Child Development

A Medical Dictionary, Bibliography,
and Annotated Research Guide to
Internet References

James N. Parker, M.D.
and Philip M. Parker, Ph.D., Editors

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The collective knowledge generated from academic and applied research summarized in various references has been critical in the creation of this book which is best viewed as a comprehensive compilation and collection of information prepared by various official agencies which produce publications on child development. Books in this series draw from various agencies and institutions associated with the United States Department of Health and Human Services, and in particular, the Office of the Secretary of Health and Human Services (OS), the Administration for Children and Families (ACF), the Administration on Aging (AOA), the Agency for Healthcare Research and Quality (AHRQ), the Agency for Toxic Substances and Disease Registry (ATSDR), the Centers for Disease Control and Prevention (CDC), the Food and Drug Administration (FDA), the Healthcare Financing Administration (HCFA), the Health Resources and Services Administration (HRSA), the Indian Health Service (IHS), the institutions of the National Institutes of Health (NIH), the Program Support Center (PSC), and the Substance Abuse and Mental Health Services Administration (SAMHSA). In addition to these sources, information gathered from the National Library of Medicine, the United States Patent Office, the European Union, and their related organizations has been invaluable in the creation of this book. Some of the work represented was financially supported by the Research and Development Committee at INSEAD. This support is gratefully acknowledged. Finally, special thanks are owed to Tiffany Freeman for her excellent editorial support.

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Table of Contents

FORWARD

In March 2001, the National Institutes of Health issued the following warning: "The number of Web sites offering health-related resources grows every day. Many sites provide valuable information, while others may have information that is unreliable or misleading."[1] Furthermore, because of the rapid increase in Internet-based information, many hours can be wasted searching, selecting, and printing. Since only the smallest fraction of information dealing with child development is indexed in search engines, such as **www.google.com** or others, a non-systematic approach to Internet research can be not only time consuming, but also incomplete. This book was created for medical professionals, students, and members of the general public who want to know as much as possible about child development, using the most advanced research tools available and spending the least amount of time doing so.

In addition to offering a structured and comprehensive bibliography, the pages that follow will tell you where and how to find reliable information covering virtually all topics related to child development, from the essentials to the most advanced areas of research. Public, academic, government, and peer-reviewed research studies are emphasized. Various abstracts are reproduced to give you some of the latest official information available to date on child development. Abundant guidance is given on how to obtain free-of-charge primary research results via the Internet. **While this book focuses on the field of medicine, when some sources provide access to non-medical information relating to child development, these are noted in the text.**

E-book and electronic versions of this book are fully interactive with each of the Internet sites mentioned (clicking on a hyperlink automatically opens your browser to the site indicated). If you are using the hard copy version of this book, you can access a cited Web site by typing the provided Web address directly into your Internet browser. You may find it useful to refer to synonyms or related terms when accessing these Internet databases. **NOTE:** At the time of publication, the Web addresses were functional. However, some links may fail due to URL address changes, which is a common occurrence on the Internet.

For readers unfamiliar with the Internet, detailed instructions are offered on how to access electronic resources. For readers unfamiliar with medical terminology, a comprehensive glossary is provided. For readers without access to Internet resources, a directory of medical libraries, that have or can locate references cited here, is given. We hope these resources will prove useful to the widest possible audience seeking information on child development.

The Editors

[1] From the NIH, National Cancer Institute (NCI): **http://www.cancer.gov/cancerinfo/ten-things-to-know**.

CHAPTER 1. STUDIES ON CHILD DEVELOPMENT

Overview

In this chapter, we will show you how to locate peer-reviewed references and studies on child development.

The Combined Health Information Database

The Combined Health Information Database summarizes studies across numerous federal agencies. To limit your investigation to research studies and child development, you will need to use the advanced search options. First, go to **http://chid.nih.gov/index.html**. From there, select the "Detailed Search" option (or go directly to that page with the following hyperlink: **http://chid.nih.gov/detail/detail.html**). The trick in extracting studies is found in the drop boxes at the bottom of the search page where "You may refine your search by." Select the dates and language you prefer, and the format option "Journal Article." At the top of the search form, select the number of records you would like to see (we recommend 100) and check the box to display "whole records." We recommend that you type "child development" (or synonyms) into the "For these words:" box. Consider using the option "anywhere in record" to make your search as broad as possible. If you want to limit the search to only a particular field, such as the title of the journal, then select this option in the "Search in these fields" drop box. The following is what you can expect from this type of search:

- **Screening for Hearing Loss in Infants**

  Source: Volta Review. 9(5): 43-61. November 1999.

  Contact: Available from Alexander Graham Bell Association for the Deaf and Hard of Hearing. Subscription Department, 3417 Volta Place, NW, Washington, DC 20007-2778. Voice/TTY (202) 337-5220. Website: www.agbell.org. Also available as individual copies from Publication Sales Department, 3417 Volta Place, NW, Washington, DC 20007-2778. Voice/TTY (202) 337-5220. Website: www.agbell.org. PRICE: $22.95 plus shipping and handling.

  Summary: Hearing loss is one of the most common major abnormalities present at birth and, if undetected, will negatively impact cognitive development, communication

competency, literacy, academic achievement, and optimal **child development.** Therefore, screening for hearing loss has become an important aspect of neonatal care. This chapter on screening for hearing loss is from a monograph that was written by assembling the leading experts from all over the country to present to both the consumer and the professional the latest information on the diagnosis and management of hearing loss in children and adults. In this chapter, the author discusses the six criteria that must be met to justify universal screening. The six criteria are: significant consequences must result when the disorder is not detected; the disorder must be otherwise undetectable by clinical signs or risk factors; early detection programs for hearing impairment must be available and accessible; and an easy to use, inexpensive test must be available that is highly sensitive and minimizes referral for additional assessment; birth admission screening, detection, and intervention must result in an improved outcome; and the screening program must be documented to be acceptably cost effective and long term outcomes must be cost beneficial. The author concludes that universal detection of infant hearing loss is justifiable and requires universal screening of all infants. The goal for all children with hearing loss must be early detection followed immediately by appropriate intervention. 1 figure. 3 tables. 27 references.

- **Counterpoint: Value of UNHS Is Priceless**

  Source: Hearing Journal. 53(11): 61-62, 64-66. November 2000.

  Contact: Available from Lippincott Williams and Wilkins. Customer Service, P.O. Box 1175, Lowell, MA 01853.

  Summary: In this article, the authors provide support for the belief that screening all newborns for hearing loss is an effective approach to achieving universal early diagnosis of hearing loss. The authors describe their rationale for their support, and discuss the use of epidemiology, the use of universal neonatal hearing screening (UNHS) as a tool, the importance of early intervention for language enhancement, the failure of alternative approaches (usually non-universal), the societal benefits of UNHS, and cost considerations. The authors conclude that the decision by society as to whether or not to provide UNHS cannot be determined by financial calculations alone. The value of improved **child development** and adjustment, enhanced family interaction and communication, and greater educational and career opportunities is priceless. This article is paired with another article that presents the opposite opinion, in a point counterpoint style. 21 references.

- **Mixed Deaf-Hearing Families: Maximizing Benefits and Minimizing Risks**

  Source: Journal of Deaf Studies and Deaf Education. 4(2): 156-161. Spring 1999.

  Contact: Available from Oxford University Press, Journals Customer Service, 2001 Evans Road, Cary, NC 27513. (800) 852-7323 or (919) 677-0977. Fax (919) 677-1714. E-mail: jnlorders@oup-usa.org.

  Summary: This article examines certain dynamics that may occur in families where the parent(s) and one of more children differ in hearing status (i.e., mixed deaf hearing families). The authors note that hearing status differences between parents and children can be a cherished aspect of a family's diversity or a stage upon which family conflicts are acted out. The authors contend that the popular press has presented a distorted, dysfunctional picture of such families. The authors explore dynamics that lead to healthy versus unhealthy management of these hearing differences, especially as they relate to parental confidence, problem attribution, stages of **child development,** and information management. The authors conclude that the quality of the family's overall

functioning largely depends on their general mental health. The parents' own sense of competence is a key element in that regard. When a sense of competence is lacking, there is increased risk that psychopathology will be played out through deaf hearing conflicts. 16 references. (AA-M).

- **Relationship of Language and Symbolic Play in Children with Hearing Loss**

  Source: Volta Review. 100(3): 135-164. Summer 1998.

  Contact: Available from Alexander Graham Bell Association for the Deaf and Hard of Hearing. Subscription Department, 3417 Volta Place, NW, Washington, DC 20007-2778. Voice/TTY (202) 337-5220. Website: www.agbell.org.

  Summary: This article reports on a study of 170 children who are deaf or hard of hearing and between the ages of 8 months and 36 months. In this study, the internal reliability and concurrent validity of the Play Assessment Questionnaire (PAQ) was demonstrated when compared with the Minnesota **Child Development** Inventory. Developmental sensitivity was found for both age scores and total raw scores. In addition, the strong relationship between the PAQ and the MacArthur Communicative Development Inventory was demonstrated for symbolic gestures, phrases understood, words understood, and words produced. The authors conclude that the PAQ is a useful nonverbal tool that assesses symbolic play behaviors demonstrating a parallel development with specific language skill development of children who are deaf or hard of hearing. The development of symbolic play was found to be highly related to various aspects of early language development in infants and toddlers who are deaf or hard of hearing. Relationships hold across all sorts of cognitive and hearing level groupings. One appendix reprints the PAQ instrument. 6 tables. 71 references.

- **Otorrhea in Young Children After Tympanostomy-Tube Placement for Persistent Middle-Ear Effusion: Prevalence, Incidence, and Duration**

  Source: Pediatrics. 107(6): 1251-1258. June 2001.

  Contact: Available from American Academy of Pediatrics. 141 Northwest Point Boulevard, Elk Grove Village, IL 60007-1098. (888) 227-1773. Website: www.pediatrics.org.

  Summary: This article reports on a study undertaken to characterize the occurrence of tube otorrhea (fluid draining from the ear tube) after tympanostomy tube placement (TTP, ventilation tubes) for persistent middle ear effusion (MEE) in a group of otherwise healthy infants and young children. In a long term, prospective study of **child development** in relation to early life otitis media (middle ear infection), the authors enrolled by 2 months of age healthy infants who presented for primary care. The status of the children's middle ears was closely monitored. Children who developed persistent MEE of specified durations within the first 3 years of life became eligible for random assignment to undergo TTP either promptly or after an extended period if MEE persisted. This article reports on 173 randomly assigned children who underwent bilateral (both sides) TTP between ages 6 and 36 months and who were followed for at least 6 months afterward. Episodes of tube otorrhea were treated with oral antimicrobial drugs and, if persistent, with ototopical (applied in the ear) medication. The tenure of the 230 tubes that were extruded during the observation period ranged from 19 days to 38.5 months (mean of 13.8 months). During the first 18 months after TTP, the proportion of children who had tubes in place and who developed 1 or more episodes of otorrhea increased progressively, reading 74.8 percent after 12 months and 83.0 percent after 18 months. Overall, otorrhea occurred earliest and was most prevalent among urban

children (who had the lowest socioeconomic status, as estimated by maternal education and type of health insurance) and occurred latest and was least prevalent among suburban children. The duration of otorrhea was longer than 30 days in 13.2 percent of the episodes. Six of the 173 children (3.5 percent) developed on one or more occasions tube otorrhea that failed to improve satisfactorily with conventional outpatient management. The authors conclude that tube otorrhea is a common and often recurrent or stubborn problem in young children who have undergone tube placement for persistent MEE. 2 figures. 1 table. 84 references.

- **Beyond the Child: Hearing Impairment and the Family**

  Source: Volta Voices. 2(5): 14-22. September-October 1995.

  Contact: Available from Alexander Graham Bell Association for the Deaf. 3417 Volta Place, N.W., Washington, D.C. 20007. Voice/TTY (202) 337-5220; Fax (202) 337-8314.

