoided. One method is to use a database to enter errors and to form a committee that regularly examines them, shares the results, and educates nurses or other care providers. A culture of safety promotes open error reporting and information sharing, on both inpatient and outpatient units of service. Training programs and policies should address all the situations and factors that would prevent reporting of errors and near-misses. Leadership within physician and nursing ranks must cultivate openness and applaud those who come forward with information on errors.

For Pharmacists

Prescribing and dispensing mistakes account for nearly two-thirds of all medication errors.[12] Pharmacists are in a unique position to help prevent these types of errors from reaching the patient. Pharmacists can intervene by affecting factors that cause medication errors. These include:

1. Medications with similar names and packaging (i.e., look- or sound-alike drugs)
2. Medications not commonly prescribed by the treating physician (e.g., antipsychotics prescribed by internal medicine)

3. Medications that are prone to causing allergies or intolerance (e.g., sulfa, beta-lactams, nonsteroidal anti-inflammatory agents)
4. Medications requiring therapeutic blood or lab monitoring (e.g., lithium, warfarin, valproate, clozapine)

In a 2001 retrospective analysis of medication errors, Phillips et al. found that the most common types of errors resulting in patient death involved the wrong dose (40.9%), the wrong drug (16%), and the wrong route of administration (9.5%). The most common causes of errors were performance and knowledge deficits (44%) and communication errors (15.8%).[13]

By using a combination of clinical decision support in electronic prescribing systems and vigilant pharmacist oversight, many of these errors may be prevented. In order to do this effectively, pharmacists must not only work with prescribers but also engage the patient or caregiver. As a trusted and easily accessible healthcare professional, the pharmacist can play an active role in educating patients and facilitating medication adherence.

For All Staff

The Joint Commission has detailed methods of medication error prevention among the National Patient Safety Goals (NPSG) as follows.

Elements of Performance for NPSG.01.01.01

Errors involved in misidentification of the individual served can occur in virtually all stages of diagnosis and treatment. The intent for this goal is twofold: first, to reliably identify the individual as the

person for whom the service or treatment is intended, and second, to match the service or treatment to that individual. Acceptable identifiers may be the individual's name, an assigned identification number, telephone number, or other person-specific identifier.

Rationale for NPSG.01.01.01

The rationale for this goal is to use at least two identifiers of the individual served when administering medications or collecting specimens for clinical testing. The room number or physical location of the individual served is not used as an identifier. Specimen or pill containers must be labeled, and the specimen container with identifiers must be labeled in the presence of the patient.

The goal for reconciling medications specifies that the medication list must be checked at each transition, as must the instructions to patients for their use. Clarity in communications at each step is paramount.[14]

HOW TO CONDUCT A ROOT-CAUSE ANALYSIS FOR MEDICATION ERRORS

This analysis involves tracking the process, from prescribing a medication to its dispensing and its administration. A common methodology for conducting a root-cause analysis is to (1) create a multidisciplinary team; (2) document and research the event; (3) identify the root causes; (4) develop an action plan; and (5) establish measurable outcomes.[15] More on this topic is provided in Chapter 9.

Each unit of service has its own workflow, and this needs to be charted to detect the origin of the error and its continuation (Figure 5.1). Fail-safe mechanisms need to be placed as

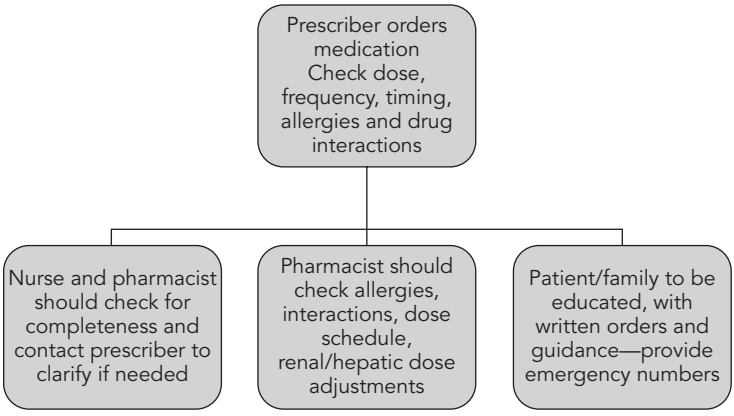

Figure 5.1 Prescription process flow.

interventions where errors are most likely to occur. For example, high-lethality medications may need two nurses to independently check them and their dosage before administration.

Fatigue is associated with a greater number of errors. Physicians, nurses, and pharmacists working extended hours are more likely to make mistakes.

CONSIDERATIONS POINTS FOR TRANSITIONS OF CARE

1. Medication reconciliation should take place during admission and at discharge.
2. Patient medication education should be provided at discharge, along with help in filling a pillbox, as needed.
3. Outreach through community outreach teams or pharmacists can help frail or cognitively limited patients.

4. Interventions to reduce 30-day readmissions include bedside medication delivery and discharge education prior to discharge so that the patient leaves with at least a 2-week supply and understands how to take the medication and what to expect. (Exemptions to this guide are suicidal patients, in whom lethality risk must be considered before dispensing medications.)

MEDICATION ADHERENCE

When medications are prescribed, significant attention is usually given to pharmacological mechanism of action, adverse effects, drug interactions, and prior treatment failures. However, little consideration is given to whether the patient will actually be able to afford the medication prescribed or be adherent to the therapy. This is not to say that prescribers do not care about how much medications cost or if the patient will be able to afford the medication, but often this information is not available at the point of prescribing for the provider, and patients are not well informed about their prescription insurance. Along with formulary considerations, medication adherence needs to be addressed during hospital discharge planning and during follow up outpatient visits.

Prescription Abandonment

Prescription abandonment is an issue that has garnered attention only in recent years. A study by Shrank et al. in 2010 found that about 3.5% of prescriptions filled by pharmacies are never picked up by patients; new prescriptions are three times more likely to be abandoned than are refills.[16]

The information services company Wolters Kluwer reported in 2010 that almost 10% of branded-drug prescriptions are abandoned. One of the leading drivers causing patients to abandon these prescriptions, and thus go without therapy, is expense. This tends to be true regardless of insurance status, due to increased cost-sharing by patients as insurance companies pay less, in their effort to maintain affordable premiums in the face of rising pharmaceutical costs. Treatment plans must therefore include affordability in decision-making, with active input from the patient.

KEY CONSIDERATIONS FOR PRESCRIBERS AND LESSONS LEARNED BY PRACTITIONERS

1. Polypharmacy: Consider all medications and outside sources of information when prescribing psychotropic drugs. The patient may be the only source of truth with regards to when he/she is actually taking medications.
2. Cost: If patients cannot afford their medication(s) they will not be adherent and are likely to relapse;
3. Medication errors are more likely to occur at transitions of care (admission, transfer, procedures, discharge).
4. Any error can be prevented. However, the practice of medicine, pharmacy, and nursing in the hospital or, to a lesser degree, the outpatient setting is very complicated, and many steps occur from "pen to patient."
5. Medications more prone to error are those that require titration up or down due to periodic dosage adjustments, which may lead to patient confusion and multiple strengths of the same medication in a patient's home. Those medications

rarely used on psychiatric units (electrolytes, blood thinners, IV antibiotics, and insulin) are also commonly involved in errors, based on our experience.

6. Implementing safer practices requires developing safer systems. Many errors occur as a result of poor oral or written communications. Enhanced communication skills and better interactions among members of the healthcare team and the patient are essential. The informed consent process should be used as a patient safety tool, and the patient should be warned about risks and benefits of all medications dispensed. Patients must be told what signs and symptoms should be immediately reported to the physician before an emergency room visit.
7. Last, reducing medication errors is an ongoing process of quality improvement. Faculty systems must be redesigned, and seamless, computerized integrated medication delivery must be instituted by healthcare professionals adequately trained to use such technological advances. Sloppy, handwritten prescriptions should be replaced by computerized physician order entry, a very effective technique for reducing prescribing and ordering errors. If systems are not yet computerized, avoiding use of abbreviations is another far less expensive, yet effective, change. Spelling out words such as *micrograms* or *milligrams* can help prevent dangerous dosage errors. Latin words and shorthand abbreviations are often subject to misinterpretation.

CONCLUSION

Little is known about systematically collecting and analyzing medication errors on inpatient or outpatient psychiatry services.

The majority of adverse drug events on these services are caused by *medication errors*, which can be broadly defined as any preventable event that may cause or lead to inappropriate medication use or patient harm while the medication is in the control of the healthcare professional, patient, or consumer.

It is imperative to (a) establish a benchmark for care settings in order to establish clear thresholds for events (an example of a classification for errors is given in Jayaram et al.[6]) and (b) study psychiatric care settings in particular in order to eliminate those errors related to commonly prescribed psychotropic medications. What constitutes good care, and why care settings differ in their results, is based on the organization, staffing, and understanding of safety principles regarding medications. Also, this issue is of grave importance in a psychiatric population because of their inability, when ill, to play an informed role in their own treatment.

TAKE-HOME POINTS

Medication errors are among the top five causes of sentinel events as posted by the Joint Commission on their website.[14] Medication safety has probably been the most closely studied area in patient safety, following the efforts of anesthesiologists to reduce errors. Published error-related data in the medical field involve factors such as details that are missing when prescribing medications; insufficient knowledge of the patient, as well as the patient's reaction to a particular drug; errors from handwritten orders; poor interpretation of a written order; errors in calculation of doses; and errors in transcription, dispensing, and administration.[9,17,18]

Use of information technology can reduce the rate of errors in three ways: by preventing errors and adverse events, by facilitating a more rapid response after an event has occurred, and by

tracking and providing feedback about adverse events. Although external reviewers such as the Joint Commission are in helping to reduce medication errors, they cannot be superior to internal methods of self-examination, data gathering, and scrutiny with a view to protecting patients.[19]

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CHAPTER SIX

Safety Considerations for Electroconvulsive Therapy

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INTRODUCTION

Electroconvulsive therapy (ECT) is a highly effective treatment for patients suffering with severe depression and other major mental illness.[1] As ECT requires general anesthesia and is associated with both cognitive and noncognitive side effects, careful attention must be given to the safety aspects of treatment.[1] While inpatient treatment offers the advantage of 24-hour skilled nursing care in a supervised setting, outpatient ECT offers patients the advantages of reduced financial burden and treatment in a less restrictive setting.[2–4] As with surgical and other medical procedures, ECT is increasingly being administered in outpatient settings.[5] The safe practice of ECT in both these settings is the focus of this chapter.

Drawing upon published articles and our own experience administering ECT, we propose best practice recommendations pertaining to safety of ECT.[6] We review ECT patient selection criteria as well as treatment and programmatic factors. We also

highlight the importance of educating referring clinicians as well as patients and their families about factors pertaining to the safe delivery of this treatment, especially when it is administered as an outpatient procedure. We include two case reports to illustrate specific safety issues.

Case Example 1

Mr. AB, a 60-year-old, divorced white male, was admitted to an inpatient psychiatric service for severe major depression and was prescribed a course of ECT. During the pre-procedure anesthesia evaluation, the patient reported that he could not recall ever having general anesthesia. At his first treatment, the usual anesthetic agent, methohexital, and the muscle relaxant, succinylcholine, were administered. After the procedure, however, the patient did not resume breathing within the expected 5 to 10 minutes after induction, and ultimately was intubated. The treatment team suspected that the patient had an undiagnosed pseudocholinesterase deficiency, and transferred him to the neurosurgical critical care unit (NCCU) for further monitoring and support.[1] *On arrival to the NCCU, the patient had tachycardia and hypertension and was sweating and tearing. The patient was sedated, and airway support and artificial ventilation were provided. Nitroglycerine, esmolol, and, ultimately, labetalol were required to control his hypertension and tachycardia. Cardiac enzymes were found to be within normal limits. A portable peripheral nerve stimulator ("train-of-four-monitor") was used to monitor the depth of the patient's neuromuscular blockade. A twitch response could not be elicited until 90 minutes after arrival in the NCCU, and it was an additional 30 minutes before a fade response could be detected.*

The patient required approximately 4 hours of intubation before normal breathing resumed and he could be successfully extubated. The next day, the patient was transferred back to psychiatry.

Discussion

This case highlights the importance of obtaining a careful history of prior use of anesthetic agents and the patient's responses to them. Allergies and prolonged recovery from anesthesia must be asked about and noted. This case also reinforces the necessity of having emergency cardiopulmonary equipment and skilled nursing staff available in the ECT treatment area for patients with restricted airways, difficulty breathing, and apnea or aspiration risks. Continuous pulse oximetry and visualization of patients' respiratory effort by trained staff are essential for maintaining patient safety.

Case Example 2

CD was a 67-year-old African-American single female with a history of bipolar affective disorder and ovarian and pelvic cancer with recent extensive gynecological surgeries. The patient had been recovering after her surgery on a medical-surgical unit specializing in gynecological medicine. She had suffered multiple complications after surgery, including sacral decubitus ulcers, infection of the surgical site requiring debridement and packing, and a Clostridium difficile *infection. She had stopped eating and had required a nasogastric tube placed for nutritional supplementation. She began to refuse medications and began resisting attempts to reposition her in bed. Eventually, her speech became latent and she was mute for long periods of time. A psychiatric consultant assessed the*

patient as suffering from bipolar depression with catatonic features and recommended treatment with ECT. The patient could not consent for ECT because of the severity of her condition. The hospital legal office was consulted, and the patient's family was advised to seek medical guardianship to enable consent for ECT, resulting in a delay of several days. During this time, the patient's physicians consulted with the ECT psychiatrist for advice on managing the patient's medications. A long-acting benzodiazepine clonazepam that had previously been prescribed was discontinued and the shorter-acting lorazepam was substituted in preparation for ECT. The medical unit's nurse manager contacted the ECT nurse coordinator for advice on the preparation and recovery of patients receiving ECT, and informational materials on ECT were provided for the nurses who would be caring for the patient when she returned to the floor after treatments. Nursing staff from the medical unit shared information on the patient's medical issues, including isolation status and strategies to minimize pain during the necessary moving and transferring of the patient.

The patient was scheduled to be the last ECT case of the day, to minimize risk of cross-contamination of other patients with C. difficile. *The ECT nurses accompanied the transport staff taking the patient to and from the medical floor for all treatments to help provide safe transport and allow additional opportunities for face-to-face communication with the nurses. Transport staff assisted in transferring the patient and assisted staff in maintenance of isolation status and proper cleaning of the stretcher.*

During the first treatment, the patient's family, having now obtained legal guardianship, accompanied the patient to the treatment suite, met with the treating psychiatrist, who discussed the risks and benefits of ECT, and with the anesthesiologist, who discussed anesthesia risks with the family and obtained from them consent to administer anesthesia to the patient.

On arrival to the ECT suite for her first treatment, the patient was mute and stiff, with no eye contact or spontaneous movement. Given the severity of her condition, bilateral stimulation had been ordered and she had an adequate seizure. She recovered from the treatment without incident. ECT nursing and transport staff transported her to the medical unit, where a face-to-face handoff took place, along with education for the staff about the expected therapeutic response from patients receiving ECT. During the afternoon of the first treatment, the nurse caring for the patient on the medical unit phoned the ECT coordinator and excitedly related that the patient had asked to sit up in bed and had eaten the first oral food in days.

The patient continued to improve during the next 2 weeks. She received three treatments per week for a total of six treatments while on the medical unit. During this period her nasogastric tube was removed and her IV fluids discontinued, and she began to participate in walking and physical therapy to the point where sequential compression devices were removed. She ultimately was transferred to the geriatric psychiatry service, where she received a further three treatments over the next week. At this time, she reported that she had returned to her usual mood and was assessed by her psychiatric treatment team to be recovered and stable. She was transferred to a rehabilitation facility to continue physical therapy.

Discussion

This case illustrates excellent multidisciplinary teamwork, adequate patient preparation including obtaining guardianship to consent for medical procedures, proper hand offs, and education of team members and family. The contribution of the psychiatric team was paramount in saving the patient's life and preventing unnecessary

hospitalization with possible complications due to immobility and poor intake.

PATIENT CHARACTERISTICS

Special Patient Populations

Although ECT can be safely administered to a wide variety of patients, there are specific considerations in providing care to several special populations.

Children

Minors with severe mental illness that has not responded to medication treatment may be offered ECT in some parts of the United States, but the treatment is often more strictly regulated than when it is administered to adults. In Maryland, for example, the consenting process requires two psychiatrists who are not involved in the patient's care to agree that ECT is indicated and appropriate for a pediatric patient. In most states, the consenting issues are more complex, and the active involvement of parents and other caregivers can be invaluable in supporting children through treatments.

Pregnancy

ECT is safe to administer to pregnant women, and for many patients the benefits outweigh the risks to the fetus from untreated or inadequately treated maternal depression.[7] Fetal heartbeat should be confirmed both pre- and post-treatment in pregnant women. Rising intra-abdominal pressure increases the risk of aspiration in the mother and needs to be weighed against risk of intubation during the treatment.[7]

Medically Ill Patients

Most *cardiac patients* can safely receive ECT, including those with defibrillators and pacemakers. A cardiology consultation prior to proceeding is recommended, as is cardiac monitoring throughout the procedure and the recovery period.

Patients with metal plates in their skulls can receive ECT, with the caveat that stimulus electrodes cannot be placed over the plate, as this can cause a scalp burn. A surgical marker should be used to mark the placement site of the ECT electrode to avoid risk of burn.

Diabetic patients should have glucometer monitoring pre- and post-treatment to address the risk of hypoglycemia posed by the need to fast prior to treatments.

Renal patients, including those requiring hemodialysis, require several unique considerations. The ECT should be administered as closely as possible to the patient's dialysis procedure when the patient's metabolic and electrolyte balance is optimal. Potassium levels should be checked on the morning of ECT.

Anticoagulated patients require daily INR checks, with the patient's optimum anticoagulation level determined in consultation with the anesthesia team and taking into account cardiac factors and the risks of uncontrolled bleeding during ECT. *Catatonic patients* pose a number of challenges because of their extreme inactivity. Many require heparin, compression stockings, and constant observation.

Isolation patients should be scheduled to receive the last treatment of the day so as to decrease the risk of pathogen exposure to other patients being treated. The needed additional cleaning and decontamination procedures for the treatment room and equipment can then be done without disrupting work flow.

Patients with complex medical needs may have central lines, catheters, nasogastric feeding tubes, sequential compression

devices, shunts, and other devices that require management and adjustments to monitoring, positioning, and care.

Patients Consuming Alcohol, Benzodiazepines, or Illicit Substances

Not infrequently, patients referred for ECT have recently been drinking heavily or using illicit substances. Sometimes, patients are in the process of tapering doses of benzodiazepine medications, which interfere with ECT. In our experience, these patients experience higher rates of postictal agitation and delirium than other patients.

Additional Considerations

The physician ordering ECT should notify the psychiatry, anesthesia, and nursing teams involved in the administration of ECT of any conditions that might require additional monitoring or other considerations during treatments with sufficient notice to allow for needed discussion and consultation and for special arrangements to be made. This planning will go a long way toward preventing last-minute cancellation of ECT because of an unanticipated risk or need in a particular patient not discovered by the procedure team until the patient arrives for treatment.

SUITABILITY OF A PATIENT FOR OUTPATIENT ECT

When contemplating an acute course of outpatient ECT for a patient naïve to the treatment, several additional safety factors should be considered. (1) The patient must be safe for outpatient care, including being safe to self and others from the psychiatric

perspective; able to maintain adequate oral intake of food and fluids; able to maintain adequate self-care, including activities of daily living and managing medications (perhaps with the aid of a pill box); and medically stable. (2) The patient also needs to have a high degree of commitment to the treatment plan and not be significantly ambivalent, anxious, or agitated about receiving ECT.

For patients receiving inpatient ECT for whom a transition to outpatient treatment is being contemplated, ward observations of how well the patient has tolerated ECT can be extremely helpful for planning the safety of potential outpatient treatments. The ease or difficulty with which the patient recovers from each inpatient treatment will inform the patient's probable safety needs at home. These tolerability factors include time to reorientation immediately after treatments, afternoon drowsiness after treatments, and the severity of ECT side effects, such as lingering headache or nausea. Fall risk assessments made by inpatient staff following treatments are important data in planning for proper precautions at home. Medical factors that increase the risk of falls and associated morbidity include advanced age, gait instability, unstable blood pressure and syncope, osteoporosis, anticoagulation, and a history of falls and fractures.[8] Cognitive status, especially memory impairment, must also be taken into account when deciding the level of support the patient will receive at home. An occupational therapy safety evaluation may be helpful.

DOES THE HOME ENVIRONMENT SUPPORT OUTPATIENT ECT?

Support at Home

Ideally, patients should be living with another person who can help take care of them during an acute course of outpatient ECT

(2–3 treatments per week for several weeks). If this is not possible, a caregiver should be available to stay with the patient for at least 24 hours after each treatment. The threshold for requiring inpatient rather than outpatient treatments because of accumulating cognitive side effects should be lower if this is the case. When ECT is administered less frequently, as during a continuation or maintenance phase, a caregiver should likewise be with the patient for at least 24 hours after each treatment. The much lower level of professional supervision in outpatient as opposed to inpatient settings poses several challenges. These can include nonadherence with a medication regimen or nil per oral (NPO) instructions and lack of transportation.[4] Support persons will need careful instruction and support to be able to address these needs, and they will need to assist the patient with any number of tasks:

- Encouraging increased hydration on the day before ECT, helping to maintain NPO status, and supervising ECT premedications
- Helping the patient manage activities of daily living if delirium and/or memory loss emerge—for example, by being vigilant about an increased fall risk, carefully monitoring the patient's medication regimen, maintaining a driving restriction until lifted by the psychiatrist, and carefully observing a patient in the kitchen while cooking. Home nursing may also help a patient with ECT-associated cognitive impairment avoid inpatient hospitalization.
- Reporting to the psychiatrist signs suggesting delirium or a change in mood

- Driving the patient to and from ECT treatment. Patients cannot drive after an ECT treatment, and transportation by cab poses risks because of lingering cognitive side effects.

Driving

Given that ECT can affect psychomotor function,[9] patients should not drive for at least 1 week after an acute course of treatment at three times per week. If ECT is being tapered to a continuation or maintenance phase, driving should not resume until a treatment frequency of once a week or less. We recommend no driving for 24 hours after a treatment even if the patient is only receiving occasional maintenance treatments. If a patient shows any ECT-associated impairment, even missing a few points on the Mini Mental Status Examination (MMSE),[10] we suggest that driving be restricted still further. The following considerations should also guide a decision about driving: psychotropic medications that might be sedating or impair coordination, and recent suicidal thinking if it involved crashing a car. Ideally, all recent ECT patients should undergo a formal occupational therapy driving assessment before resuming driving. However, because these assessments are often expensive or may be unavailable, the decision usually comes down to a clinical assessment by the psychiatrist and a discussion of risks with the patient and family. The family can help assess the patient's sense of direction as well as orientation time in the car, quizzing the patient and driving with the patient until he or she is safe.