  Summary: This article stresses the role of hearing, speech, and language professionals in helping parents to cope with parenting children who are hearing impaired. Topics covered include the need to address the family environment in any program of intervention; the emotions that may affect parents of deaf children; the role of motivation in learning; using natural situations to encourage language growth and auditory function; **child development;** the importance of parental support groups; the role of the professional as liaison between parent and adults who are hearing impaired; the multicultural aspects of having a child with a disability; early identification and intervention; the parents' role in teaching and education of hearing impaired children; the need for professionals to become empathic, active listeners; family dynamics, particularly regarding siblings; developing a team relationship with parents; and how the clinician's role, like the parents', changes over time. One sidebar summarizes guidelines for working with families of children who have hearing impairments. 16 references.

- **Use of Piaget's Theory in Alzheimer's Disease**

  Source: American Journal of Alzheimer's Care and Related Disorders and Research. 8(4): 16-21. July/August 1993.

  Summary: This journal article explores the possibility of using Piaget's **child development** model to understand the 'childlike' behaviors of adults with Alzheimer's disease. While treating older adults like children is antithetical to the goals of care for persons with Alzheimer's, the author suggests that the use of Piaget's model may help caregivers to better understand the behavior of Alzheimer's patients and thereby improve caregiving techniques. The Piagetian stages of **child development** are summarized, and studies are cited showing that patients with Alzheimer's often show test results equivalent to children in the sensorimotor or pre-operational stages of development (between birth and age 7). Researchers have speculated that cognitive loss due to Alzheimer's disease occurs in the reverse order to Piaget's stages of acquisition. Specific Piagetian concepts discussed in the context of Alzheimer's disease include mental representation and object permanence, egocentricity, and logic of means to an end. Implications for caregiving include the importance of using an individualized approach based on the patient's mental capacity and maintaining a harmonious balance between the physical and social environment and the patient's cognitive ability. The author briefly discusses the effect of using this model on caregivers' relationships with patients, and some of the problems with using the model to describe older adults with Alzheimer's. 32 references.

- **Young Children in Families with a Parent with Hearing Loss**

  Source: Hearing Loss. 20(4): 16-18. July-August 1999.

  Contact: Available from Self Help for Hard of Hearing People, Inc. (SHHH). 7910 Woodmont Avenue, Suite 1200, Bethesda, MD 20814. Voice (301) 657-2248. TTY (301) 657-2249. Fax (301) 913-9413. E-mail: national@shhh.org. Website: www.shhh.org.

  Summary: This newsletter article offers observations on what it is like for adults with hearing loss to parent children with normal hearing. The authors are educators; one is a mother with hearing loss. The authors discuss bias and assumptions (particularly among classroom teachers), the role of playgroups as support networks for parents, communication issues between children and parents with hearing loss, and the importance of differentiating factors that are part of natural family identity and normal **child development** from those related to the issue of a hearing loss in parents. One sidebar lists the communication issues that were brought up during the playgroup sessions; these issues may be useful as a basis for discussion at group meetings.

Federally Funded Research on Child Development

The U.S. Government supports a variety of research studies relating to child development. These studies are tracked by the Office of Extramural Research at the National Institutes of Health.[2] CRISP (Computerized Retrieval of Information on Scientific Projects) is a searchable database of federally funded biomedical research projects conducted at universities, hospitals, and other institutions.

Search the CRISP Web site at **http://crisp.cit.nih.gov/crisp/crisp_query.generate_screen**. You will have the option to perform targeted searches by various criteria, including geography, date, and topics related to child development.

For most of the studies, the agencies reporting into CRISP provide summaries or abstracts. As opposed to clinical trial research using patients, many federally funded studies use animals or simulated models to explore child development. The following is typical of the type of information found when searching the CRISP database for child development:

- **Project Title: ADVANCED TRAINING INSTITUTE: NICHD-SECCYD**

  Principal Investigator & Institution: Bullock, Merry; American Psychological Association 750 1St St Ne Washington, Dc 20002

  Timing: Fiscal Year 2003; Project Start 01-MAR-2003; Project End 29-FEB-2008

  Summary: (provided by applicant): The broad objective of this project is to increase knowledge about and skills in accessing and using large scale databases as a normal part of the research process. The immediate goal of this application is to request funding for five annual training workshops to train researchers to access, analyze and use the data sets of the NICHD Study of Early Child Care and Youth Development (SECCYD), a longitudinal, comprehensive study of the development of children in the context of their family and in out of home environments. During the course of the 5-day Institute, expert instructors (study investigators and statistical analysts) will familiarize carefully

[2] Healthcare projects are funded by the National Institutes of Health (NIH), Substance Abuse and Mental Health Services (SAMHSA), Health Resources and Services Administration (HRSA), Food and Drug Administration (FDA), Centers for Disease Control and Prevention (CDCP), Agency for Healthcare Research and Quality (AHRQ), and Office of Assistant Secretary of Health (OASH).

selected participants with the NICHD study data. Topics covered will include the conceptual framework of the study, its methodological design, the documentation of research instruments, the documentation of the psychometric properties of a large subset of variables included in the analytical data sets and with the raw data sets. Participants will be able to consult with instructors about the most appropriate variables for their analyses, and about cutting-edge analytical methods. The workshops will include classroom lecture sessions, discussion sessions, and computer lab "hands on" sessions in which participants will access and use the data sets. The goal of the workshop is for participants to be able to independently use and train others to use the NICHD databases for original scholarship and publication. The Advanced Training Institute (ATI) will train about 20 researchers each year. Over the five years of the project, a cadre of about 100 researchers will develop expertise about the NICHD SECCYD databases and other databases. This knowledge will increase the return on investment in the creation of such large scale data bases in many ways: it will augment knowledge in the area of **child development** by encouraging multidisciplinary approaches, it will encourage large and detailed sample knowledge, it will encourage secondary analyses in ways that would not have been possible otherwise, and it will extend the utility of the data to a broad set of researchers beyond the original study investigators.

Website: http://crisp.cit.nih.gov/crisp/Crisp_Query.Generate_Screen

- **Project Title: ALCOHOL USE DURING PREGNANCY--A LONGITUDINAL STUDY**

  Principal Investigator & Institution: Day, Nancy L.; Professor of Psychiatry & Epidemiology; Psychiatry; University of Pittsburgh at Pittsburgh 350 Thackeray Hall Pittsburgh, Pa 15260

  Timing: Fiscal Year 2001; Project Start 01-MAY-1985; Project End 28-FEB-2003

  Summary: The Maternal Health Practices and **Child Development** Project (MHPCD) is a prospective study of the pregnancy outcome of 650 women who were interviewed in their fourth and seventh prenatal months, and with their offspring, at delivery, 8 and 19 months, 3,6, and 10 years. The women represent the spectrum of prenatal alcohol use allowing us to look a the effects of light moderate, and heavier levels of exposure. We have identified significant effects of prenatal alcohol exposure on the development of the central nervous system (CNS) including changes in sleep-EEG, behavior, mood, cognitive, and neuropsychological functioning. Exposed children are smaller through the age of 10 and have a later onset of puberty. At ages 6 and 10, alcohol exposure during gestation predicted poorer academic performance and delinquency, and at age 10, association with substance-using peers. At 14 years, we will monitor the already observed effects of prenatal alcohol exposure on neuropsychological functioning and affect and identify effects that become evident with maturation. In addition , we will assess the effects of prenatal exposure to alcohol on the development and progression of academic problems, delinquency , and substance us and abuse. We will monitor the already observed effects of prenatal alcohol exposure on neuropsychological function and affect and identify latent effects that become evident with maturation. In addition, we will assess the effects of prenatal exposure to alcohol on the development and progression of academic problems, delinquency, and substance use and abuse. We will assess the longitudinal effects of antecedent differences in mental and physical development, temperament, psychological status, activity levels, academic performance, behavior problems, he environment, and prenatal alcohol exposure on the adolescents' alcohol and other drug use.

  Website: http://crisp.cit.nih.gov/crisp/Crisp_Query.Generate_Screen

- **Project Title: AN EXPERIMENT IN POVERTY REDUCTION AND CHILD DEVELOPMENT**

  Principal Investigator & Institution: Gertler, Paul J.; Professor; Health Policy and Management; University of California Berkeley Berkeley, Ca 94720

  Timing: Fiscal Year 2001; Project Start 26-SEP-2001; Project End 31-AUG-2005

  Summary: (provided by applicant): We propose to evaluate the impact of a unique anti-poverty program in Mexico on the health and cognitive development of young children. The program, PROGRESA, combines a traditional cash transfer program with financial incentives for families to invest in the human capital (health, education and nutrition) of their children, and thereby break the intergenerational transmission of poverty. To receive the cash transfers, pregnant women must obtain prenatal care and nutrition supplements, children age 0-5 must obtain well-baby care and participate in growth monitoring and nutrition supplement programs, and families must participate in health nutrition and hygiene education programs. Our analysis will take advantage of a randomized controlled design. In 1998, 506 villages were randomly assigned to control and treatment groups. Eligible households in treatment villages received benefits immediately, while benefits for eligible households in control villages were postponed until after the year 2000. A pre-intervention baseline survey of approximately 19,000 households with over 95,000 individuals and four follow-up surveys (at six month intervals) of the same households were conducted over the two-year experimental period. We propose to conduct a follow-up survey of the same households in 2003. This follow-up survey will be three years after the experiment ended and it will include biomedical measures of child health status and of cognitive development. We will use this unparalleled experiment to examine the following specific questions for children who were age 0-3 at baseline and born during the experimental period: 1. Did PROGRESA improve child health, nutrition and cognitive development? 2. Are the observed differentials sustained 3 years after the enrollment of all children into PROGRESA 3. Could the same results have been achieved through just cash transfers with the requirements for care and monitoring, but without the nutrition supplements?

  Website: http://crisp.cit.nih.gov/crisp/Crisp_Query.Generate_Screen

- **Project Title: CHILD DEVELOPMENT**

  Principal Investigator & Institution: Collins, W A.; Professor; Institute of Child Development; University of Minnesota Twin Cities 200 Oak Street Se Minneapolis, Mn 554552070

  Timing: Fiscal Year 2001; Project Start 01-JUL-1979; Project End 30-JUN-2002

  Summary: The purpose of the proposed program is to train predoctoral and postdoctoral students in **child development** research. Students will concentrate their efforts on various topics, each dealing with behavioral adaptation in childhood and related developmental processes. Research in **child development** is essential to a better understanding of child mental health and those disorders of adulthood having developmental antecedents. Current societal conditions have an increasingly negative impact on children's development, thus creating an urgent need for research information dealing with both normative and pathologic aspects of behavioral development. The proposed program is an outgrowth of training efforts in the Institute of **Child Development** supported by NIMH for more than 30 years and includes a variety of didactic components as well as a research apprenticeship at the predoctoral level. Postdoctoral training encompasses a series of coordinated program activities as well as bench work in social and emotional processes, language development, cognitive

development and neuroscience, psychobiological processes, and perceptual development. Predoctoral trainees (8) entering the program will have completed baccalaureate studies in psychology or a related area and occasionally will have had graduate work. Trainees are recruited from a substantial applicant pool and represent the most outstanding students in a competitive program. Postdoctoral trainees (2) will enter the program having had training in specialties other than **child development** or developmental psychology. The main training facility is the Institute of **Child Development,** a regular academic department of the University of Minnesota. The faculty consists of 16 professors in this department, whose work ranges across the entire discipline. Physical facilities are mostly housed in the Institute building on the main campus of the University which includes about 50.000 sq. ft. of space. Ongoing collaborative research is also conducted in laboratories in the Departments of Pediatrics, Psychiatry, Educational Psychology, and Kinesiology.

Website: http://crisp.cit.nih.gov/crisp/Crisp_Query.Generate_Screen

- **Project Title: CHILD DEVELOPMENT IN RELATION TO EARLY OTITIS MEDIA**

  Principal Investigator & Institution: Paradise, Jack L.; Children's Hosp Pittsburgh/Upmc Hlth Sys of Upmc Health Systems Pittsburgh, Pa 15213

  Timing: Fiscal Year 2001; Project Start 01-JUN-1991; Project End 31-JAN-2002

  Summary: (Adapted from the Investigator's Abstract): This application is for continuing support of a study, initiated in June 1991, whose main objectives are to determine whether persistent otitis media with effusion (OME) during the first 3 years of life results in lasting impairments of speech, language, cognitive, or psychosocial development, and if so, whether prompt tympanostomy-tube placement (TTP) prevents or lessens the impairments. Secondary objectives are to determine whether increasing the duration of OME required before undertaking TTP results in fewer operations or in altered long-term otologic or audiologic outcomes, and to chart the occurrence and course of otitis media (OM) and associated hearing loss in young children, distorted as little as possible by surgical interventions. Previous studies of OM in relation to later developmental impairment have been inconclusive and contradictory, and unsuited, because of their associational design, to address the issue of causality. A total of 6400 well infants aged 8 wk duration audiometry is scheduled monthly. Up to age 3 yr, children who reach specified criteria regarding persistent OME are, subject to consent, randomized to receive TTP either promptly ("early-TTP") or after a defined extended period if OME remains present ("late-TTP"). Thus a high-OME population is divided into 2 groups who can be assumed to have equivalent developmental potential: an early-TTP group most of whom become relatively OM-free, and a late-TTP group most of whom continue to have OM for varying periods. If the late group subsequently has less favorable developmental outcomes, persisting OM will presumably have been causal. Development is assessed subjectively in all subjects at ages 1 and 2 yr via parent questionnaires. Formal tests of speech, language, cognition, and psychosocial development are administered at ages 3, 4, and 6 yr to all subjects who had met randomization criteria and to a sample of others representing a spectrum of OME experience. Analyses of test results in these groups will enable determinations of whether associations, either short- or long-term, exist between persistent early OME and later developmental impairments; if so, whether the associations are causal; and whether prompt TTP is effective in preventing or lessening such impairments. As of Oct 5, 1995, 6030 children had been enrolled, 376 had met randomization criteria, and 292 had been randomly assigned to early- or late-TTP groups. Analyses to date have provided new information about the epidemiology of OM, about the diagnostic

predictive value of tympanometry, and about correlations between cumulative OME duration and language and behavior at ages 1 and 2 yr. If continued, this study will provide new knowledge that will make possible more rational, evidence-based management of OM in infants and young children, and thereby benefit children and substantially influence child health care practices and costs.

Website: http://crisp.cit.nih.gov/crisp/Crisp_Query.Generate_Screen

- **Project Title: CORE--CLINICAL RESEARCH IN CHILD DEVELOPMENT**

  Principal Investigator & Institution: Ruff, Holly A.; Professor; Yeshiva University 500 W 185Th St New York, Ny 10033

  Timing: Fiscal Year 2002

  Summary: This is a new core service added in July 1998, evolving from the LIFE (Longitudinal Infant Follow-up and Evaluation) Program. The Core serves multiple projects dealing with clinical and normal subjects. Studies include normal development of sensory, perceptual, linguistic, and cognitive functions in infancy and childhood, and treatment of disordered development. Four goals of the research projects utilizing the Core are identified: to investigate normal development of basic processes; to study clinical populations; to develop new methods of assessment; and to develop and evaluate effective interventions. The Core itself has five stated functions: recruit and track samples of children and families for clinical cross-sectional and longitudinal research; maintain the core database of demographic information useful for generating reports to investigators and summary statistics; scheduling and reminder calls to participants; maintain two waiting rooms with supervision of siblings as needed; and managing common research resources (two testing rooms, equipment, assessment instruments). It will be directed by Dr. Holly Ruff and coordinated by Ms. Diana Cintron, in addition to work/study students.

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- **Project Title: DATA ACQUISITION & ANALYSIS CTR FOR BEHAVIORAL RESEARCH**

  Principal Investigator & Institution: Hartwell, Tyler D.; Senior Statistician; Research Triangle Institute Box 12194, 3040 Cornwallis Rd Research Triangle Park, Nc 27709

  Timing: Fiscal Year 2001; Project Start 15-AUG-1995; Project End 31-DEC-2004

  Summary: This competing continuation is submitted by the Research Triangle Institute (RTI) and the Frank Porter Graham **Child Development** Center at the University of North Carolina (FPG) to serve as the Data Acquisition and Analysis Center (DAAC) for the NICHD Phase III study of Early Child Care (SECC). Phases I and II (1990- 2000) of the study recruited and followed a cohort of infants through the second grade. Phase III (2000-2004) involves follow- up studies on the cohort of over 1,000 children through the sixth grade. The purpose of this collaborative study is to examine the relationships between **child development** and child care during infancy and childhood. A strong team of researchers led by Drs. T.D. Hartwell and Margaret Burchinal, the proposed PI and Co-PI, will provide senior statistical leadership and state-of-the-art data collection and data management to the study. An experienced staff of statisticians, data coordinators, developmental psychologists, statistical and database programmers, and support staff will support the study at the DAAC. The majority of this staff have been involved with the study for several years. As the DAAC for the study, RTI/FPG will work closely with the various SECC study groups and will assist in materials development (e.g., data forms, and manuals of operation), training and certification of

research site staff, designing and implementing quality control procedures for data collection, developing and implementing data collection systems (e.g., remote data entry, web data entry, computer assisted interviewing), tracking and reporting on the progress of data collection, managing all study data, and conducting site visits to all research sites. The DAAC will work with the study investigators to analyze the accumulating study data and will assist in the preparation of manuscripts for publication and presentation. In addition, we will provide logistical support for the study in arranging meetings and telephone conferences, provide minutes of these meetings and calls, distribute study materials, and provide other related support functions as requested by the NICHD project scientist. We also propose to set up a project web site to assist with study communications and error resolution. Finally, we will document and provide SECC data to outside investigators as directed by NICHD and the study Steering Committee.

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- **Project Title: DATA COLLECTION AND EVALUATION FOR OLDER NLSY CHILDREN**

  Principal Investigator & Institution: Mott, Frank L.; Senior Research Scientist; Center for Human Resource Research; Ohio State University 1800 Cannon Dr, Rm 1210 Columbus, Oh 43210

  Timing: Fiscal Year 2001; Project Start 05-JAN-1999; Project End 31-DEC-2003

  Summary: The primary objective of this project is to extend the NLSY young adult data collection in the years 2000 and 2002 to include children of the NLSY79 female respondents who have attained age 21 by those dates. A secondary objective is to evaluate alternate data collection modes for older youth who are both living in their parents home as well as residentially independent in the year 2000. The children of the female respondents in the NLSY have, with the support of the NICHD, biennially received a variety of age-appropriate cognitive and socioemotional assessments over the 1986 to 1996 (1998 forthcoming) period. The linking of these child test data with the wide range of maternal, family and child attributes, attitudes and behaviors which are available for the full life span of the NLSY, which was initiated in 1979, has permitted a large number of researchers in the areas of economics, sociology, **child development** and related disciplines to carry out a wide range of program and policy background and the socioemotional and intellectual development of children between infancy and middle adolescence. This has included research in topical areas such as the effect on female employment, childcare or family poverty status or access to welfare in the development of American Children. However, for a substantial portion of the research community, the more critical issue of interests, what is the subsequent connection between how well a youth has done on these assessments and subsequent adult success? From an event history perspective, what aspects of family background translate into preferable emotional and intellectual development; and how does family background both independently, and by way of enhancing a child's development, link with greater early adult "success" in the educational, family, and in particular, employment sphere? Since 1994, the NICHD has expanded their involvement in the NLSY data collection by supporting regular NLSY style interviews with the children who have attained age 15. This 1994 and 1996 data collection has and will continue to support research of the type described above for youth in later adolescence. However, funding limitations will not permit continued interviewing of youth age 21 and over. This will significant data collection censoring will severely limit research which could appropriately examine the importance of child and adolescent intellectual and

socioemotional development on the success of the school to work transition. This proposal requests funds to interview many of these young adults as they pass through the critical analytical value in their own light. Additionally, we will carefully evaluate our results, including a careful exploration of "mode effects" in the year 2000 data collection and use the insights we gain to then develop what we view as an optimal questionnaire and optimal data collection procedures. This process will inform our subsequent efforts to seek additional funding from all appropriate sources to continue, in a cost- effective manner, what we view to be a high priority data collection effort.

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- **Project Title: DETERMINANTS OF BEHAVIORAL DEVELOPMENT IN CHILDREN**

  Principal Investigator & Institution: De Fries, John C.; Professor and Director; Inst of Behavioral Genetics; University of Colorado at Boulder Boulder, Co 80309

  Timing: Fiscal Year 2001; Project Start 01-APR-1977; Project End 31-MAY-2003

  Summary: (From applicant's abstract) The primary object of the Colorado Adoption Project is to assess genetic and environmental influences on individual differences in behavioral development among children. The study includes biological parents who relinquished their children for adoption at birth, adoptive parents, matched "control" (nonadoptive) parents, and the children (probands and siblings) in these families. Adults were administered a three-hour battery of behavioral tests that included measures of cognitive abilities and personality, information pertaining to family background, common medial and behavioral problems, interests and talents, and frequently used drugs. For the children, the assessments employ standard tests of cognitive and language development, personality/temperament, motor development, and health. Environmental assessments in the adoptive and control homes are emphasized. The adopted and control probands and their younger siblings are studied in their homes at 1, 2, 3, and 4; in the laboratory at 7, 12, and 16 (at 16 they are administered the same test battery completed by their parents over a decade-and-a-half earlier); and by telephone interviews at 9, 10, 11, 13, 14 and 15. The proposed study will complete the assessment of adopted and nonadopted probands, as well as most of their siblings, through late adolescence (i.e., through age 16). In addition, the project will include a sample of nearly 340 twin pairs who have been previously tested through age 12, using many of the same measure as the CAP sample. By incorporating the power of the twin design into the parent-offspring and sibling analyses of the CAP, both statistical power and the range of testable hypotheses regarding genetic and environmental influences are increased, resulting in a landmark adoption, sibling, and twin study of **child development.** By YEAR 26, the numbers of adopted and non-adopted children who will have been tested at 13,14,15 and 16 years of age, respectively, are 614, 612, 538, and 663. In addition, 349, 266, 174, and 212 twin pairs will be tested at 13,14,15 and 16 years of age, respectively. The proposed continuation of HD-10333 provides an important opportunity to reap the harvest from the 21 years of previous support for this landmark study, advancing basic research in **child development,** with important implications for education, mental health, and child rearing practices. A genetically informative study of behavioral development of this magnitude and quality has never before been undertaken, and it is unlikely that such and opportunity will occur again.

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- **Project Title: DEVELOPING CIRCADIAN RHYTHMICITY**

  Principal Investigator & Institution: Rivkees, Scott A.; Associate Professor; Pediatrics; Yale University 47 College Street, Suite 203 New Haven, Ct 065208047

  Timing: Fiscal Year 2001; Project Start 01-DEC-1994; Project End 30-JUN-2003

  Summary: (applicant's abstract): Although 250,000 preterm infants are reared in artificial environments of hospital nurseries in the United States each year, very little consideration is given to the lighting cycles to which infants are exposed. In neonatal intensive care units, preterm infants are typically exposed to continuous dim lighting without photic time-of-day cues. In the absence of photic entraining signals, the oscillations of the developing circadian clock will drift out of synchrony with the circadian phase of the mother and the external light-dark cycle. This desynchrony may compromise maternal-child interactions, resulting in increased infant irritability and increased newborn energy expenditure. To extend principals of circadian biology to the care of human newborns, fundamental issues, such as when the developing primate clock becomes responsive to light, need to be addressed. Thus, several years ago we initiated a series of basic studies aimed at characterizing primate circadian system development. Using baboons to model human circadian system development, we discovered that the circadian pacemaker in the hypothalamic suprachiasmatic nuclei (SCN) is functionally innervated by the retina in very premature infants. We have also discovered that low-intensity lighting (200 lux) entrains developing primate rhythmicity. Based on the above observations, we hypothesize that (1) human infants are entrained by low-intensity cycled lighting at very immature stages, (2) entrainment of the developing circadian clock leads to the earlier establishment of rest-activity cycles, and (3) neonatal entrainment improves parent-infant interactions and neonatal growth. To test these hypotheses, first we will examine influences of lighting cycles on the development of rest-activity patterns. Second, we will examine influences of cycled lighting on growth and energy expenditure. Third, we will examine the influence of cycled lighting on neonatal behavior and parent-infant interactions. These studies will involve a multidisciplinary approach combining expertise in neonatalogy, circadian biology, and **child development** at a single institution. Each specific aim will involve inpatient investigations, where controlling the environmental conditions is possible. We have also designed outpatient studies to test if photic entrainment before discharge is associated with long-term beneficial influences on activity, growth, infant behavior, and maternal-child interactions. In comparison with the considerable number of research initiatives aimed at examining the role of the circadian system and environmental lighting influences on human adults, circadian system-related studies of children are scant. Thus, our proposal will address recent initiatives for encouraging more child-related investigational research. We anticipate that these studies will improve new insights into the role of the circadian system and environmental lighting on the developing human infant. These studies may also lead to the development of new care practices in Neonatal Intensive Care Units and extend the field of developmental chronobiology to the bedside.