The same restrictions described for driving an automobile should apply for riding a bike on the street or piloting a watercraft. In addition, patients receiving outpatient ECT should not operate heavy or dangerous machinery.

SAFETY ISSUES DURING TREATMENT

Safety First

Starting a course of ECT on an outpatient basis should be pursued only after careful consideration of the additional risks it poses. A brief stay that allows for 2–3 treatments on an inpatient basis is advisable for ECT-naïve patients, especially if they have risk factors (described earlier) that may complicate treatment.[11] During an inpatient stay, the tolerability of treatment for an individual patient can be assessed by carefully monitoring the severity and duration of postictal confusion, fall risk, and other factors as discussed earlier. Fall risk assessments can be performed routinely by nursing staff [12] or by an occupational therapist. If treatments are complicated and recovery from them prolonged, the acute course should be completed as an inpatient. On the other hand, if the patient is tolerating ECT well as an inpatient, he or she can often be discharged after 2–3 treatments and receive further ECT as an outpatient. This assumes, of course, that other factors permit a transition, such as the availability of transportation, home monitoring, and outpatient support.

ECT Technique

For a thorough discussion of ECT technique that optimizes treatment efficacy and minimizes adverse effects, readers should consult an ECT textbook. We would note the following aspects of ECT administration that are important for its safe delivery.

- Treating physicians must use adequate gel on electrodes to prevent burns. The gel should be removed promptly post-procedure, as it can pose a risk to patients' eyes.

The discomfort of the extra gel drying in patients' hair can even prove to be a barrier for some patients continuing treatment.

- To prevent infusion of drugs into an infiltrated intravenous (IV) line, the line is flushed with saline by the ward nurse and anesthesia provider before infusing drugs. If an IV line is inadequate on arrival to the treatment area, a new line must be placed prior to treatment. Patients with histories of IV drug abuse or poor access from other causes should be considered for central-line access.
- Adequate doses of methohexital and succinylcholine need to be given at the first treatment to ensure adequate anesthesia and muscle relaxation. Adequate dosing prevents muscle discomfort, particularly in the jaw region, and helps ensure patient willingness to continue with treatment.

Minimizing Cognitive Side Effects

ECT using ultrabrief (UB) pulses has become more widespread, as studies have shown this mode of stimulus delivery reduces adverse cognitive effects while preserving efficacy.[13,14] Although it is possible that patients receiving UB pulses may respond slower than patients receiving brief pulses,[14] we favor UB pulses with right unilateral placement to minimize cognitive side effects, especially for outpatients. If patients fail to respond to UB pulses, they can be switched to brief pulses and/or bilateral electrode placement.

As ECT administered twice weekly may result in fewer cognitive side effects than treatment administered three times weekly,[15] the former should be considered for patients at increased risk for cognitive side effects, such as elderly patients, especially if such

effects were a problem for them during previous ECT courses. However, one also needs to take into account that treatment with ECT twice weekly may slow response.

Reducing Adverse Events Post-Treatment

A significant percentage of patients will experience agitation in the period immediately following ECT, and this complication tends to reoccur in subsequent treatments in many of them.[16] Thus, the ECT team can prepare for its management once the patient's tendency to postictal agitation is known. If a patient has had ECT in the past, it is important to obtain a history of an agitated response, if possible. Some patients benefit from pretreatment with an antipsychotic, taken by mouth with sips of water approximately 30 minutes pretreatment. Some patients will require a vest restraint post-treatment in order to remain safely on the stretcher. Prophylaxis treatment after the seizure but before agitation begins with benzodiazepines or propofol can prevent agitation. If agitation continues or emerges in the post-anesthesia care unit (PACU), these same medications are quick-acting, safe, and effective. The use of IV haloperidol is to be avoided because it requires cardiac monitoring for an hour and delays patient transition to phase 2 of recovery in a more familiar environment. Bolstering the stretcher with seizure pads when a patient is agitated can prevent injury from limbs extending through the side rails and for some patients can have a calming swaddling effect.

In the Johns Hopkins ECT PACU, nurses use the Confusion Assessment Method for the Intensive Care Unit (CAM-ICU) delirium scale and Richmond Agitation-Sedation Scale (RASS) to track those patients with a tendency to experience postictal agitation.

These scores help provide information quickly to staff who may not know the patient well and help communicate additional information on the patient's post-treatment mental status to the unit nurses. Handoff communication of the patient's current condition to the nurse receiving the patient should occur before the patient is discharged from the PACU. If a patient is returning to the floor in need of additional monitoring or on oxygen, a nurse should accompany the transport team.

Post-Treatment Patient Care

Several factors on the nursing ward, especially in the first several hours after return from the ECT suite, will significantly contribute to patient safety. When several patients from a nursing unit are receiving ECT, it is advisable to have one nurse and one clinical technician or assistant assigned as a team responsible for sending and receiving all ECT patients from that unit to enhance supervision and communication. Patients should be assisted from the stretcher to the bed and not allowed to walk independently until gait is assessed to be safe and independent. All patients should be assumed to be at higher fall risk and interventions put in place to prevent falls in the first 24 hours post-treatment. Patients must wear non-skid footwear when walking and shower shoes when showering.

Delirious patients require constant observation until assessed to be safe. This period of enhanced supervision can last for a few hours up to 24 hours. Occasionally, patients will require continuous observation for the entire course of ECT. ECT patients should not be allowed to leave the unit unaccompanied on the day of ECT because of the risk of becoming disoriented and lost in the hospital.

Minimizing Infection

Wiping off cables and surfaces with isopropanol between patients and using patient-specific blood pressure cuffs and pulse oximeters can reduce the risk of cross-contamination. In addition, taking patients with isolation precautions last in the schedule reduces risk of infection. Communication with units sending patients about changes in isolation status assists the ECT staff in minimizing infection risks. The Infection Control Department is an important resource for managing cross-contamination issues in ECT suites with high patient volumes and rapid turnover of the procedure room. The Infection Control Department is also instrumental in informing the ECT staff of rates and patterns of infection within the hospital—for example, high rates of respiratory illness.

Comprehensive Care

It is critical that the ECT team not simply be a technical delivery service doing the bidding of the "treating psychiatrist." The ECT team must take an active role in the ongoing assessment of the patient, including both treatment response as well as side effects. Active collaboration and frequent communication between the ECT team and the outpatient psychiatrist, especially regarding treatment response and medication changes, is vital.[17]

For all acute treatments and for new maintenance cases, we first see the patient for an ECT office consultation visit, at which time the patient must be accompanied by the family member, friend, or other caregiver who will support them during outpatient ECT. We schedule routine office visits weekly during an acute course of treatment, and again require a family member or other caregiver to accompany the patient. We continue to regularly see

patients in the office who are transitioning into a maintenance phase, in addition to seeing their own psychiatrist, until they are on a steady regimen of treatment. We also call patients and their families within 24 hours prior to and within 24 hours after each treatment. This means we speak with or see patients receiving an acute course of ECT almost every day.

To monitor response and adverse effects we use the Montgomery Åsberg Depression Rating Scale[18] and the MMSE, rating scales that are also used routinely on our inpatient service.[19]

Patient Education

Patient and family education is critical to safe and effective inpatient and outpatient ECT. Inpatients and their families receive extensive education from physicians during the consent process and from experienced nursing staff utilizing handouts and articles appropriate to the patient's education level. We have found that this educational process needs to be repeated frequently during the course of ECT given the cognitive side effects of ECT. We provide a personalized outpatient instruction sheet about the treatment and what to expect, as well as specific information pertaining to the particular patient's medication regimen. Outpatient ECT carries more responsibilities for patients and their families, so it is advisable to re-consent them for the outpatient ECT process if they are transitioning from a course of inpatient ECT treatment. Important considerations for outpatient ECT include the following:

- Detailed instructions as to which medications should be taken routinely or skipped on the day before or the morning of treatment and whether make-up doses should be taken and when. On the night before ECT, we typically

instruct maintenance ECT outpatients to skip lithium doses because there is an increased risk of prolonged neuromuscular blockade and postictal delirium.[20] If possible, mood-stabilizing anticonvulsants should be stopped prior to an acute course of ECT because they raise seizure threshold and may interfere with treatment. Patients receiving maintenance ECT who are taking an anticonvulsant mood stabilizer should not take their medication on the day before treatment for the same reason. We advise taking evening benzodiazepines in the afternoon prior to ECT, because these drugs also raise the seizure threshold. On the morning of treatment, routine medications that are not neuroactive (e.g., antihypertensives) can be given at 6 A.M. with a sip of water in anticipation of treatment at 8 A.M.

- Drinking plenty of fluids on the day before treatment helps prevent dehydration, which also raises the seizure threshold.[21,22] Dehydration is especially common in depressed patients with poor oral intake. We may ask outpatients to arrive early for a bolus of IV fluid before treatment. Inpatients routinely receive IV fluids overnight before ECT.
- Outpatients should bring a change of underwear in case of incontinence. Elderly patients may wear incontinence briefs, and stretchers should be made up with incontinence pads.

Inpatient Readmission for Outpatients

If patients are doing poorly during a course of outpatient ECT, including experiencing significant cognitive impairment, or if they

are missing treatments, readmission for the completion the ECT course may be warranted.

PROGRAM QUALITY IMPROVEMENT

Integration of Outpatient and Inpatient Services

It is critical that there be close integration with the inpatient ECT service so that transition between inpatient and outpatient ECT is seamless in either direction.[23] A well-designed electronic medical record customized for the ECT service can facilitate this integration. In addition, an ECT nurse coordinator can serve an essential role in continuity of care by ensuring that patients moving from inpatient to outpatient care receive the necessary education about receiving ECT as an outpatient.

Easy Accessibility

Parking should be easily available and the ECT suite accessible to outpatients so they do not need to walk a long distance after treatment. ECT staff should also be easily accessible for questions from family and have a ready supply of educational literature about the treatment, especially in light of the significant amount of misinformation and controversy that still surrounds ECT.

Referral Sources

It is important to educate other psychiatrists about the availability of outpatient ECT treatment. It is also important to educate them about clinical criteria for deciding whether a patient is suitable or otherwise for the treatment.

ECT Nurse Coordinator

The ECT nurse coordinator has a primary role in the care coordination process, working closely with all nursing units that send patients for ECT to provide the best and safest care. The coordinator helps identify and address potential barriers to treatment and side effects of treatment at the nursing care level. In addition, the coordinator is a liaison between the ECT providers and the nursing staff. The coordinator for our program also represents the ECT PACU at the hospital-wide standards of care meetings, ensuring that the unique needs of the ECT PACU are addressed in hospital PACU policies and that the ECT PACU is compliant with all PACU standards.

The observations and supervision of skilled nursing staff during an inpatient course of ECT provide an invaluable source of information for the providers of ECT. MMSEs and Montgomery Åsberg depression scales are preformed regularly and give quantitative data about patients' cognitive status and mood state.

Program Review

Providing safe and effective ECT requires an increased level of coordination of care and communication across inpatient units and with outpatient providers. An administrative infrastructure that includes the regular reassessment of safety issues and review of untoward events is vital to this end. ECT is the only procedure in psychiatry requiring anesthesia, and it is sometimes subject to unique state and hospital regulations. Program review can best be accomplished by frequent team meetings including psychiatrists, nursing staff, and administrators.