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- **Project Title: DEVELOPMENTAL PSYCHOBIOLOGY OF STRESS IN CHILDREN**

  Principal Investigator & Institution: Gunnar, Megan R.; Professor; Institute of Child Development; University of Minnesota Twin Cities 200 Oak Street Se Minneapolis, Mn 554552070

  Timing: Fiscal Year 2002; Project Start 01-AUG-2002; Project End 31-JUL-2007

Summary: (provided by applicant): This proposal is an application for a Senior Scientist Award (K05) for Megan R. Gunnar. The award is requested to sustain Dr. Gunnar's continuing efforts to produce independent research and to enter into multi-disciplinary, integrative collaborations designed to foster our understanding of stress and its role in human development. Dr. Gunnar is one of the pioneers of stress physiology-behavior research in human development with 100+ publications on this topic. She is a chaired professor in the Institute of **Child Development** at the University of Minnesota, a world-renowned site for research on human development. Both in the Institute and through participation in multi-disciplinary centers at the University of Minnesota, Dr. Gunnar has access to a vibrant and rich environment to support her career development. Her career has been characterized by increasing integration of the literature on and methods of studying cortisol-behavior relations, with the literature and methods in the study of psychophysiological, neuroscience, and clinical/high-risk children. During this award period, she will focus on developing skills in several domains relevant to our understanding of stress and its effects early in life. These include: measurement of sleep, assessment of cognitive/emotional processes supported by prefrontal-limbic circuits, and epidemiologically-sensitive, prevention/intervention research theory and methods. She will also administer 2 large, currently funded, NIMH individual research grants and devote time to directing an NIMH-funded, multidisciplinary, multi-site network designed to foster translation of the animal research on stress neurobiology and early experience to prevention/intervention research with high-risk human populations. The preparatory work currently underway to guide the development of a multi-site ROl on orphanage-adopted children is also described. Finally, Dr. Gunnar will continue to devote roughly 25% of her time to science education and advocacy. These latter activities include mentoring of postdoctoral, doctoral, and undergraduate students, graduate-level teaching, participation in activities that follow-up on her role in the National Academy of Science panel that produced Neurons to Neighborhoods participation in organizations such as Zero to Three whose missions are to "give **child development** information away" for use by practitioners, parents, and policy makers.

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- **Project Title: EARLY MEMORY DEVELOPMENT: MECHANISMS AND METHODS**

  Principal Investigator & Institution: Bauer, Patricia J.; Professor; Institute of Child Development; University of Minnesota Twin Cities 200 Oak Street Se Minneapolis, Mn 554552070

  Timing: Fiscal Year 2003; Project Start 10-FEB-2003; Project End 31-JAN-2008

  Summary: (provided by applicant): The purpose of this application is to permit me, a cognitive developmental scientist, to expand my research and scholarship by securing training in cognitive neuroscience, developmental neuroscience, and the brain imaging technique of high-density electrophysiological (ERP) recording. These opportunities are important in light of movement in the field of cognitive development in a direction that demands expertise not only in the study of behavior, but in the neural bases of cognition and the tools that make advances in our understanding of it possible. At present, few individuals have the combination of skills necessary to realize the multidisciplinary potential that is on the horizon. I already possess expertise in the scientific study of behavior. With the proposed training, I will be well positioned to link observed behavior developments with their underlying neural substrates, thereby enhancing our understanding of the processes and determinants of developmental change. To accomplish this goal, I propose to undertake formal coursework and training in

cognitive neuroscience and developmental neuroscience, as well as formal and informal training in the neurophysics on which interpretation of high-density ERP data depends. The majority of the training will take place through the department of neuroscience and at the Institute of **Child Development,** an internationally known, premier center of research on developmental processes; additional training will take place in the laboratories of colleagues with expertise in high-density ERP techniques. In the immediate future, the training will enhance my research on memory development in infancy and early childhood. The research involves a combination of behavioral and ERP measures to examine age-related changes in the reliability and robustness of long-term recall, and in the short-term vulnerability of memory traces. The changes likely are linked to developments in the neural substrate supporting the storage and subsequent retrieval of long-term memories. Specifically, I hypothesize that age-related changes in the structures that support long-term explicit memory, and in their connectivity, are associated with developmental differences in the speed and efficiency with which memory traces are integrated and consolidated which in turn are associated with developmental changes in long-term recall. The combination of the methods and conceptualizations of cognitive developmental science with those of cognitive and developmental neuroscience that will result from the proposed training and research will permit strong tests of this hypothesis and thus advance our knowledge of structure/function relations in development. In the 20-plus-year balance of my professional career, I will share my expertise with the undergraduate and graduate students that I train and with the field at large.

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- **Project Title: FAMILY AND CHILD WELL-BEING RESEARCH NETWORK**

  Principal Investigator & Institution: Hofferth, Sandra L.; Senior Research Scientist; Survey Research Center; University of Michigan at Ann Arbor 3003 South State, Room 1040 Ann Arbor, Mi 481091274

  Timing: Fiscal Year 2001; Project Start 12-APR-1999; Project End 29-JUN-2001

  Summary: We propose that the **Child Development** Supplement to the Panel Study of Income Dynamics be one of key databases in the network and that Sandra L. Hofferth, co-PI of the PSID and PI of its **Child Development** Supplement (PSID-CDS), be one of the network Pis. The PSID has collected detailed information on U.S. children's families over the past three decades and obtained detailed assessments of 3,500 children age 0-12 in 2,500 families in 1997, with additional data collection planned for 1999. Besides the PSID-CDS, we also propose to use the Survey of Program Dynamics (SPD), the proposed 10-year longitudinal follow-up of the 1992-1993 waves of the SIPP. We will employ a comprehensive strategy to obtain the best estimates of the effects of family change on children; in particular, the systematic use of a set of accepted methodological approaches to establish both the direction and size of causal effects of family behavior on children is proposed. When coupled with a data base on state level policies and area characteristics, these data will provide a powerful tool for examining the association among socioeconomic and policy context, family behavior and process, and the health, cognitive achievement, and social development of children. Consistent with the public policy focus of the network, the collaborative projects will examine the effects of social context and public policies on family behavior. The specific projects consist of a set of interrelated analyses of the PSID-CDS and the SIPP/SPD to examine how (1) living arrangements, (2) resources, and (3) maternal employment and children's care are related to contextual and policy changes in the United States since the early 1990s. Social indicators will also be developed. The individual projects will consist of an examination

of these family behaviors on children's health and cognitive and social development and the part played by family process in mediating these outcomes, using the PSID/CDS. No other national data sets have the detailed outcome and family process data needed for a comprehensive study of the effects of changing family behavior on young children.

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- **Project Title: FAMILY LINKS IN CHILDREN'S HEALTH, EDUCATION AND INCOMEN**

  Principal Investigator & Institution: Lillard, Lee; Rand Corporation 1700 Main St Santa Monica, Ca 90401

  Timing: Fiscal Year 2001

  Summary: Early investments in children are made on the premise that the prenatal period through early childhood present unique opportunities to produce healthy children and that child health is itself an investment in a child's entire future. This study will provide a fuller understanding of the roles the family plays in the determination of children's early health outcomes, cognitive development, education, and adult socio-economic success. One unique features of this study is that it focuses on the development of the child throughout the life cycle from fetal survival and birth outcomes to success in adult life. Specifically, the study will consider a wide range of child outcomes including: perinatal child health- fetal survival (mortality hazard), gestational age and birth weight; childhood human capital- height for age and cognitive development; and adult socio-economic success- education, earnings and spouse characteristics. These outcomes represent the development of the child's "quality" over the life cycle and are the result of both parental decisions concerning resource allocation and investments in children, and the stock of family resources and genetic endowments. In this way, the study design closely approximates consequences of early child development: outcomes from each life cycle phase become inputs to the next. Another important feature of the study is that it focuses on the roles of parental decisions and unobserved family endowments on child outcomes. It will analyze the determinants of these parental child investment choices including the roles of parental resources (father's and mother's age- adjusted permanent earnings), parental education, and observable outcomes of earlier born children, and other measured co-variates. In addition, the proposed study will explore unmeasured family factors that influence parental decisions that may also affect child outcomes directly, family endowments of health, and socio-economic success common to all the parents' children.

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- **Project Title: FATHERHOOD AMONG YOUNG INNER-CITY MEN**

  Principal Investigator & Institution: Gorman-Smith, Deborah; Associate Professor; None; University of Illinois at Chicago 1737 West Polk Street Chicago, Il 60612

  Timing: Fiscal Year 2003; Project Start 01-SEP-2003; Project End 31-JUL-2008

  Summary: (provided by applicant): The purpose of this study is to further understanding of the impact of inner-city father's involvement and parenting practices on their children's development and to identify key determinants of paternal involvement and parenting practices. Despite frequent implication in compromised development and children's mental health problems, the role of the father in the development of inner-city children is understudied and poorly understood. This study will involve collection of two waves of data about the offspring and non-offspring children being fathered by a sample of 271 inner-city young adult males who took part

in the Chicago Youth Development Study (CYDS). The CYDS began when these young men were 11-13. Six waves of repeated interviews have been conducted with these young men and their families. The last two waves included interviews with their intimate partners and preliminary information about their children and parenting. By building on this existing sample and these data we intend to study multiple important aspects of father involvement, its relation with parenting practices to child functioning, and the developmental precursors and current personal and situational characteristics related to greater involvement and more effective parenting. This opportunity to build from this longitudinal data set of Latino and African-American males who grew up in the inner-city can provide important direction that can build on other existing studies of the inter-generational transmission of risk and related paternal influence on **child development** (e.g., Capaldi and Patterson's Oregon Youth Study and Thornberry's Rochester Youth Study) and other less extensive studies of father involvement.