At Johns Hopkins, members of the ECT care team participate in a monthly performance improvement meeting led by the

ECT nurse coordinator. The agenda is developed in collaboration with ECT psychiatric providers to evaluate and improve ECT practice.

We have also developed a Comprehensive Unit Based Safety Program (CUSP) for our ECT procedural area. The goal of the CUSP is to engage key members of the team in monthly discussions about how to improve safety for patients receiving ECT. Each member of the team completes basic safety training and is asked to speculate on how the next hypothetical patient is most likely to be injured during ECT. To help support our safety initiatives we also have a CUSP facilitator who is not an ECT team member, but rather is an expert in addressing safety concerns at a systems level. We also have a CUSP executive who is at the vice-president or director level in the hospital who can assist with ideas to leverage resources needed.

CONCLUSION AND TAKE-HOME POINTS

ECT is safe and efficacious for treatment-resistant major mental illness, especially severe depression. Specialized care during the preparation, treatment, and recovery period from ECT is essential to providing safe care. Ongoing coordination between the physicians, nurses, patients, and their families is essential to meeting the challenges of providing a treatment that causes some level of cognitive change in all patients. The drive toward reduced length of stay and cost is prompting insurers and caregivers to choose outpatient over inpatient ECT. For each patient, such a choice merits a careful analysis of the risks of outpatient ECT, as well as measures to ensure patient safety as outlined in this chapter. Psychiatric practice would benefit further from research and development of clinical guidelines focused on maximizing ECT safety.

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CHAPTER SEVEN

Psychiatric Problems in Patients in the General Hospital

O. JOSEPH BIENVENU AND GEETHA JAYARAM

Psychiatrically ill patients in the general hospital and medically ill patients on a psychiatric service share common difficulties with respect to being correctly diagnosed, developing side effects of medications, and/or complications of treatment. This chapter focuses on some of the most challenging aspects of some disorders and patient safety concerns encountered in a general hospital setting.

We present here case examples of these safety concerns that arise during treatment and discuss their management. Topics discussed include delirium, serotonin syndrome, metabolic syndrome, alcohol withdrawal, and falls. This is not meant to be an exhaustive list. These conditions are some of the more challenging ones to treat, however, and pose risks to patients in the medical setting.

Case Example 1: Delirium in the General Hospital: Safety and Quality Assurance

A 45-year-old married librarian was hospitalized emergently for double pneumonia, with suspected sepsis. Due to her worsening hypoxia, even with supplemental oxygen via a non-rebreather mask, she was intubated and started on mechanical ventilation in the emergency department of a large, prestigious academic hospital. She was admitted to the hospital's medical intensive care unit (ICU), and the diagnosis "acute respiratory distress syndrome" was added to her current problem list. While in the ICU, she was sedated with midazolam and fentanyl, and she also received prn doses of haloperidol for agitation and attempting to remove her endotracheal tube, lines, and catheters. Eventually she was placed in 4-point restraints, with mitts on her hands to ensure that her lines would remain intact. Her lung function improved, and she was extubated uneventfully; she was transferred to a regular medical floor for further treatment with intravenous antibiotics. Her nurses noted that she appeared anxious, so they requested an order for prn lorazepam, which was written. The nurses also noticed that the patient was confused; for example, she didn't realize she was weak and would attempt to get out of bed and walk unassisted. After she fell and appeared to hit her head (CT scan read as negative), a sitter was placed with her to prevent further falls.

When her husband came to visit her in the hospital, she begged him to tell her what had happened to her. She remembered being abducted, raped, and tested in some sort of a diabolical experimental institution. These memories were strikingly vivid, and her husband was perplexed, telling her that she had been in the hospital the whole time, being treated for a bad infection. When he spoke with his wife's physician, the latter commented that the patient must have had "ICU psychosis," which would resolve fairly quickly,

especially when she returned to the familiar environment of their home. Unfortunately, though her cognition gradually improved, she remained extremely frightened and sleepless, and she had trouble reconciling her memories with her husband's report. Eventually she decided to seek help from her primary physician, who had previously prescribed a sedating "antidepressant" for anxiety and depression with insomnia. She improved gradually.

Background and Discussion

With advances in critical care medicine, more patients are surviving critical illnesses; unfortunately, it has become clear in recent years that long-term morbidity in survivors is substantial. The term *post-intensive care syndrome* has been promoted to raise awareness of physical weakness, cognitive impairment, and distress in survivors.[1] Importantly, ~30% of critical illness survivors have clinically significant post-traumatic stress disorder (PTSD), general anxiety, and/or depressive symptoms.[2–7] Unfortunately, critical illness survivors have no regular "pathways" of care (unlike patients with cerebrovascular accidents, for example), and much of this burden of distress goes undetected.

Nevertheless, recent studies suggest hope in preventing long-term distress. One group of investigators examined the effect of "ICU diaries" on PTSD in survivors and found a substantial preventative effect.[8] Briefly, ICU diaries are written by clinicians (especially nurses) and family members while patients are critically ill. The diaries report, in plain language, what occurs on a day-to-day basis, including at home, and they often include photographs of the critically ill patient, the ICU environment, or both. Another group of investigators studied psychological outcomes of patients before and after a group of psychologists

were embedded in a trauma ICU. The psychologists used simple cognitive-behavioral therapy techniques and facilitated communication among clinicians, patients, and family members. The most striking finding was that patients who received the intervention had markedly lower need for psychotropic prescriptions at 1-year follow-up.[9]

The case presented here also raises other important questions regarding psychiatric care of medical inpatients. First, it illustrates the importance of assessing patients' cognition. If there had been a delirium screening program in the ICU when this patient was hospitalized, the positive results could have guided her treatment (with reductions in sedative medications, etc.). In addition, such information could have been passed on to ward and outpatient clinicians. We recommend assessing agitation/sedation and delirium in the ICU using the Richmond Agitation-Sedation Scale (RASS) and the Confusion Assessment Method for the ICU (CAM-ICU), both of which have been validated in this setting.[10,11] In addition, we recommend minimizing sedation as much as possible, in order to achieve an alert/cognizant state (if feasible) and facilitate in-ICU rehabilitation.[12] Finally, we recommend environmental changes to promote wakefulness during the day and sleep at night,[13] as well as frequent reorientation and family presence, if possible. Note that such recommendations can be applied to non-ICU settings, though the delirium screening measure should be appropriate to the setting.

Finally, this case demonstrates the importance of cognitive assessments when considering risk for falls. As already mentioned, critically ill patients are often weak during the recovery period, and many remain delirious for a while. As in this case, there is substantial risk that patients will overestimate their strength; sitters and bed alarms can mitigate this risk.

Case Example 2: A Psychiatric Emergency in the ICU

A 50-year-old man with a history of bipolar disorder, viral hepatitis, and suicide attempts via overdose was brought to his local emergency room by his wife because he was confused (unable to remember his wife's name), febrile, perspiring excessively, and "stiff." The day prior he had been tremulous and anxious. Upon arrival, he was febrile with increased white blood cell count, transaminases, ammonia, and creatine phosphokinase. No source of infection was identified, and a toxicology screen for common illicit drugs was negative.

The patient was admitted to the ICU, hydrated vigorously, intubated, and sedated with propofol and haloperidol. His home psychiatric medications (olanzapine, bupropion, and fluoxetine) were held. Brain imaging and cerebrospinal fluid findings were unremarkable. Given clinical worsening, with increased muscle tone, his physicians wondered whether the patient may have neuroleptic malignant syndrome. They administered a single dose of dantrolene, which appeared helpful. The patient was extubated and discharged home after several days. However, he was readmitted to the ICU a week later with a recurrence of his symptoms, and he was transferred to a tertiary medical center.

Upon transfer, he was hyperactive, tremulous, diaphoretic, febrile, and unable to communicate. He exhibited both hyperreflexia and myoclonus. Upon detailed review of his medical records, it became evident that the patient's fluoxetine dose had been doubled shortly before his initial ICU admission (the patient had had worsening depressive symptoms). In between admissions, he had resumed taking fluoxetine. Given his history and acute symptoms, the patient's acute neuropsychiatric state was reformulated as serotonin syndrome. His physicians administered cyproheptadine, and most of his symptoms resolved within 24 hours. After resolution of

his delirium and urinary retention on a general medical ward, *he was transferred to the inpatient psychiatric service for treatment of recurrent depression.*[14]

Discussion

Although severe serotonin toxicity as in this case is uncommon, it is nevertheless important to keep in mind the differential diagnosis of hyperthermic states like serotonin syndrome (SS), neuroleptic malignant syndrome (NMS), and similar conditions. Psychiatrists are often asked to weigh in regarding possible NMS or SS, so similar and distinct features of each are shown in Table 7.1.[14] Box 7.1 lists drugs associated with SS, including drugs often not considered serotonergic like the antibiotic linezolid.[14] Finally, Box 7.2 shows the Hunter serotonin toxicity criteria; note that clonus is the most specific sign of SS.

This case also illustrates the importance of thinking broadly when considering etiologies. Given the patient's high fever and white blood cell count, his physicians rightly considered infection. In addition, given his history of hepatitis C, it was appropriate to consider liver failure as a cause of delirium (his serum ammonia level was, in fact, elevated). However, neither of these etiologies would explain all of his symptoms. If the patient had had a rapid heart rate and elevated blood pressure, in addition to tremulousness, it would have been reasonable to consider alcohol or sedative withdrawal, though these symptoms are all common in serotonin toxicity as well. The patient was not known to have a history of alcohol or drug use disorder, but one should consider these diagnoses in patients with hepatitis C.

Table 7.1 Characteristics of Neuroleptic Malignant Syndrome and Serotonin Syndrome[1,2]

			Identical Features		Overlapping Features			Distinct Features		
Condition	Precipitated by	Onset	Vital Signs	Mucosa	Skin	Mental Status	Muscles	Reflexes	Pupils	Bowel Sounds
Neuroleptic malignant syndrome	Dopamine antagonist	Variable, 1–3 days	Hypertension, tachycardia, tachypnea, hyperthermia (>41°C)	Sialorrhea	Pallor, diaphoresis	Variable: stupor, coma, alert mutism	"Lead-pipe" rigidity in all muscle groups	Hyporeflexia	Normal	Normal or decreased
Serotonin syndrome	Serotonergic drug	Variable, <12 hr	Hypertension, tachycardia, tachypnea, hyperthermia (>41°C)	Sialorrhea	Diaphoresis	Variable: agitation, coma	Increased tone, especially in lower extremities	Hyperreflexia, clonus (unless masked by increased muscle tone)	Dilated	Hyperactive

Box 7.1 **Drugs Associated with Serotonin Syndrome**[1–5]

Monoamine oxidase inhibitors*: tranylcypromine, phenelzine, isocarboxazid, moclobemide, nialamide, iproniazid, clorgiline, and toloxatone (antidepressants); pargyline and selegiline (antiparkinsonian agents); procarbazine (antineoplastic); linezolid, furazolidone (antibiotics); Syrian rue (harmine and harmaline—various)

Selective serotonin reuptake inhibitors: fluoxetine, sertraline, paroxetine, fluvoxamine, citalopram, escitalopram

Serotonin-norepinephrine reuptake inhibitors: venlafaxine, duloxetine, milnacipran

Tricyclic and other antidepressants: clomipramine, imipramine, trazodone

Mood stabilizers: lithium, valproate

Opiates: meperidine, fentanyl, methadone, tramadol, dextromethorphan, dextropropoxyphene, pentazocine

Other antimicrobials: ritonavir

Antiemetics: ondansetron, granisetron, metoclopramide

Antihistamines: chorphenamine, brompheniramine

Antimigraine drugs: "triptans" (controversial)[5]

Supplements/herbal products: L-tryptophan, 5-hydroxytryptophan, *Hypericum perforatum* (St. John's wort), ginseng

Stimulants: amphetamine, 3,4-methylenedioxymetham phetamine (MDMA, "Ecstasy")

Psychedelics: lysergic acid diethylamide (LSD), 5-methoxy-diisopropyltryptamine

*Note that the listed monoamine oxidase inhibitors have various uses within and outside of medicine. Thus, we specify their usual indications here.

Box 7.2 **The Hunter Serotonin Toxicity Criteria***

In the presence of a serotonergic agent, serotonin toxicity is diagnosed:

If spontaneous clonus† is present

Or if inducible‡ or ocular** clonus AND agitation or diaphoresis are present

Or if inducible or ocular clonus AND increased muscle tone AND temperature >38°C are present

Or if tremor AND hyperreflexia are present

*Sensitivity 84% and specificity 97% when compared to the gold standard—diagnosis by a medical toxicologist.

†Alternate involuntary muscular contraction and relaxation in rapid succession.

‡For example, with rapid dorsiflexion of the ankle.

**Slow, continuous lateral eye movements.

Case Example 3: Metabolic Syndrome

A 62-year-old female with schizophrenia suffered from hypertension and diabetes. She had had numerous hospitalizations at various area hospitals due to medication non-compliance. Complicating her presentation was evidence of cognitive decline, with resultant difficulty remembering the names of her medications. She was also confused about trade names and generic names, and the color and shape of her pills, since there had been many changes. To resolve the issue the patient was (a) repeatedly educated with the use of a pill box, color charts of medications, and both generic and trade names were written on her discharge worksheet; (b) her primary care doctor was sent a detailed list as well; and (c) she was provided

case management with home visits to enhance compliance and prevent relapse. She had to stay in the hospital several weeks for illness resolution and placement, but she recovered well and was not hospitalized again for several years.

Discussion

A frequent side effect of atypical antipsychotics is the development of metabolic syndrome, characterized by weight gain, hypertension, hyperglycemia, and increased cardiovascular risk. Patients with schizophrenia are significantly more likely to suffer from the condition. The metabolic syndrome is highly prevalent in U.S. schizophrenia patients and represents an enormous source of cardiovascular risk, especially for women. Clinical attention must be given to monitoring for this syndrome and minimizing metabolic risks associated with antipsychotic treatment.[15]

Consequently, it is imperative that treatment include education about medical concerns, medication counseling, support for coordinated medication management with primary care, and case management, as necessary. Doses of medications must be limited to the least necessary dose, and polypharmacy avoided. Nutritional consults are helpful; patients can receive hands-on teaching about dietary control and choices while they are inpatients or in their homes. Weight management must be addressed regularly in an ongoing effort to assist the patient, and typical antipsychotics must be considered for tolerability and safety.

Authors have described the medical challenges psychiatrists face with many inpatients. In one study, half of the patients needed one or more referrals for a non-psychiatric problem. The most common medical condition of patients with bipolar disorder was arterial hypertension. Inpatients with schizophrenia suffered

mostly from an endocrine/metabolic disease—12% of referrals were for Hashimoto's thyroiditis. A positive linear trend was found between length of stay and number of referrals; the effect was greater for schizophrenic patients.[16]

We too, among others, have demonstrated a higher level of illness complexity in patients with medical illnesses, prolonging length of stay and increasing resource use. Patients with bipolar or psychotic disorders are more likely to have medical complications.[17–19] A major issue in the general hospital and the emergency department is the underdiagnosis and, therefore, undertreatment of alcohol withdrawal.

Either symptom-triggered or fixed-dose lorazepam or other benzodiazepine protocols must be uniformly implemented to ameliorate symptoms and offer the patient a safe withdrawal without significant morbidity or mortality.[20] The use of scales such as the Clinical Institute Withdrawal Assessment (CIWA) are helpful and well tested, and nurses can be trained in their use.[21]

Risk factors for severe withdrawal are prior severe withdrawal symptoms, older age, elevated blood alcohol level at admission, hypertension and tachycardia, concurrent use of sedatives or hypnotics, and a concomitant medical or surgical problem. Guides to treatment are readily available, and the reader is encouraged to read those published.[22]

FALLS

Falls are noted to be higher on psychiatric care units. The causes are multifactorial and are addressed in several articles:[23,24] Blair and Gruman explain risk factors for falls, mainly age and medications; de Carle and Kohn found that female gender, electroconvulsive therapy (ECT), mood stabilizers, cardiac arrhythmias, Parkinson's

syndrome, and dementias render patients risk prone for falls. Falls and ECT were associated with longer hospital stay, when adjusted for confounders, including ECT. The use of the Hopkins Falls Assessment Tool helps track and stabilize patients and should be used per shift on inpatient units for management of high-risk patients.[25] Tips for fall prevention in the home are addressed on the Mayo Clinic website.[26] A detailed training module consisting of risk factors, interventions, and training methods are available on the Agency for Healthcare Research and Quality website; these details will not be repeated here.[27]

CONCLUSION

We have reviewed some of the problems psychiatrists encounter in the general hospital, including delirium with associated frightening psychotic experiences and risk for falls, as well as the differential diagnosis of NMS and serotonin toxicity. Awareness of these issues will improve patient safety and the quality of medical care. Each care environment will have to standardize techniques appropriately suited to it. Care providers must keep in mind risks associated with the type of patient, staff characteristics, and systems-driven pitfalls that increase error, and address each to promote safety.

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CHAPTER EIGHT

Avoiding Restraints and Seclusion Use

GEETHA JAYARAM

Case Example

Mr. J, a young, well-built male patient with schizophrenia, who was noncompliant with medications, used illicit drugs, and had been repeatedly hospitalized for relapse of symptoms of paranoid delusions was admitted for a significant history of violence, paranoid delusions, homelessness, and poor response to treatment. He had a history of a previous long admission at Bellevue hospital in New York City. He had been traumatized by police when ill, in a physical altercation that resulted when they incorrectly thought he was a danger to them. Although he was polite to hospital staff, he constantly challenged security personnel and was violent toward them, ending up in seclusion repeatedly. After a careful review of his lengthy record from Bellevue, repeatedly talking with him after he was less delusional, and treatment with typical antipsychotics, followed by a meeting with the chief of security, security personnel

in plain clothes were placed on the unit. Mr. J became visibly calmer and cooperated more, and the use of seclusion ended. He was successfully discharged to outpatient treatment.

Discussion

Mr. J was a young male with a history of violence, noncompliance with and poor response to medications, and paranoia, all of which predispose a patient to a risk of landing in seclusion. He was too ill to give a clear history when first admitted. When his prior records were reviewed and he was closely interviewed, the reason for his violence against security staff—namely, his previous trauma at the hands of the police and his poor response to atypical antipsychotics—helped change his treatment. He was also educated about the dangers of substance use, which he had incorrectly thought helped his symptoms. He was able to calm down when he no longer feared being traumatized by security that he likened to policemen. The staff knew that the patient was at risk for violence soon after admission. However, the learning points here are that each patient's vulnerability is different, and care must be exercised to understand each patient's concerns and triggers. Reviewing old records may provide insight into a patient's prior experiences with medications and a life story that an ill patient cannot describe adequately.

BACKGROUND

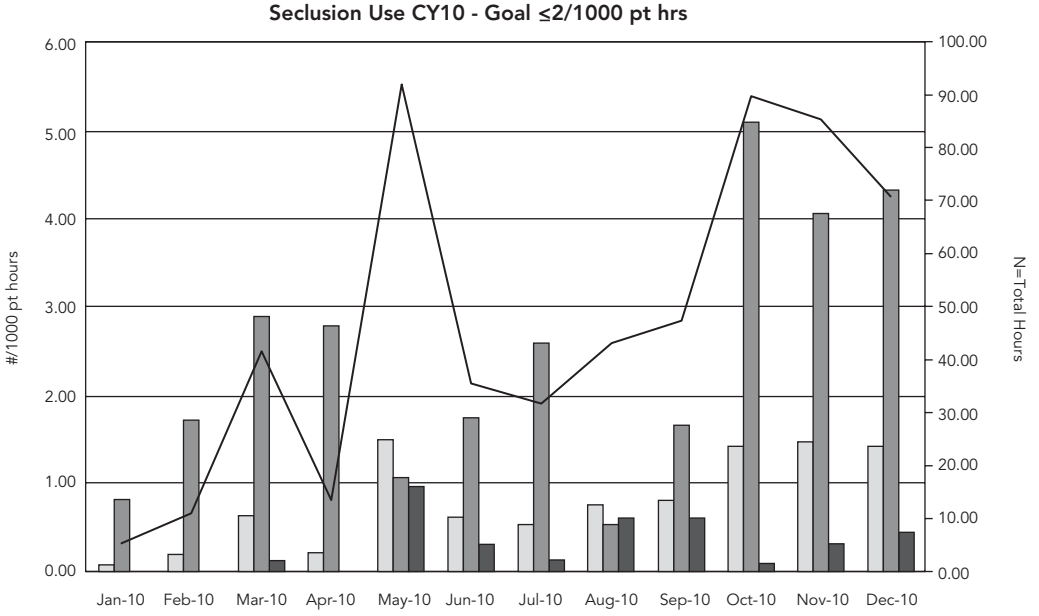
There is a national trend toward increasing violence in hospitals and on inpatient psychiatry units.[1] In 2007–2008, the Joint Commission specified training of personnel and who could order restraint and seclusion (R&S) and the requirements for reporting

R&S-related deaths, and provided interpretive guidelines for the use of R&S.[2] In 2009, the American Psychiatric Association's Committee on Patient Safety, among other groups, identified the use of R&S as an area of high priority, as did SAFE MD, a handbook for psychiatric safety, after some of its members had noted and published an account of seclusion-related deaths.[3,4]

Increasingly, therefore, hospitals committed to reducing or eliminating seclusion based on the current standards have to examine the organization of personnel and regular assessment of aggressive patients, as well as use less restrictive measures. These measures have been described by nursing teams from Johns Hopkins and others. The changes were based on a public health prevention model emphasizing a significant culture change for unit staff.[5] Strategies used included primary prevention (i.e., early identification of coping skills, creating a comforting environment), secondary prevention (i.e., using comfort carts and increased staff communication about patients who are having a difficult time), and tertiary prevention (i.e., a formal witnessing program after every R&S event). These practice changes were quite successful, leading to a 75% reduction in R&S use from 2005 to 2006 at Johns Hopkins, and they have continued to be successful, as noted in Figure 8.1.[6]

The literature on reducing patient aggression on adult inpatient units emphasizes two factors: (1) the importance of early assessment and identification of patient characteristics that may be indicative of aggression, and (2) strategies to reduce the use of seclusion on these units, using systems measures or protocols. Studies also describe a wide range of complex interventions, developed by staff, that can be grouped as follows:

1. **Staff-related factors:** organization and deployment, training, and education, such as increased staff-to-patient ratio,



	Jan-10	Feb-10	Mar-10	Apr-10	May-10	Jun-10	Jul-10	Aug-10	Sep-10	Oct-10	Nov-10	Dec-10
Overall Rate	0.08	0.20	0.64	0.22	1.50	0.61	0.53	0.76	0.81	1.42	1.48	1.42
PEDS Mean	0.82	1.72	2.89	2.78	1.08	1.75	2.59	0.54	1.66	5.09	4.06	4.32
ADULTS: Mean	0.00	0.00	0.13	0.00	0.98	0.32	0.13	0.60	0.62	0.10	0.32	0.45
N=	5.42	10.80	41.50	13.52	91.88	35.52	31.75	42.98	47.23	89.66	85.45	70.80

Figure 8.1 An example of reduction in use of seclusion over one calendar year.

communication, collaboration, and debriefing post-event to understand process flow; using verbal de-escalation techniques; staff distribution on the unit with respect to patient load, details of handoffs, improving communication with patients, and examination of successful or failed interventions; improving staff ability to detect precursors of violence, use of diversion techniques and alternative coping methods; collaborative problem-solving by increased patient participation, and improving medication management[7–11]

2. **Studying and debriefing patients through use of forms:** using a coping questionnaire to assess patient preferences for dealing with agitation, and post-seclusion or restraint forms focusing on altering preventative treatment plans to suit individual patients[12]

As solutions extracted from many models, in the interests of patient and staff safety, programmatic efforts must focus on (a) training staff in the accurate recognition of potential seclusion users in the milieu; (b) minimizing the use of seclusion by identifying and systematically promoting less restrictive interventions; and (c) debriefing staff, patients, and family members to minimize negative emotional consequences of seclusion use. Staff training from doctors to nurses must be repeated annually to include new recruits and to refresh protocols.