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- **Project Title: GENDER, BEHAVIOR AND DEVELOPMENT OF INHIBITORY CONTROL**

  Principal Investigator & Institution: Mezzacappa, Enrico; Assistant Professor; Children's Hospital (Boston) Boston, Ma 021155737

  Timing: Fiscal Year 2003; Project Start 20-DEC-2000; Project End 30-NOV-2005

  Summary: This proposal focuses on the development of Inhibitory Control (IC) in boys and girls of elementary school age, through assessment by performance tasks. By introducing these tasks into a longitudinal study, The Project on Human Development in Chicago Neighborhoods, and a clinical sample from the The Children's Hospital, Boston, IC will studied longitudinally in 200 males and 200 females beginning when they are 5 to 6 years old. The research aims of this study are: 1) Characterize growth of IC as a function of gender and clinical status for Normal Controls, and for children with CD, ADHD, and co-morbid ADHD-CD; 2) Characterize growth of IC as a function of gender, timing of onset, and pervasiveness of CD; and 3) Characterize growth of IC as a function of gender and parenting practices. Each of the 3 aims will help to identify potential core disturbances in the development of IC that relate to gender, psychopathology, and environmental factors important to **child development.** These core disturbances may have implications for interventions devoted to altering environmental influences on **child development** and clinical course of CD. The career development aims of this study are: 1) Enhance my knowledge of conceptual and empirical approaches in cognitive neuroscience, and apply these to the study of growth of IC in children; 2) Enhance my knowledge of environmental influences on **child development,** in order to examine the role played by these on growth of IC in children; and 3) Become more proficient in conducting multivariate, longitudinal research in order to study developmental risk for psychopathology. At the end of the training period, the candidate expects to have collected three waves of data on the children enrolled in the study. He will be able to select relevant indices from the data, and construct appropriate multivariate statistical models to answer the questions of the research aims. The candidate expects to interpret the findings emerging from the analyses according to current principles of cognitive neuroscience, and he will be able to draw conclusions about the role of gender, psychopathology, and environmental factors in shaping the development of Inhibitory Control.

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- **Project Title: HOW CHRONIC CONDUCT PROBLEMS DEVELOP**

  Principal Investigator & Institution: Bates, John E.; Professor; Psychology; Indiana University Bloomington P.O. Box 1847 Bloomington, in 47402

  Timing: Fiscal Year 2001; Project Start 12-AUG-1998; Project End 31-JUL-2003

  Summary: The goal of this project is to understand how chronic conduct problems develop from birth through adolescence. Through prospective inquiry, a comprehensive though not exhaustive model will be tested in which biological predispositions (e.g., temperament, heart rate reactivity), sociocultural contexts (e.g., poverty, violent neighborhood), and life experiences (e.g., physical abuse, peer social rejection) are posited as risk factors for conduct problem occurrence and growth. It is proposed that these risk factors combine additively to predict a large portion of variance in adolescent outcomes but also interactively through synergistic effects and moderation of one factor by another. It is hypothesized that life experiences mediate the effects of disposition and context (e.g., difficult temperament and poverty predispose a child to experience harsh parenting which then leads to conduct problem outcomes). Furthermore, this ecosymbiotic developmental model posits reciprocal influences among dispositions, contexts, and life experiences. It is hypothesized that risk factors lead to conduct problems through the development of social knowledge structures which guide cognitive-emotional processes which are proximal to antisocial actions. Developmental sensitivity suggests that different aspects of life experiences are crucial at different developmental eras. This project focuses specifically on adolescent processes, including deviant peer pressure, identity development, and romantic partner relationships. The participants are the 585 boys and girls (100 African-Americans) from three geographic sites and two cohorts of the **Child Development** Project. They have been followed annually since preschool (age 5) with low attrition, will be in grade 10 (or 9) at the beginning of the proposed project period, and will be followed until the 15th project year 18 months after high school graduation. Data collection will include interviews with parents, adolescents, and their romantic partners, parent-adolescent direct observation, teacher reports, psychiatric interviews, and archival records. Regressions, contrasts of structural equation models, and growth curve plotting will test hypotheses. Emphasis will be given to testing gender-specific and ethnic culture- specific models of antisocial development. The major contributions of this project will be the formulation and empirical testing of a comprehensive theory of how chronic conduct problems develop and indirect implications for universal preventions and preventive interventions for children at high risk for chronic adolescent conduct problems.

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- **Project Title: INTERGENERATIONAL INFLUENCE OF SUBSTANCE USE ON CHILDREN**

  Principal Investigator & Institution: Hill, Karl G.; None; University of Washington Seattle, Wa 98195

  Timing: Fiscal Year 2001; Project Start 29-SEP-2000; Project End 30-JUN-2005

  Summary: (adapted from Investigator's abstract): This proposal seeks five years of support to collect and analyze data on the children of the Seattle Social Development Project (SSDP) panel. The proposed study will collect data from this third generation and their parents to examine the effects of current and past parental and grandparental substance use on **child development.** We have recently received a separate grant to follow up the full SSDP panel at ages 24 and 27 (P.I., J. David Hawkins), and have entered the field period of the age 24 interview. The two companion studies have

complementary but separate aims. The SSDP panel study has focused on understanding childhood and adolescent risk and protective factors predictive of substance abuse, violence, and related health and behavior problems. The multiethnic urban of 808 males and females, constituted in 1985 when subjects entered the fifth grade in 18 elementary schools serving high crime neighborhoods, ahs been tracked and interviewed over an eleven-year period through 1996 when subjects were 21 years old. Extensive data are also available on these subjects' parents. Panel members are now having children of their own. The proposed study will obtain archival data for the oldest children of SSDP panel members from birth to three years of age, from birth certificates, Medicaid records for measures of prenatal, birth and postpartum maternal and child health, and social system involvement. The study will collect interview and observational data on cognitive, affective, academic and social development of these children from birth to early adolescence, and assessments of parenting practices and parent-child relationship quality. Data collection in the third generation will include self-reports of substance use initiation, and delinquent and other conduct problems, and a diagnostic assessment at age 6 of conduct disorder, oppositional defiant disorder, and attention deficit/hyperactive disorder. The proposed study will examine the effects of present and past parental and grandparental substance use on these child outcomes, and will examine hypothesized mechanisms producing these effects. Measurement and analyses are guided by the investigators' social development model, which organizes empirical findings on risk and protective factors into a causal theory. The study will provide vital information on the effects and mechanisms of past and current parental substance abuse and parenting practices on children for use in designing preventive interventions.

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- **Project Title: MARITAL TRAJECTORIES, PARENTING, AND CHILD DEVELOPMENT**

  Principal Investigator & Institution: Bradbury, Thomas N.; Professor; Psychology; University of California Los Angeles 10920 Wilshire Blvd., Suite 1200 Los Angeles, Ca 90024

  Timing: Fiscal Year 2001; Project Start 01-APR-1993; Project End 31-AUG-2005

  Summary: (adapted from investigator's abstract): The proposed research is a prospective longitudinal study of how marriages evolve and deteriorate, how families form and change, and how relationships in families contribute to the social and behavioral development of young children. Funds are requested to continue an 8-wave multimethod study examining the development of 172 newlywed couples over their first 5 years of marriage. These couples are now in a period of high risk for marital distress and many of these couples are becoming parents. This data set therefore provides unique opportunities to study the developmental course of marital dysfunction and the interplay among marital, child, and parent-child functioning. Three specific aims are proposed: First, marital satisfaction and dissolution over 10 years will be examined in relation to the enduring characteristics spouses bring to marriage, the stressful events they encounter, and the behaviors they display when discussing marital and individual difficulties. Second, data collected over the transition to parenthood will be combined with the extensive pre-pregnancy data already collected to predict which couples will experience difficulties in negotiating the transition to parenthood, to examine the marital functioning of couples who have children early versus late in the first ten years of marriage, and to compare the marital and family environments to which first and second children are exposed. The third aim of the proposed research is to investigate the hypotheses that children's self-regulatory and social functioning

derive from the emotional and interpersonal behaviors displayed in marital and parent-child interactions. Marital interaction, parent-child interaction, and child self-regulation data collected at age 5, and child-friend data collected at age 7, will be added to the pre-parenthood marital interaction data already collected to examine the familial roots of children's social competence. The original project is among the most intensive longitudinal studies of marriage conducted to date. The proposed research is intended to build upon this foundation by testing models of child and family development. The findings from this study are expected to have important implications for the timing, content, and targets of programs geared toward preventing adverse outcomes for couples, families, and children.

Website: http://crisp.cit.nih.gov/crisp/Crisp_Query.Generate_Screen

- **Project Title: MATERNAL AND CHILD OUTCOMES OF A PRISON NURSERY PROGRAM**

  Principal Investigator & Institution: Byrne, Mary W.; None; Columbia University Health Sciences New York, Ny 10032

  Timing: Fiscal Year 2003; Project Start 01-SEP-2003; Project End 31-MAY-2007

  Summary: (provided by applicant): The broad objectives of this project are to identify and explore the changes in maternal-infant attachment and infant/toddler development as they occur during incarceration on a prison nursery and during the year following release of the infant with and without the mother. The overall goal is to enrich the knowledge base from which prison and community based parenting programs can be developed and tested and to improve the lives of incarcerated women and their children during co-detention and following release. The specific aims are: (1) to compare the impact of an intervention designed to enhance mother-infant synchrony versus a basic child care intervention on: parent-child interaction, parenting competency, and **child development;** (2) To measure type of attachment achieved by infants in the prison nursery and maintained during the transition to the community in relation to: the inmate mother's own attachment and to participation in either intervention; and (3) To identify the impact of raising an infant on the prison nursery on subsequent short-term criminal recidivism of the mother. Inmate participants and their infants are randomly assigned to one of the two interventions. Implementation of each consists of two concurrent strategies: videotaping of mother and baby followed by discussion with a nurse specialist every 3 months and weekly guided use of "Myself and My Baby", a workbook of mother and baby activities. The content of the post-videotape discussion and the workbook activities differ based on a priori protocols, with the synchrony intervention focused on maternal sensitive response and infant cues, and the child care intervention focused on health. Outcome variables measured include: bi-directional maternal and infant attachment, parent-child interaction, parenting competency, and **child development.**

  Website: http://crisp.cit.nih.gov/crisp/Crisp_Query.Generate_Screen

- **Project Title: MATERNAL FATTY ACIDS, BIRTH WEIGHT AND CHILD DEVELOPMENT**

  Principal Investigator & Institution: Oken, Emily; Harvard Pilgrim Health Care, Inc. 93 Worcester St Wellesley, Ma 02481

  Timing: Fiscal Year 2003; Project Start 01-AUG-2003; Project End 31-JUL-2008

  Summary: (provided by applicant): This application for a K23 Mentored Career Development Award incorporates a focused course of study, detailed research plan, and

structured mentoring environment intended to train Emily Oken, MD, for a career in patient-oriented research. Dr. Oken, who is currently a General Internal Medicine research fellow, will draw upon her previous experience performing epidemiologic research focused upon nutrition and health risk behaviors, as well as clinical expertise in internal medicine, women's health, and pediatrics. A woman's nutrition during pregnancy helps determine the outcome of her pregnancy and the lifelong health of herself and her child. The proposed study will examine the effects of the ratio of n-3 to n-6 fatty acids consumed by a woman during pregnancy upon fetal growth, length of gestation, and child cognition through age 3 years. Additionally, characteristics of women who consume a low dietary ratio of n-3 to n-6 fatty acids will be identified, to help those making dietary choices and recommendations. Data for this proposal are being collected through Project Viva, an ongoing NIH-funded longitudinal prospective cohort study of approximately 2700 pregnant women and their children. The prospective design, large sample size, and breadth of available covariate information in Project Viva provide an ideal foundation for the proposed analyses. Dr. Matthew Gillman, the Principal Investigator for Project Viva, will serve as the primary mentor for Dr. Oken's research. Additionally, an Advisory Committee comprised of experts in nutritional epidemiology, the effects of prenatal fatty acids, epidemiologic methods, and biostatistics will assist Dr. Oken with issues of study design and analysis, as well as career development. Dr. Oken wilt also take courses at the Harvard School of Public Health to develop advanced knowledge of nutritional epidemiology, in particular the health effects of polyunsaturated fatty acids, and epidemiologic methods necessary for the implementation of this project, such as the case-cohort study design and analysis of longitudinal data.