Facilities that care for the mentally ill vary in geographic location, staffing patterns, mission, patient characteristics, and medical staff composition. Therefore, measures to contain patient aggression or potential harm to patients vary with internal system needs. Although authors have sought to identify events and factors that predict violence or use of seclusion, no one has reported the use of a single comprehensive form to assist in R&S reduction. As an

example, I will outline one model we have used on the Phipps Acute Services at the Johns Hopkins Hospital.

From 2007, our acute care service developed and used two new forms, the Phipps Aggression Screening Tool (PAST) and an R&S multidisciplinary form, to improve documentation and data gathering for every episode of seclusion use. We also rigorously trained staff.[12] The PAST guides use of hierarchical interventions, promotes early assessment and intervention soon after admission, and can be used in outpatient settings as well. A detailed description of the instrument, its use, and outcomes determined by nurses and physicians, with both prospective and retrospective use, is given in the report by Jayaram et al.[12] and will not be repeated here. Factors that emerge from a review of several of these accounts are the following:

1. There needs to be a systematic and careful standardized assessment for the risk for violence among all acutely ill patients.
2. All staff members need to be regularly trained on the use of any instrument.
3. Although demographics are not always predictive, younger and male patients are more likely to be disruptive or violent. Substance use or withdrawal, prior acts of violence in or outside the hospital, prior seclusion use, recent incidents of aggression, major mental illness with paranoid symptoms, cognitive limitations or delirium, verbal aggression, poor participation in the ward rules or milieu, and prior experience of sexual or physical trauma all increase the risk of landing in R&S.
4. These assessments must be done daily and may be needed at each shift change.

5. Hierarchical interventions, from the least restrictive to the use of R&S (as an ultimate unavoidable measure), must be used.
6. Patients must be carefully monitored and progressed out of seclusion as soon as feasible.
7. Family members must be informed daily.
8. Other measures should be individualized, such as providing privacy or a single room, permitting visits by family when they are able to come, placing the patient's room closer to the nurses' station, and frequent checks by the milieu manager to support the patient's needs.

Our nurses have itemized interventions used successfully, in a hierarchical fashion, for vulnerable patients since admission, and these steps will not be repeated here.

Precipitants that set off violent behavior fall into three broad categories:

1. Nondirectable behavior, including conflicts with visitors, family members, or peers; issues surrounding smoking privileges or enforcement of the treatment plan;
2. Acute psychotic symptoms; and
3. Behavior problems accompanying cognitive limitations.

The application of a violence assessment tool that can be quickly and efficiently used, with good inter-rater reliability and predictive ability, will enable staff to implement preventative interventions as quickly as possible to avoid violence and thus the use of R&S.

Authors have noted, as we have, that a small number of patients are repeat offenders, needing to be placed in seclusion.[6,12] However, it is possible to work with such patients, to engage them

in discussion to institute more supportive measures that expedite recovery and discharge. In using the PAST, we found that delusions or psychotic symptoms were not the only major precipitant for aggression; other authors have also found this to be true.[13,14]

Lower level interventions by staff, when systematically applied, can help reduce use of R&S. Prevention of the use of R&S in turn reduces use of staff and unit resources, significantly decreases patient length of stay, and promotes safe recovery and discharge of patients, even those with complex illnesses.

Future work lies in the ability to assign scores to patients who are imminently aggressive, to assist nurses in immediate management. No work has been done to quantify unit acuity in order to control the type and numbers of ill patients to render units safe. Such work would aim to decrease patient and staff injury while permitting access to acute treatment services. This work should indicate a measurable degree of improvement in behavior associated with the impact of each intervention.

TAKE-HOME POINTS

There are identifiable risk factors that can alert treating staff to potential violence or patient aggression. Patients with an antisocial personality and those who have been traumatized can be identified with proper assessments, and these individuals may indeed be more aggressive.

Antecedents of violence fall into one of several categories: psychotic symptoms, cognitive impairment (mental retardation or dementia), drug or alcohol withdrawal, ward rules governing visitors, use of the telephone, food, and peer interactions. Both outpatient and inpatient units must plan in advance with leadership to

apply systematic protocols for assessing, intervening, and diffusing violence potential.

Training is required to treat patients with courtesy and support and to apply appropriate interventions in a graduated fashion. Action must be taken early, and patients must be assessed regularly.

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CHAPTER NINE

Root-Cause Analysis

GEETHA JAYARAM

Case Example

A 58-year-old single Caucasian woman, Ms. D, a practicing veterinarian, was admitted for recurrent severe depression, anhedonia, and suicidal ideation with a plan to overdose or cut herself. She had a history of heavy marijuana abuse, self-mutilation, borderline personality traits, estrangement from her family, and financial difficulties.

She talked about seeing a vision of an animal who commanded her to cut or kill herself, although she appeared to be in no obvious distress. The team decided this was a pseudo-hallucination. She refused to give up smoking marijuana and would not at first consent to ECT, but did so later.

Her depression and self-loathing continued despite treatment, and due to poor response to oral medications, she was given electroshock treatments for depression and continued suicidal ideation. She had made several scratches on her arms and showed the resident a journal she was keeping in which she had written in her blood.

She often told the nurses and physicians that she had hidden sharps among her belongings to have an easy exit and would not divulge where they were hidden. She also lied to staff and attempted to cut herself, and swallowed a soda can top after promising not to do so (in order to progress to being off observation). She had a fair relationship with her sister, who visited. One day after a day of gloomy mood, she cut herself in the thigh deeply with a small razor that she had hidden in her dental floss container. Her room had been searched earlier for sharps, without success. The gash in her thigh required suturing by a general surgeon. She had been placed on close observation, but the level of observation was changed to one-to-one observation (one observer to one patient—all eyes on patient times 24 hours).

The patient underwent a course of ECT and was successfully discharged several weeks later. Her progress involved a strict behavioral plan, and consultation with several senior psychiatrists and nurses, as well as the chief of the department.

Discussion

The patient described here was noted to be at high risk for self-harm. She had knowledge of lethality and anatomy and had a history of cutting herself. Her personality vulnerabilities complicated the picture because the treating team could not believe her statements; she was playing games, necessitating placing her on observation. Clearly, this was inadequate, as one observer sometimes observes more than one patient. So the patient was placed on a higher level of observation in order to avoid distractions.

Although unplanned room searches are the norm with such patients, it is impossible for the treating team to be sure that a room search has uncovered all hidden sharps. Patients are known

to be ingenious in hiding sharp objects; one patient had a small filed plastic piece hidden in a pocket in her gums.

It is good practice for the entire multidisciplinary team to meet and discuss management of the patient. The young attending physician in charge of the patient appropriately called in senior psychiatrists to help, and laid out a clear, strict behavioral plan, with incentives to progress off observation, enabling the patient to be discharged. Another appropriate move was not placing the patient on 15-minute checks, which would have been unsafe for a high-risk patient such as Ms. D.

Building a therapeutic relationship with a vulnerable and severely depressed patient is difficult and may take many days. However, it is possible to do so in small increments, with the gradual development of trust. Depression decreases over time with treatment, and suicidal ideation dissipates. Thus patients must be hospitalized until they return to normal mood.

BACKGROUND

Even highly trained, conscientious physicians and nurses practicing in world-class institutions commit medical errors, despite their best efforts.[1] These errors typically reflect the complexity of processes of care, in which very low error rates are multiplied to dangerous proportions by the number of steps in the system. Today's practice of medicine involves multiple steps and multiple staff members, and more invasive procedures in a complex system of care that require repeated training and supervision. Medical errors also result from normal human inattention, fatigue, distraction, and lapses in routine.[2,3] These factors played a role in the following nonpsychiatric disasters.

In the Three Mile Island nuclear disaster in Pennsylvania, in 1979, an examination of the system and processes used indicated deficient control room instrumentation and inadequate emergency response training as root causes of the accident. In addition, a series of misunderstandings and miscommunications ensued, further complicating the outcome.[4]

In 2007, a well-known actor's twin infants were given 1,000 times the correct dose of heparin twice at a prestigious hospital.[5] In an investigation of the incident, the hospital, in a prepared statement, said a pharmacy technician took the heparin from the pharmacy's supply without having a second technician verify the drug's concentration, as hospital policy requires. Then, when the heparin was delivered to a satellite pharmacy that serves the pediatrics unit, a different technician there did not verify the concentration, as required. Finally, the nurses who administered the heparin to the patients violated policy by neglecting to verify that it was the correct medication and dose beforehand, the hospital said. In short, established safety protocols were not followed.

When the Exxon Valdez oil spill occurred, in 1989, once again, crew fatigue, failure to follow company protocols and safeguards, poor leadership, and failure to check crash avoidance systems were contributory.[6] By contrast, when Captain "Sully" Sullenberger successfully landed an aircraft struck by birds 3 minutes after losing power on the Hudson River, saving all 155 occupants of the US Airways flight 1549 in 2009, the incident became known as the "Miracle on the Hudson." The entire crew of flight 1549 was later awarded the Master's Medal of the Guild of Air Pilots and Air Navigators for the most successful ditching in airline history. What went right during this unexpected crisis?

In this situation there was experienced, great leadership; adequate and repeated crew training; cohesive effort and quick

assignment of duties; and clear and continued communication and cooperation with a ground crew. Above all else, safety of the passengers was the focus. Years later, the crew all agreed, when interviewed, that they had made a successful landing, saving all passengers. This is a prime example of how adverse events on a medical service too must be prevented and handled. Airline safety, and safety in the care of patients, both inpatient and outpatient, rely on the same principles. Ethical concerns that are integral to the delivery of safe patient care are additionally very important.[7]

Adverse events on psychiatric services occur when unit acuity is high and the patient/staff ratio is poor. Often there is inadequate supervision by experienced nurses or physicians, as well as poor staff training. Such events occur with patients who are difficult to manage and have complex disorders, and when nurses are fatigued or are working double shifts.[8]

Ensuring patient safety requires attention to processes of care. How many steps are involved in the process? What does analysis of untoward events reveal about weak links in the system? How can all of the participants in the system be alerted to report errors, including those they are responsible for, especially near-misses, so that corrective action can be taken? Finally, it is important to emphasize that the elements of the system include (1) patients themselves, (2) caregivers, and (3) the administrative organization of the system, including its complexity, that is, the number of steps involved in the process of care and their interactions.

These questions are of special importance in the care of patients with serious, long-term psychiatric disorders whose care involves multiple caregivers of different disciplines, in facilities that range from residences in local neighborhoods to high-tech hospitals removed from local communities. The caregivers in these various settings typically work under different administrative

arrangements, with no central person who knows all the facts and has the administrative authority to coordinate the system. Charge of the patient's condition is shared in the case of comorbid medical conditions, because the physician and institution to which the patient is referred are most often outside the mental health system. Care provision is divided and shared.

ORGANIZATION OF THE SYSTEM

Borrowing from studies of high-reliability organizations in civilian and naval aviation, as well as from the nuclear power industry and from the fields of critical care medicine and anesthesia, the literature on medical error emphasizes the importance of complexity as a contributor to medical errors.[1] The higher the number of steps involved in care delivery, the more likely is the occurrence of errors.[7] In one study of outpatient treatment of veterans, a root-cause analysis revealed numerous lapses in transfer of care and in information and communication.[9] If each step of a multistep process has only a 1% rate of errors, the error rate of a multistep process is a multiple of those individual step rates. The result is a high rate of errors for the whole system, even if it is composed of several safe steps.

Safety climate has been widely explored in other high-reliability industries, including railways, nuclear power plants, commercial aviation, manufacturing, and other industries.[10–14]

As complex healthcare technology becomes the norm, deliver of medical care becomes a multistep process involving any number of people and an array of different machines and systems, connected by communication channels, information technology, and protocols. This situation is fertile ground for the problems that collectively lead to medical errors.

CULTURE OF SAFETY

The safety climate on a unit of service is the shared perception among frontline workers of patient safety norms and behaviors. This perception represents a snapshot of the deeper safety culture on a work unit or organization.

The case presented earlier in this chapter indicates some lapses but also flaws in a system of care that needs correction. As medical care becomes increasingly complex, it may be that physician autonomy, a cornerstone of medical practice, will need to be modified to include other care professionals who are given autonomy to intervene effectively and offer patients access to better information and more informed judgment than can reside in any one physician. Professionals who work together as a team do not provide patient care in isolation. Their activities are influenced by multiple factors, including levels of training, personal characteristics and attitudes, recognition of potential for self harm, the organizational culture,[15] physical and material resources, and how critical the patient's condition happens to be.

In the case illustrated here, developments in information technology applied to patient care would have had a markedly positive effect. For example, a checklist of items to search at admission, facts that need to be obtained prior to admission to determine level of observation, could all be online as reminders.[11]Lack of attention to clinical information, breaks in the continuity of care, and poor communication at crucial times could be prevented by information systems that could notify clinicians of lapses, provide unfailing surveillance of continuity, and notify higher authorities when calls are not answered. The system is more important than the effort of one or more individuals.

BUILDING A SAFER SYSTEM OF CARE

Two approaches may be used to design a safe system: (1) proactively, by forethought, multidisciplinary teamwork using the failure mode and effectiveness analysis (FMEA)[16] approach; or (2) reactively, by learning from mistakes through the root-cause analysis (RCA) approach (Figure 9.1).

In the proactive approach, one examines a process of care, from the referral process to the discharge of the patient, writes down all the individuals involved, the interactions among them, and the possibility for error at each step. One then identifies the specific goal to be achieved, such as "all prescriptions will be legible," or "all insulin doses will be checked by two nurses on the team." Finally, one lists the safest and practical way of achieving results by consensus. All strategies must be followed and audited for decrease in error to assess results, and feedback is provided to all staff involved. An example on a psychiatric service in suicide prevention is described by Janofsky, as assessed on one of our acute care psychiatric services.[17]

The "wedge theory" explains the fact that an error is the sharp end of a wedge, while the root cause is likely to be found in the design of the system that permitted the error to be made or did not prevent it—in other words, in the base or blunt edge of the wedge. By examining team strategies and processes that enhance cohesive teamwork, we are likely to promote significant improvements in proceeding from the sharp end of the wedge to the blunt edge of the wedge. By asking the question "Why?" repeatedly, we are also likely to find reasonable answers that are also correctable in improving systems. The likelihood of an individual committing an error is far greater in systems that are poorly organized and weak in procedures and regulations. A good staff member cannot combat a bad system. Also, a high-risk process is one that has a

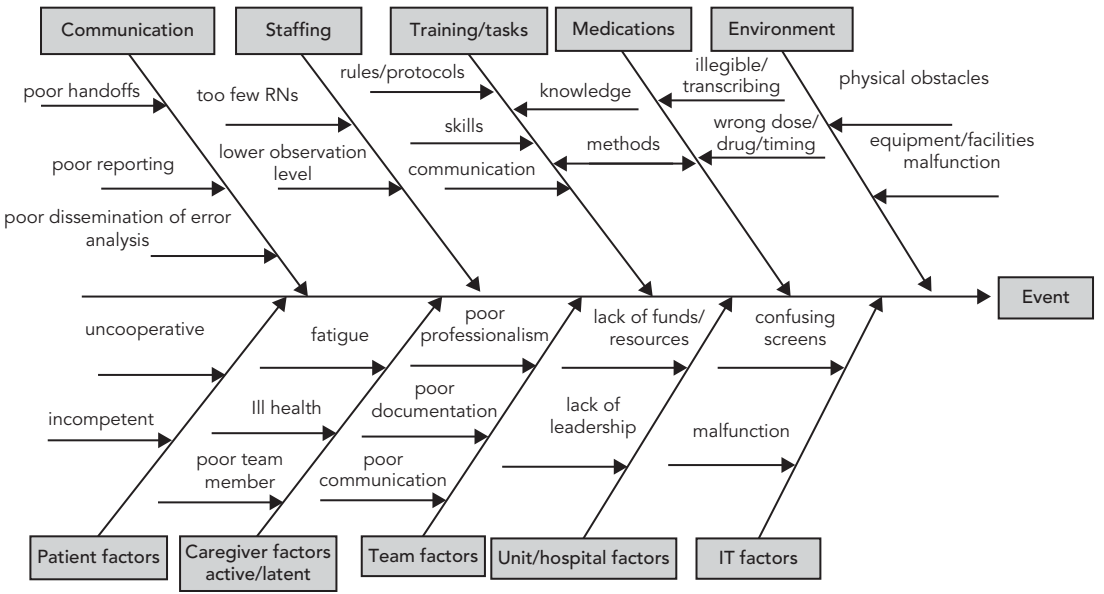

Figure 9.1 Root-cause analysis—a systems perspective.

high probability of error and a fairly high frequency of errors, and that would result in patient morbidity and mortality when an error does occur. Thus, suicidal patients, those who are likely to fall or elope, those with medical comorbidity, and those who are potentially violent must come under special scrutiny.

OTHER CONTRIBUTORY FACTORS

Through examination of a database of errors that are diligently and voluntarily entered, one can detect trends and flaws that are system-wide, for future modification. Using the patient's input and that of family members, educating them and the patient, and involving them in the biopsychosocial model will make the care patient-centered.[15–18] For example, patients can be encouraged to remind their doctors to wash their hands before a physical exam, or that their medications appear different from what they are used to taking.

Most important, a culture of safety that subjects care to constant scrutiny for areas of vulnerability is essential. The price of safety is eternal vigilance.

CONCLUSIONS AND TAKE-HOME POINTS

1. Communicate with all staff responsible for the patient's care and update frequently.
2. Work collaboratively with medical staff, avoiding "turf" battles.
3. Review prior history and complications, particularly behaviors that could significantly impact treatment and hospital course.

4. Ask for help when needed from those with more experience, or request a consultation when you are concerned about patient management.
5. Identify a main care provider who knows all facts of the case and is guiding treatment decisions.
6. Interview outside informants who know the patient well, when needed. Review old records.
7. Examine the system in which you practice periodically with multidisciplinary input to tweak the system for safety.
8. Include all care providers, including nursing assistants and security personnel, in the discussion of how to safely manage patients.[19,20]

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CHAPTER TEN

Planning for Preventing of Elopements

GEETHA JAYARAM

Case Example 1

A 22-year-old female with untreated bipolar disorder with psychotic symptoms was voluntarily admitted after she was brought to the emergency department by her sister, who was concerned that the patient had been evicted and had been wandering the streets at night. The patient had been sexually assaulted previously. She had grandiose delusions about being the CEO of an informational technology firm and thought she was due to receive $28 million dollars as her salary over the weekend and asked repeatedly to be discharged to collect the money. She constantly stood by the door, threatening to leave. Based on her prior history and her aggression toward staff members, she was certified over the weekend to keep her in the hospital for her safety. She was placed on medications and gradually improved while family was contacted.

Case Example 2

A 40-year-old voluntarily admitted man who was heavily dependent on intravenous heroin use disagreed with the treatment team over the dose of Suboxone he was receiving for withdrawal. He waited until the food trays were being wheeled onto the service and escaped through the open door. He was administratively discharged. The patient was not certifiable.

Case Example 3

A cognitively challenged patient was taken off the inpatient unit for cortical function testing, escorted by a psychology fellow in training. The fellow left the patient in a room unsupervised while she went down the corridor to obtain some test materials. When she returned, the patient was gone. She was assisted by all staff to track down the patient, who was safely returned with the help of security personnel.

Discussion

In the first case example, if the treating psychiatrist had had information at admission that the patient was a danger to herself or others, the patient could have been involuntarily admitted, enabling appropriate treatment. The patient, too, was willing to be admitted when her sister was in the emergency department but later changed her mind. This is not unusual for manic patients who feel that they have much to do and cannot be confined, or think they do not have a disorder that needs treatment. They are also much more likely to be aggressive or at risk for elopement soon after admission.

In the second case example, the patient disagreed with the treatment plan, craved drugs, and decided to leave. One possibility is that the medication dose was inadequate and should have been reviewed with the patient. Or it may be that the patient was ill-prepared to accept the patient role or was unwilling to experience withdrawal symptoms and be confined.[1,2]

In the third example, the staff on the unit should have alerted the psychology fellow that the patient had a habit of wandering off and needed supervision. Alternately, the fellow should have ascertained the observation status of the patient and asked for an escort from the unit, if needed. Or the patient could have been tested on the inpatient unit, if that was possible, or when he was treated and more amenable to testing.

BACKGROUND

Elopements are defined as

1. Departures/escapes from an inpatient unit (often locked) where a patient leaves without prior notification, and
2. Unplanned departures from other service units during the course of an evaluation, hospitalization, or treatment.