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- **Project Title: MEDIATORS OF SES/CHILD DEVELOPMENT RELATIONS**

  Principal Investigator & Institution: Corwyn, Robert F.; University of Arkansas at Little Rock 2801 S University Ave Little Rock, Ar 72204

  Timing: Fiscal Year 2003; Project Start 01-AUG-2003; Project End 31-JUL-2005

  Summary: (provided by applicant): This proposal seeks support for secondary data analysis of two large-scale studies (i.e. The National Longitudinal Study of Youth (NLSY) and the National Institute of Child Health and Human Development Study of Early Child Care (NICHD SECC)). The study investigates the mediating effect of parenting practices (i.e. learning stimulation and responsivity) on the relation between SES and child outcomes. The outcomes studied are math scores, reading comprehension, verbal ability, and behavior problems. Subsequent analyses involving the NICHD data, calls for expanding the proposed model to include three more mediators-perceived financial strain, maternal depression and child care quality. The proposed model simultaneously incorporates multiple mediators (i.e. learning stimulation and responsivity), and separate components of socioeconomic status (SES: i.e. education, income, assets, and occupation) in the same model. Analyses will be conducted separately using NLSY data and NICHD data. Finally, the child's developmental stage (i.e. 3 to 5 years of age; 6 to 9 years of age, and 10 to 15 years of age) and ethnicity are incorporated into the study design. Path analysis will be performed for each ethnicity by developmental stage by child outcome strata. In order to determine if the model operates differently across the three developmental stages, multiple group comparison models within the structural equation modeling (SEM) framework will be used to assess differences (stability) of parameter estimates across the three developmental stages. A series of constraints (holding paths to be equal across

time) will determine which paths differ across time. Similarly, model differences across child outcomes and ethnicity will be assessed. Moreover, the proposed study models components of SES separately and determines the relative effect of each component in all models (i.e. ethnicity by developmental stage by child outcome) studied. For all analyses, direct, indirect, and total effects will be determined. These results will provide a much needed indication of the process by which different components of SES operate to influence child well being.

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- **Project Title: MOTHERING & ADDICTION:INTERNAL CONCEPTIONS OF PARENTING**

  Principal Investigator & Institution: Suchman, Nancy E.; Psychiatry; Yale University 47 College Street, Suite 203 New Haven, Ct 065208047

  Timing: Fiscal Year 2002; Project Start 10-JUL-2002; Project End 30-JUN-2007

  Summary: (Provided by Applicant) During the past two decades, although much has been learned about risk factors associated with maternal addiction and parenting, little research has focused on the internal conceptions of drug-addicted mothers in the parenting role, and how these conceptions function as mediators in the parenting process. The goal of this mentored patient-oriented research career award is to allow the candidate to develop a research career in the area of maternal addiction and parental development. Dr. Suchman is currently the Project Director for the NIDA funded grant, "Relational Parenting Therapy for Opiate-Addicted Mothers" (R0l-DA11498) and has been examining the role of psychosocial risk in the parenting problems of opiate-addicted mothers. In the next several years, Dr. Suchman plans to conduct longitudinal research examining the role of internal conceptions of parenting in the parenting processes of cocaine and opiate-addicted mothers and its implications for parenting intervention development. Specifically, her research plan includes a 4-year longitudinal study of cocaine-addicted mothers and infants to ascertain mothers? internal representations of parenting and associations between internal representations and other parenting dimensions (e.g., psychosocial risk, parenting behaviors, child development). She will also examine cross-sectional data from opiate-addicted mothers of older children to ascertain associations between internal representations and parenting dimensions. Her proposed research will enable her to develop skills in the following areas: 1) qualitative assessment of internal working models of parenting, 2) assessment of parent-child interactions, 3) infant and child assessment, 4) longitudinal research design and data analytic strategies, 5) psychotherapy research, and 6) applications of developmental psychopathology to parental development. Dr. Suchman?s training combines formal course work with clinical research experience at several sites affiliated with the Yale School of Medicine and the Yale Child Study Center. She will work closely with Drs. Bruce Rounsaville, Linda Mayes, and Suniya Luthar to receive training in the above areas. In this way, Dr. Suchman will be well prepared to achieve her long-term career goal of conducting longitudinal research on the etiology of maladaptive parenting among drug-addicted mothers and applying her findings to the development of parenting interventions.

  Website: http://crisp.cit.nih.gov/crisp/Crisp_Query.Generate_Screen

- **Project Title: MULTIMEDIA YOUNG CHILD CARE RESOURCE FOR PARENTS**

  Principal Investigator & Institution: Anderson, D Michael.; President; Health Media Lab, Inc. 2734 Cortland Pl Nw Washington, Dc 20008

Timing: Fiscal Year 2003; Project Start 01-MAY-2003; Project End 31-OCT-2003

Summary: (provided by applicant): The long-term goal of this project is to develop and evaluate through focus group discussions and user questionnaire survey data, multimedia software designed to help parents understand and raise their child from 18 months to 5 years. This user-friendly product will have unique features to help parents access, learn, and use new knowledge, skills, and resources quickly and easily. Users will be able to access information in two ways: by topic or by level of development. There will be relevant video and audio presentations and illustrative diagrams and photos, for use on personal digital assistants (PDAs) and personal computers. There will be information on basic techniques and materials of child care, how to take care of common medical problems, and **child development** time lines that show when and what to expect over the period of 18 months to five years. There will be helpful lists, charts, self-quizzes, worksheets, calendars, bibliographies, and links to help parents have critical information where and when they need it. In addition, there will be a section on Health Media Lab's Website that will include articles and links to child care related topics such as **child development,** expert advice, and parent-to-parent bulletin boards. There will also be ideas and links for making family life more creative and joyful, including establishing daily routines, traditions and family rituals, activities, crafts, birthdays, etc., all presented in easy to understand terms with helpful illustrations. In Phase I we will develop and test educational multimedia software designed to help parents with routine check-ups, immunizations, dental care, considerations regarding fluoride, vitamin and mineral supplements, and preventing infectious diseases within the household, and evaluate users' concerns about the educational concepts and ease of use of the prototype software through focus group discussion.

Website: http://crisp.cit.nih.gov/crisp/Crisp_Query.Generate_Screen

- **Project Title: NURSING SUPPORT INTERVENTION FOR MOTHERS OF PREMATURES**

  Principal Investigator & Institution: Holditch-Davis, Diane H.; Professor and Director; Children's Health; University of North Carolina Chapel Hill Office of Sponsored Research Chapel Hill, Nc 27599

  Timing: Fiscal Year 2001; Project Start 30-SEP-2001; Project End 30-JUN-2006

  Summary: (provided by applicant): Premature infants are at risk for developmental problems, and Rural, African American prematures are at higher risk for these problems than other prematures. This health discrepancy is probably due interactions among factors, such as poverty, barriers to service usage, the mothers' emotional distress from the infant's birth and hospitalization, and resultant parenting styles that may be less facilitative of infant development. The purpose of this study is to examine the effectiveness of a culturally congruent intervention providing support to rural, African American mothers of prematures from the time their infants are in intermediate care until they are 18 month of age. During phone calls and home visits, the intervention nurse will help mothers resolve emotional distress due to prematurity and reduce stress related to parenting in the context of work and family, support them in developing relationships with their infants, and help them identify acceptable resources and fit resources to her goals in order to meet complex infant health and developmental needs. The context for the intervention is a therapeutic relationship in which a culturally proficient nurse uses guided discovery to focus on the mothers' experiences and concerns and help the mother to identify ways to reduce distress, improve parenting, and tap into strengths available in her family and culture. Mothers receiving the

intervention and mothers receiving usual care will be compared to determine whether the intervention affects psychological well being, mother-child relationship quality, length of use of child health and developmental surveillance services, and **child development.** We expect that improvements in maternal psychological well being will lead to longer use of services, better mother-child relationship quality, and better infant developmental status, particularly lessening the decrease in developmental status that is often seen after 12 months. The cost-effectiveness of the intervention will also be determined. Two hundred and twelve rural, African American mothers and their high-risk prematures will be recruited when the babies are in intermediate care and followed until they are 24 months corrected age. The mothers will be randomly assigned to control and intervention groups. The intervention will consist of an in-person contact in the hospital followed by a home visit 1-2 weeks after discharge and at 5, 10 and 15 months. Phone contacts will be made weekly during the first month, bimonthly for 2 months, and then monthly. Maternal psychological well being will be measured using depressive symptoms, anxiety, posttraumatic stress symptoms, parenting stress, and minor daily stresses. The quality of the infant's social environment will be measured using a 1-hour naturalistic observation of mother-infant interaction, the HOME Inventory, and two measures of maternal perception of the child. Length of use of services will be measured by the Child Services Survey and immunization status, a proxy for adequacy of well-child care, and confirmed from medical records. **Child development** will be measured by the Bayley II and a language assessment.

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- **Project Title: OUTCOME OF PRETERM SMALL FOR GESTATIONAL AGE ADOLESCENTS**

  Principal Investigator & Institution: Peralta-Carcelen, A. Myriam.; Associate Professor; Pediatrics; University of Alabama at Birmingham Uab Station Birmingham, Al 35294

  Timing: Fiscal Year 2001; Project Start 01-SEP-1999; Project End 30-JUN-2003

  Summary: The candidate is a Pediatrician with an MPH in maternal and child health. She is an attending physician in clinics for follow-up of high-risk children and **child development.** She has begun scientific work and established relationships related to her special interests on understanding the impact of pregnancy-related and perinatal events on the long-term outcome for child growth and development. Her immediate goals are to develop a systematic program of research on the long-term outcomes of low birth weight infants, by increasing her knowledge of assessments of neurodevelopment of children and adolescents at risk, and by obtaining more training in statistical analysis of large databases and growth curve analysis. This knowledge will assist her to develop her ability to design and conduct multi-center clinical trials, to manage large databases and to design useful research outcome measurements for evaluating developmental outcomes in large populations. She describes a didactic curriculum and specific consultations to achieve this knowledge. Within the multidisciplinary infrastructure, existing at UAB she will work in particular with the Civitan International Research Center, a center specialized in development and outcome assessments of children. She will be working with several senior faculty experts in her area of research. The proposed project is a prospective longitudinal study that will assess the long-term outcomes of preterm children who participated in the Successive Small for Gestational Age (SGA) Study, an NICHD sponsored study, that recruited multiparous low-income pregnant women at risk for Intrauterine Growth Retardation (IUGR) from a single county. These women and their infants were followed antenatally, at birth and at 1 and 5 years of age. The overall hypothesis of this proposed study is that growth and development of

preterm SGA adolescents will be impaired compared to preterm Appropriate for Gestational Age (AGA) children. Growth and developmental outcomes will correlate with prenatal and perinatal variables after controlling for postnatal variables.The study will include 99 preterm (<37 weeks gestation) SGA and 121 preterm AGA children who were born between 1986 and 1988. These children will be 11 to 13 years at the time of the assessments. All participants will be assessed for growth using anthropometric measures, development of skeletal mass, body composition (dual energy X-Ray absorptiometry and bone age), and sexual maturation. Developmental assessment will include assessing academic achievement, cognitive scores, assessment of learning disabilities, behavioral and functional outcome instruments. This study should provide important information to understand the longterm outcomes for children who were born after IUGR and its relationship with prenatal and perinatal events.

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- **Project Title: PARENTAL EMPLOYMENT AND CHILD DEVELOPMENT**

  Principal Investigator & Institution: Ruhm, Christopher J.; Associate Professor; National Bureau of Economic Research Cambridge, Ma 02138

  Timing: Fiscal Year 2001; Project Start 01-SEP-2000; Project End 31-AUG-2003

  Summary: (Adapted from applicant's abstract): Young children are increasingly raised in families where mothers work, suggesting that parents have less time to invest in children but more income to spend on them. Despite extensive previous research, the effects of parental employment remain uncertain. In addition, it is important examine if accommodations can be made to increase the ability of families to balance the needs of work and home. Parental leave provides a potentially import mechanism for doing so. There has been some study of how parental leave policies affect labor market outcomes but almost no investigation of the effects on children. This project will examine how parental employment during the first years of life affects the well being of children and will extend my on-going investigation of parental leave policies. The following questions will be addressed. Does parental employment during pregnancy affect the receipt of prenatal care, other maternal inputs into fetal development, birth weight, gestational age, or infant health? Does parental employment in the early years of the child's life influence the extent and duration of breast feeding provision of preventive medical care, other maternal into fetal development, birth weight, gestational age, or infant health? Does parental employment in the early years of the child's life influence the extent and duration of breast feeding, the provision of preventive medical care or the quality of home environment? Does parental employment during the first years affect cognitive and socioemotional development or health status during the preschool and early school years? Does the availability or use of parental leave influence the provision of prenatal care, fetal development, child health or cognitive/socioemotional development? Do the results vary by race, ethnicity, education, marital status, previous earnings, or the timing and intensity of parental employment? Special attention will be paid to bias resulting from no -random selection into parental employment or the use of family leave. Three complementary approaches will be used. First, the analysis will use a more comprehensive set of explanatory variables than in any previous research. Second, parental employment will be more carefully modeled. Third, a series of fixed-effect and instrumental variables models will be estimated. In the former, the effects of interest will be identified by differences in parental employment or leave use across siblings or cousins. In the latter, fluctuations in economic conditions (state and federal mandates) will supply a source of exogenous variation in parental employment (leave).

This project will also improve on earlier research by examining a wider set of child outcomes and considering the effects of paternal employment.

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- **Project Title: PARENTAL INVESTMENTS AND CHILDRENS MENTAL HEALTH**

  Principal Investigator & Institution: Slade, Eric P.; Health Policy and Management; Johns Hopkins University 3400 N Charles St Baltimore, Md 21218

  Timing: Fiscal Year 2001; Project Start 15-JAN-1999; Project End 31-DEC-2003

  Summary: This proposal seeks a career award for research on the economics of children's behavior problems and for training in the area of children's mental health. The research plan proposes economic explanations for empirical correlations between family income, the development of behavior problems in children, and delinquent behaviors in adolescence. The research and training activities will enable the principal investigator to initiate a program of research on the family level determinants of children's mental health outcomes. Several mentors with complementary skills will advise the candidate. Dr. Margaret Ensminger (Johns Hopkins University, School of Public Health) will be the principal mentor and advise the candidate's training in the area of **child development** and adolescent outcomes. Dr. Barbara Wolfe Director, Institute for Research on Poverty, University of Wisconsin) will provide guidance on developments in research on poverty and on appropriate econometric methods. She is a leader in the study of children's attainments. Dr. Robert Moffitt (Department of Economics, Johns Hopkins University) will advise the candidate on econometric modeling of limited dependent outcome measures. Because delinquency and other behavior problems in adolescence have not previously been analyzed as being outcomes of economic decision-making, the training component of the award will involve instruction on recent theoretical and empirical work in **child development** and adolescent behaviors. The training will consist of formal course work in **child development** and children's mental health, interaction with mentors who are experts in poverty, adolescent outcomes, and economic attainment; and participation in conferences at the Institute for Research on Poverty at the University of Wisconsin and at the Society for Research on **Child Development.** Training in the area of children's mental health issues will facilitate the investigator's development of a long-term program of research on prevention of delinquent behavior in youths. The theoretical and empirical modeling strategies developed will be applicable to a range of children's mental health prevention problems, where preventive interventions may have dynamic effects.

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- **Project Title: PARENTING AND INFANT DEVELOPMENT IN ALCOHOLIC FAMILIES**

  Principal Investigator & Institution: Leonard, Kenneth E.; Senior Research Scientist; None; State University of New York at Buffalo Suite 211 Ub Commons Amherst, Ny 14228

  Timing: Fiscal Year 2001; Project Start 01-JAN-1995; Project End 31-MAR-2005

  Summary: (adapted from Investigator's abstract) This application seeks continuation of a multi-method longitudinal study of parenting and **child development** in alcoholic and control families. The original application focused on the socioemotional and cognitive development of infants at 12, 18, and 24 months of age. In a supplemental application, we initiated a 36-month follow-up to examine developmental issues of relevance to children of alcoholics emerging over 2-3 years of age (i.e. self-regulation,

internalization). In this application, we propose to complete the 36-month assessments and to conduct assessments when the child enters kindergarten (5-6 year follow-up) to examine the role of paternal alcohol problems on the development of social competence. The protocol involves screening families with 12-month-old infants and identifying three groups: alcoholic father, alcoholic father/heavy drinking mother, and control families. At each age, parent-child interactions are conducted and parents complete questionnaires of risk and protective factors suggested by models of parenting (Belsky), 1984) and **child development** (Snyder & Huntly, 1990). At the 5-6 year follow-up, families will visit the Institute three times, with the first visit focused on mother-child observations (interactions, compliance, internalization), the second on the cognitive assessment (WPPSI-R), and the third on father-child observations. We will also conduct in-school observations of the child's behavior to assess school conduct and peer interactions. Analyses will examine the following hypotheses: 1) paternal alcoholism impedes the attainment of critical developmental milestones and this has implications for further development; 2) alcoholism's impact will be mediated through its impact of socio-contextual factors, temperament, and most importantly, parenting behavior; and 3) the deleterious impact of paternal alcoholism will be attenuated by positive mother-infant behaviors.

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- **Project Title: PARENTING EFFECTS OF HEALTHY STEPS: UTILIZATION & EXPEC**

  Principal Investigator & Institution: Minkovitz, Cynthia S.; Assistant Professor; Population & Family Hlth Scis; Johns Hopkins University 3400 N Charles St Baltimore, Md 21218

  Timing: Fiscal Year 2002; Project Start 01-MAY-2002; Project End 30-APR-2005

  Summary: (Adapted from the application) Parental practices have been identified as key factors contributing to child health and development. Numerous interventions attempt to enhance parental attitudes, knowledge, beliefs, and practices with the expectation those children's outcomes ultimately will be enhanced. Unfortunately, methodologically flawed evaluations of such programs have contributed to our limited knowledge of how best to promote parenting practices among diverse families. The proposed project is a follow up of the National Evaluation of the Healthy Steps for Young Children Program. Healthy Steps is a new model of pediatric practice that incorporates **child development** specialists and enhanced developmental services into routine pediatric care for all families of young children from birth to age 3 years. The Program is designed to strengthen parents' knowledge, attitudes, and behaviors in ways that promote their child's health and development. The proposed project is the second phase of what is currently planned as a three phase longitudinal cohort study. The primary objective of the proposed project is to assess whether enhanced delivery of behavioral and developmental services in the first 3 years of life changes parental attitudes and practices related to their child's health, behavior, and development when their children reach 5 years of age. Study aims include: (1) to describe parents' health care seeking for their children at approximately 5 years of age, particularly with regard to behavior and development, and to explore parents' health promotion activities for their children and their expectations for and experiences with pediatric health care; and (2) To assess whether enhanced delivery of pediatric care regarding behavior and development in the first 3 years of life leads to positive effects on parents' health care seeking and health promotion activities for their children beyond the life of the intervention, with special emphasis on these activities in relation to their child's behavior and development.

Specific hypotheses, under the second aim, will test whether parents in the Healthy Steps intervention group are more likely than parents in the comparison group to: a) seek care appropriately for their children; b) engage in positive health promotion activities for their children; and c) be positively affected in their expectations for pediatric care, each with regard to their child's behavior and development. The proposed study follows Healthy Steps families when their children are 5 years of age using a parent interview. Data collected will be analyzed with data from interviews conducted at 2-4 and 30-32 months using hierarchical regression models to generate overall estimates of the effect of Healthy Steps and account for within site correlation of outcomes and possible covariates. This study will inform policy and practice regarding whether or not a parenting intervention, highly targeted to **child development** and behavior when children are 0-3, has effects when children are 5 years of age.

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- **Project Title: PEDIATRIC HIV, SOCIAL SUPPORT AND CAREGIVER ADJUSTMENT**

  Principal Investigator & Institution: Shellmer, Diana A.; Psychology; George Washington University 2121 I St Nw Washington, Dc 20052

  Timing: Fiscal Year 2001; Project Start 01-NOV-2001

  Summary: The purpose of this study is to determine whether a relationship exists between family social support, caregiver disease adjustment, and cognitive and psychosocial development of HIV-positive children. Specifically, this study aims to determine whether the adjustment of mothers to their own HIV status can explain the variance in child developmental level beyond that explained by the child's own HIV status, HIV symptoms, end CD4 count. The cognitive development of the child will be assessed via the Bayley Scales of Infant Development, the Wechsler Preschool and Primary Scale of Intelligence, or the Wechsler Intelligence Scale for Children-Third Edition. Psychosocial development will be assessed via the Personal-Social Adaptive domain of the Battelle Developmental Inventory. In addition, mothers will have to complete a brief packet of questionnaire measures assessing family social support, disease adjustment, and demographic characteristics. Although previous studies have attempted to examine the role that HIV and psychosocial factors may play in the development and adjustment of HIV-positive children, few have narrowed down the scope of the investigation to examine the role that maternal adjustment may play in the child's development. As such, this study will not only add to the very few studies on the psychosocial aspects of pediatric HIV, but it will also help elucidate some of the issues involved in the development of pediatric HIV patients. Due to the continued rise in the life expectancy of these children, understanding the psychosocial and in particular the mother child aspects of this disorder seems especially important.

  Website: http://crisp.cit.nih.gov/crisp/Crisp_Query.Generate_Screen

- **Project Title: PLAY SPACE FOR PARENTAL UNDERSTANDING OF DEVELOPMENT**

  Principal Investigator & Institution: Diedrich, Frederick J.; Aptima, Inc. 12 Gill St, Ste 1400 Woburn, Ma 01801

  Timing: Fiscal Year 2003; Project Start 01-JUL-2003; Project End 29-FEB-2004

  Summary: (provided by applicant): This project examines caregiver understanding of **child development** in order to design and test an educational play space geared toward improving that understanding through active, hands-on guidance. The goals of the play

space are to improve caregiver understanding of complex development between infancy and kindergarten so they (1) safeguard their children against hazards and (2) facilitate their literacy and intellectual development. The long-term objectives are to create a play space and a software-based authoring mechanism for children's museums, daycares, doctors' offices, or preschools such that they will be able to design their own educational play spaces. Phase I work will include a preliminary review of developmental phenomena related to child safety and opportunities for facilitating literacy and intellectual development for infants through kindergarteners. This review will identify developmental phenomena that are difficult to understand because they are either early or precursor skills, late skills, regressions, affected by context or individual differences, or simply non-obvious. The results of the review will inform observational measures in a Phase I investigation of (1) relevant behaviors that current exhibits in the Pittsburgh Children's Museum elicit from children who visit and (2) caregiver beliefs about development and child abilities. Analysis of the data will suggest developmental phenomena and behaviors that relate to safety and literacy that can be elicited in a museum play space environment and that caregivers are unfamiliar with. These results will form the basis of design recommendations for building a new educational play space in Phase II. Phase II will also include a substantial validation study that seeks to quantify the influence of the play space on caregiver sensitivity to development. The validation study will examine changes that improve child safety and the child's opportunities for intellectual and literacy enrichment.

Website: http://crisp.cit.nih.gov/crisp/Crisp_Query.Generate_Screen

- **Project Title: POVERTY, MATERNAL HEALTH & DISPARITIES IN CHILD OUTCOMES**

  Principal Investigator & Institution: Kahn, Robert S.; Assistant Professor of Pediatrics; Children's Hospital Med Ctr (Cincinnati) 3333 Burnet Ave Cincinnati, Oh 45229

  Timing: Fiscal Year 2001; Project Start 04-MAY-2001; Project End 30-APR-2006

  Summary: (provided by applicant): The principal goal of this proposal is to delineate the pathways that lead to income-related disparities in child behavior problems, with a specific emphasis on the mediating role of maternal health. While the effect of low income on child health and development has received considerable attention, little work has been done to identify intervening variables that might be subject to targeted clinical interventions. The central hypothesis of this project is that the contribution of low income to child behavior problems is mediated in part by treatable maternal conditions. The specific objectives are to: 1) examine the contribution of maternal depressive symptoms and maternal smoking to childhood behavior problems and 2) determine whether the effects of persistent low income on child behavior are attenuated after adjustment for the duration and intensity of childhood exposure to maternal depressive symptoms and smoking. If the hypotheses are supported, the findings will directly inform existing health (e.g., Medicaid) and social programs (e.g., early intervention) that target children but have much more restricted eligibility and services for parents. The project will use three nationally representative datasets, the Panel Study of Income Dynamics-Child Development Supplement, the National Longitudinal Survey of Youth, and the Infant Health and Development Program. These datasets offer the unique opportunity to delineate relationships combining longitudinal income, maternal health, and child outcomes. The challenge and the major strength of this research agenda is its integration of a social science perspective on poverty with a clinically informed analysis of health data. Robert Kahn, M.D., M.P.H., who completed his NRSA Fellowship in Primary Care Research at Children's Hospital, Boston and an M.P.H. at Harvard School

of Public Health, recently joined the faculty at Children's Hospital Medical Center because of the departmental commitment to his development as an Independent investigator. This commitment has included the initial time and resources necessary for an inter-disciplinary approach to the study of poverty, maternal morbidity, and child outcomes. John Kiely, Ph.D., the project mentor, offers extensive content and methodologic expertise in modeling child outcomes using national datasets, has had prior NIH funding, and has mentored other young investigators. The environment will support a didactic program that includes relevant courses on poverty, biostatistical methods, and research ethics, as well as interaction with other independent investigators in the Division.