Elopements are considered a sentinel event by the Joint Commission, described as "any elopement, that is, unauthorized departure, of a patient from an around-the-clock care setting resulting in a temporally related death (suicide, accidental death, or homicide) or major permanent loss of function."[3]

The goal of this chapter is not to provide an exhaustive literature review on the topic of elopements but to summarize patient and service characteristics, as well as possible causative and

preventable factors that can lead to elopement. Recent literature reviews adequately examine the topic and may be sources of reference for the reader.[1,2]

Rates of elopement vary, depending on the character of the facility, on whether the count is a percentage of all admissions, and on whether it is from a locked unit or ward. There is substantial agreement among many authors who have written about elopement, since 1963 to 2013, that elopement from psychiatric facilities poses a risk of injury for patients, distress for staff, risk for others in the community, and risk of potential litigation against the facility involved.[4–10] The following factors have been determined as contributing to elopement:

1. The demographics of patients who are likely to elope[6,10–17]
2. Management of the environment, staffing problems, levels of privileges, and their assignment[11,12]
3. The nature of nursing staff responses, experiences, and therapeutic relationship with the eloped patient, and the meaning of the elopement, as well as prior warnings given by patients about eloping[8,13,18]

Studies of demographics and diagnostic variables indicate that the potential risk factors listed in Box 10.1 are more frequently associated with successful elopements.

Among environmental/system factors, as gleaned from both the literature and our own unit experience, those listed in Box 10.2 appear to influence elopements.[6,8,11–20]

So what must be done when an elopement occurs?

Fewer articles in the literature explain what must be examined once an elopement occurs. Some authors focus on nurses' use of treatment principles and goals and their engaging of the

Box 10.1 **Risk Factors for Elopement**

1. Patients who form poor therapeutic relationships with nurses and doctors, for various reasons
2. Younger age
3. Male gender
4. Patients with no legal involvement
5. Patients with antisocial personality disorder, other personality vulnerabilities
6. Persons with comorbid substance abuse or drug cravings
7. Impulsivity in mentally retarded, demented, or otherwise cognitively compromised or schizophrenic patients
8. Patients expressing undue concern about the safety of loved ones, such as minor children and pets, safety of their homes or belongings, need to pay rent, and living situation
9. Those who have eloped during past hospitalizations
10. Patients who are poorly directed, have high energy levels, and deny the need for hospitalization, such as manic patients
11. "Boredom" in younger patients, feeling isolated or cut off from loved ones, patients with a poor understanding of their hospitalization, feeling stigmatized by being on a psychiatric service, disliking some staff members or food, wanting to smoke

Box 10.2 **Environmental and System Factor Related to Elopement**

1. Having easy access to outside; having an open-door policy, or on-campus privileges
2. Clustering of elopement during change of shift (mostly afternoon or evening) and dinner hours, or closer to the weekend
3. Poor patient/staff ratio, high unit acuity
4. Early in the hospitalization
5. Poor communication between and among staff, with unclear orders from physicians
6. Poor accountability for patients on the part of staff
7. Patient's perception (or lack thereof) of the meaning of hospitalization and treatment needs
8. Patient's perception of wrongfulness in leaving without authorization
9. Involuntary status (more frequently associated with elopement)
10. Longer stays are more likely to be associated with elopement.

patient in understanding treatment needs. Investigators have also reviewed communication about patients at risk, understanding the risk profile of patients, and methods to implement systems changes.[19,20] Questions to be asked early in a

patient's admission include the following: Does the patient understand the need for treatment? How can we engage the patient or obtain his or her cooperation to accept and complete treatment?

Psychiatric emergency departments across the country are inundated with patients needing attention for substance abuse and/or who have relapsed major mental illness due to non-compliance, homelessness, or loss of entitlements, resulting in the abuse of emergency departments for regular care. Also, overcrowding and poor resources[21] nationwide place acutely ill patients at risk for wandering or eloping while waiting for an evaluation while more aggressive patients or those on an emergency petition and escorted by police are treated first. Thus a constant endeavor is to minimize waiting time, increase the efficiency of triage, and review stored records, which can be quickly scanned electronically to help assessment. In addition, in our own facility, the use of trained security to protect staff and patients is routinely implemented.

Elsewhere in this book we discussed the use of a systems perspective (see Chapter 9), which can also aid in preventing elopement. All incidents of elopement as described in the case examples illustrate systems problems. Those that are readily apparent include a lack of efforts to profile risk of elopement for each patient systematically; lack of communication among and between caregivers; lack of explanation for, education about, and sharing of treatment plans with the patient; and lack of a therapeutic relationship with treating personnel. Also, not addressing drug withdrawal adequately so that patients can begin to focus on sobriety, and not taking into account patients' cognitive difficulties and at-risk patients are systems problems.

HOW CAN SYSTEMS AVOID SUCH ERRORS?

1. Every psychiatric system must have elopement risk addressed at admission for all patients, just as it addresses risk for violence, falls, and sexual acting out. The aim is to maintain unit safety to prevent elopement in at-risk individuals. Any member of the treating team can identify this risk and share it with the team. Such risk must be evaluated at each shift and observation levels modified accordingly.
2. Each patient's risk profile must be identified and an alert provided in a readily visible area, such as on a wall in the room where rounds are conducted. A newly assigned nurse can then get a bird's eye view of all patients at risk for violence, sexual acting out, or elopement (letters *V, E*, or *S* can signify this when written against the patient's name). Physicians may find this board accessible as well.
3. There is no substitute for person-to-person handoffs. In the Case Example 3, the assigned nurse or resident could have alerted the staff person who escorted the patient off the inpatient unit for cortical function testing. Elopement risk may change from day to day. Handoffs are therefore critical.
4. Cognitively limited patients are at increased risk for obvious reasons. Elderly patients with dementia cannot be unsupervised for any length of time. Unfamiliar surroundings compound the risk. Delirious patients are at similar risk.
5. Given these risks, the treating team must assign observation levels commensurate with nursing needs. Close observation and time-outs in patient rooms are only some of the solutions.

6. It is essential that the treating team use interpreters or translators for patients with language difficulties.
7. The need for treatment (to overcome contributory factors) must be addressed.
8. Belongings must be searched. Patients whose shoes are put away and are placed in a hospital gown are less likely to elope. If the patient's bags are packed, this indicates the patient's desire to leave.

A checklist is useful in the event that there are patients who are at risk for elopement on a service. One such list is presented in Box 10.3.

WHAT MUST BE DONE IF AN ELOPEMENT OCCURS?

The objective is to intervene as quickly and safely as possible and return the patient to the treatment unit.

All members of the treatment team must be trained and given authority to relay information up the chain of command to alert those in charge. A licensed physician may initiate an emergency petition for the patient's return. The most senior physician should communicate with family members about the patient's absence and the steps taken to bring the patient back. HIPAA disclosures are not needed in emergencies.

An emergency petition should be initiated and the police informed if the eloped patient poses a threat to self or others. The identified victim must be contacted if the treating team has knowledge of such a victim. The duty-to-warn statute must be fulfilled if it had not been already completed. Choices include civil commitment of the patient, treatment directed toward elimination of this

Box 10.3 **Checklist for Patients at Risk of Eloping**

- Has the patient expressed a desire to leave?
- Are the doors locked?
- Is the patient restricted to the unit, or does he or she have on-campus privileges? Should these privileges be revoked?
- Does the patient have an adequate understanding of the need for hospitalization?
- Does the family have adequate knowledge of this risk and can they help with minimizing it?
- Should the patient be placed in hospital clothing and given non-skid footwear? Did the nurses remove street clothing, other belongings such as computers, and shoes to discourage elopement?
- Is the patient placed on increased observation status?
- Should doors be unlocked manually and not electronically so that the patient does not slip out with other staff?
- Has documentation of risks and interventions implemented been done?

threat, informing law enforcement agencies and, when possible, the intended victim of the nature of the threat and the identity of the patient.

Should the attending physician decide that the patient need not return because he or she was discharge ready, the patient may be discharged. As well, hospital policies may require patients who do not return within 24 hours to be discharged. The law office of the institution may need to be contacted if the patient has been committed.

All efforts must be made to provide the discharged patient with adequate follow-up and with medications. Such instructions may be mailed to the patient, or family members can be informed.

CONCLUSIONS AND TAKE-HOME POINTS

1. The risk of elopement must be identified early in the admission and all efforts made to engage the patient in treatment.
2. There are no standard clinical protocols published in the literature.
3. Systematic and regular assessments are the only preventative strategy that can be used; appropriate levels of observation must be instituted.
4. Communication among team members, with regular updates, is necessary until the danger of elopement has passed.
5. Family members can play a crucial role in mitigating the risk, and they must be involved in treatment planning.
6. Algorithms appropriate to the institution may aid in implementing protocols, but each patient is different, and several factors pertaining to the individual must be addressed.

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CHAPTER ELEVEN

Miscellaneous Problems in Patient Safety

GEETHA JAYARAM

HANDLING AN ADVERSE EVENT

Professionalism and Attitude

Regardless of the setting, the role of a care provider is to conduct oneself in a professional manner. This begins with the conduct and display of a professional attitude and communication with the patient and his or her family, as well as toward the staff caring for the patient. Junior faculty, residents, and medical students expect to be treated professionally and want to experience professional behavior on the part of senior faculty. They also expect clarity in their roles, feedback, and support about their performance. In other words, professional conduct is expected in a 360° fashion, with the same courtesy and attitude displayed toward colleagues and patients. This sets the groundwork for preventing lapses, mistakes, and gaps in service.[1]

Breaking Bad News

Although much is taught during medical training about how to avoid mistakes, how to diagnose accurately, and how to detect disease, trainees do not participate in regular training on how to break bad news, or how to admit mistakes or oversights.

Care in a hospital is complex and time consuming. Doctors may not have enough time to review records, document their actions, and keep up with the onerous paperwork trail. So meeting with patients and families to discuss treatment decisions may fall by the wayside or be insufficient to meet the patient's needs.[2]

Residents and medical students need to witness the professional handling of a patient when the treating physician has to explain a treatment plan in a judicious and compassionate manner to a mentally ill patient who may argue, be resistant to the idea of hospitalization, or is aggressive. Partnering with the patient is easier said than done on an inpatient service. In the interests of safety, the plan of care may need to be explained more than once, in a safe setting, and when the patient is best able to be engaged, perhaps when he or she is transferred to a step-down system of care.

Despite your efforts, mistakes may happen even in an efficient and well-run system. Telling the truth is important, but doing so may have negative outcomes with regard to the doctor–patient relationship. Your patient will be more open to tolerating a mistake if you have a well-established relationship earlier and if you offer a way to correct the mistake. Telling a patient's loved ones that something during treatment went wrong, sometimes without your knowledge or understanding of why it occurred, can be more difficult to do without forethought or planning. Attorneys may advise you to not talk to the patient or family without costly legal interventions. This only serves to distance and alienate you

from the patient, without allowing reconciliation, and may pave the way to lawsuits.

The Second Victim

Doctors and nurses often feel extremely remorseful and guilt-ridden and question themselves repeatedly when a mistake occurs. They can become the "second victim" of an adverse event.

The impact of being a second victim is significant, influencing other clinicians, colleagues, and subsequent patients.[3] Because of this broad impact, it is important to offer support for second victims. When an adverse event occurs, it is critical that support networks are in place to protect both the patient and involved healthcare providers.

TAKE-HOME POINTS

1. Obtain the patient's cooperation as this often avoids costly mistakes.
2. Document the multidisciplinary treatment plan and how you discussed it with the patient.
3. Document your communications with other care providers.
4. Apologize for your mistakes and offer a plan of correction.
5. In the aftermath of a suicide, support for residents and faculty is important.[4] Have an organized support system for second victims, provide confidential counseling, and offer anonymous self-reporting of mistakes.
6. Include loved ones or family members in meetings about the patient's progress or lack thereof.

7. Seek help for the management of difficult patients through consultations, or the advice of leadership, before you run into trouble.

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