Website: http://crisp.cit.nih.gov/crisp/Crisp_Query.Generate_Screen

- **Project Title: POVERTY, STRESS, AND AMERICAN INDIAN CHILD DEVELOPMENT**

  Principal Investigator & Institution: Spicer, Paul G.; Assistant Professor; Psychiatry; University of Colorado Hlth Sciences Ctr P.O. Box 6508, Grants and Contracts Aurora, Co 800450508

  Timing: Fiscal Year 2003; Project Start 16-JUL-2003; Project End 31-MAY-2008

  Summary: (provided by applicant): This project seeks to explore the impact of poverty on the development of American Indian infants and toddlers in one northern plains tribe. Building on on-going collaborative work with community service providers in this tribe, and using both quantitative and qualitative methods in a sample of 290 families, it seeks to accomplish the following 5 aims: 1) to describe infant and toddler development using longitudinal analyses and developmental assessments at 4 time points over the first three years of life for children from this northern plains tribe; 2) to explore, using both ethnographic and quantitative methods, meaningful dimensions of the contexts in which infant and toddler development occurs in this tribe; 3) to test predictive models of parenting and **child development** in this reservation setting; 4) to link the data collected in this study with existing datasets from the same community in order to more fully articulate the impact of rural poverty on the health and development of parents and their children; and 5) to work with community service providers and policy makers to interpret the findings of this study in ways that can be efficiently translated into early childhood interventions in American Indian reservation communities.

  Website: http://crisp.cit.nih.gov/crisp/Crisp_Query.Generate_Screen

- **Project Title: PRECURSORS OF RETARDATION IN CHILDREN WITH TEEN MOTHERS**

  Principal Investigator & Institution: Borkowski, John G.; Andrew J. Mckenna Family Chair and Profe; Psychology; University of Notre Dame 511 Main Bldg Notre Dame, in 46556

  Timing: Fiscal Year 2001; Project Start 01-APR-1991; Project End 30-JUL-2006

  Summary: The goal of the proposed research is to understand the social and psychological factors that precipitate various school-related delays in children of teen mothers. Salient characteristics in adolescent mothers, subsequent to and following deliver, have identified and, in combination with infant and emergent child characteristics, used to predict development during the school years, thus setting the stage for predicting developmental delays during adolescence. Measures of maternal and child functioning for 100 dyads will be gathered when each child is 14 years of age. The selection of early predictor variables (risk factors) has been guided by our

conceptual model of adolescent parenting; these include maternal cognitive readiness, socioemotional adjustment, parenting behaviors, and early child characteristics such as temperament and attachment status. The selection of mediator and outcome variables has been influenced by our interests in self- regulation, metacognitive theory, academic achievement, and socioemotional adjustment as the children proceed through childhood into adolescence. We will evaluate how the predictor variables are related to academic achievement, mental retardation, learning disabilities and behavior disorders, and whether children's socioemotional adjustment and metacognition (especially self-regulation) mediate the influence of the predictor variables on the outcome variables. We are also interested in documenting, predicting, and understanding the causes of "risky behaviors" during adolescence. Thus, all of the measures to be gathered at age 14 will be considered within the context of data already gathered during pregnancy, infancy, and childhood as part of previous grants. Continuity of functioning within maternal and child domains will be assessed and relationships across domains examined form cross-sectional as well as longitudinal perspectives. The central focus is on predicting children's academic and socioemotional adjustment at age 14 using new and already gathered maternal, child, and social-environmental information. Secondary interests lie in tracing maternal development and interrelating maternal and child developmental trajectories. The project's overall aim is to identify the factors that underlie major, and not well understood, child-related problems in the U.S.: The causes of developmental delays in children of teen mothers as they enter their adolescent years. Hierarchical linear modeling (HLM) will be used to study average intraindividual changes in the sample over time as well as interindividual differences in change. HLM enables us to assess both static and dynamic correlates of developmental trajectories as well as their interrelationships. The significance of the project lies in the attempt to unravel the "new morbidity" phenomenon in a representative sample of adolescent mothers and their children through the use of a multivariate, perspective, longitudinal design.

Website: http://crisp.cit.nih.gov/crisp/Crisp_Query.Generate_Screen

- **Project Title: PROMOTING CHILD DEVELOPMENT: YALE-ANKARA COLLABORATION**

  Principal Investigator & Institution: Leventhal, John M.; Professor; Pediatrics; Yale University 47 College Street, Suite 203 New Haven, Ct 065208047

  Timing: Fiscal Year 2003; Project Start 28-SEP-2003; Project End 28-FEB-2005

  Summary: (provided by applicant): In the proposed project, Ankara University (AU) will partner with Yale University (YU) to develop a research infrastructure and strengthen the capacity for conducting research focused on the recognition, prevention, and treatment of developmental problems and disabilities in infants and young children and their families in Turkey. The proposal builds upon: (1) the preliminary studies by the AU investigators focused on the gaps in the Turkish health care system concerning children's developmental needs, (2) the collaboration of the Turkish investigators with the Turkish Ministry of Health and the WHO, and (3) the earlier collaboration between the Principal Investigator at AU and investigators at YU. The capacity building activities will take place both at AU and YU. At AU, a research center will be established in the Developmental-Behavioral Pediatrics Unit, and a pediatric fellow, research psychologist, and research assistant will be funded. Two Yale investigators will visit AU per year and will give structured workshops and contribute to the ongoing research activtities. Two investigators per year from AU will visit YU where they will work with a mentor/collaborator and benefit from the educational experiences in the 3 participating

Yale Departments -- Pediatrics, Child Study Center, and Epidemiology and Public Health. The pilot research projects, which will be developed collaboratively between AU and YU, will focus on understanding the developmental needs of young children - - both normal and those with developmental disabilities - - and the kinds of services available to these children in Turkey. The first study examines the knowledge, skills, and attitudes of health care professionals in Turkey regarding early **childhood development,** developmental problems, and services available. The second study examines the needs of families related to promoting the development of infants and young children with developmental problems and disabilities. The third study investigates the needs of families related to the promotion of the development of normal infants and young children. These proposed projects will help establish the research center, and the results of these studies will be used to develop larger, full scale research studies and interventions to improve the health care system's response to the developmental needs of young children.

Website: http://crisp.cit.nih.gov/crisp/Crisp_Query.Generate_Screen

- **Project Title: RESEARCH ON FAMILY AND CHILD WELL-BEING**

  Principal Investigator & Institution: Moore, Kristin A.; President and Senior Scholar; Child Trends, Inc. 4301 Connecticut Ave, Ste 100 Washington, Dc 20008

  Timing: Fiscal Year 2001; Project Start 12-APR-1999; Project End 31-MAR-2004

  Summary: The aim of this effort is to illuminate the relationship between multiple forms of investment in children and children's development and wellbeing. Our research agenda is defined by an ecological model of **child development,** which posits that investments should be defined broadly, including not only family income, but such additional inputs as parental time, emotional warmth and nurturance, monitoring of activities, and consumer goods and services (such as child care and health care). In addition, community level inputs, such as the quality of schools and neighborhood safety, are expected to affect the development and wellbeing of children, as are public policies such as the generosity of income supports and child support enforcement policies. More effective strategies for investing in children can be developed when we understand how these multiple factors work together to shape development of children over the course of childhood and adolescence. Two research agendas are proposed: (1) a set of concrete research tasks investigating the ways in which family-,community-, and policy-level factors combine to sustain children and promote their healthy development, and (2) a broader research plan developed in concert with an interdisciplinary network focused on systematic explorations of topics related to the wellbeing of children and families. For our individual research plan, we propose to conduct multivariate analyses using two longitudinal data bases a) three waves of the National Survey of Children, a data set rich with family process measures, augmented with contextual data at the state and zip code level, and b) data from the Child and Family Subgroup Study, a longitudinal evaluation of the Federal JOBS program among 2,500 mothers with preschool children who receive AFDC. Analyses will address shortcomings of existing research including a tendency to focus on problem behavior rather than positive adaptation, particularly in adolescence; a failure to look across sets of related problem and pro-social behaviors; a tendency to extract developmental patterns from an accumulation of cross-sectional studies rather than longitudinal research; a need for more work on nationally representative-samples; a lack of research on racial and cultural sub- groups; and a lack of research that provides clear guidance to policy makers and program providers. For the work of the collaborative research network, we suggest four goals: l) basic research on individual, family, community, and policy

factors that contribute to positive **child development;** 2) evaluation research on programs and policies that can enhance family and child wellbeing; 3) methodological research to compare and improve the measures available to assess family and neighborhood processes and child outcomes at varied ages and in varied cultural groups; and 4) trend analysis to track a broad range of indicators of child and family wellbeing over time, across population groups, and across nations. Moore and her colleagues at Child Trends look forward to working with other investigators to build a body of research that can inform both public policy and future research.

Website: http://crisp.cit.nih.gov/crisp/Crisp_Query.Generate_Screen

- **Project Title: RISK AND RESILENCE IN CHILDREN OF INCARCERATED MOTHERS**

  Principal Investigator & Institution: Poehlmann, Julie A.; Assistant Professor; Waisman Ctr/Mr & Human Devlmt; University of Wisconsin Madison 750 University Ave Madison, Wi 53706

  Timing: Fiscal Year 2001; Project Start 01-JAN-2001; Project End 31-DEC-2002

  Summary: The proposed research will investigate problematic development and resilience in children who have experienced multiple risks to their cognitive and behavioral development and attachment relationships in an understudied population: children of incarcerated mothers. In addition to involuntary separation from their mothers, many of these children experience a history of living in poverty and maternal substance abuse. However, these risks may be buffered or exacerbated by variables in the child's current environment, including ongoing contact with the mother, stimulation available in the home environment, and characteristics of the substitute caregiver, such as depressive symptoms, physical health, and satisfaction with social support. In addition to providing to providing valuable information about the growing population of children of incarcerated mothers, the proposed study will extend our knowledge about attachment relationships and **child development** or resilience in children who have experienced multiple environmental risk factors, and 2) by documenting the development of young children who have non maternal caregivers due to temporary separation from mothers. Funding is sought under the RO3 mechanism because the principal investigator is a new investigator and so that the validity of the proposed analytic model can be determined.

  Website: http://crisp.cit.nih.gov/crisp/Crisp_Query.Generate_Screen

- **Project Title: STATE OF THE SCIENCE AND PRACTICE PRECONFERENCE SESSION**

  Principal Investigator & Institution: Nelson, Audrey E.; Parent-Child Nursing; University of Nebraska Medical Center Omaha, Ne 681987835

  Timing: Fiscal Year 2001; Project Start 01-SEP-2000; Project End 31-AUG-2005

  Summary: (Applicant's Description) One aim of the Association of Pediatric Oncology Nurses (APON) is to promote excellence in research of children with cancer and evidence-based nursing practice. To achieve this aim, the Research Committee and Clinical Practice Committee plan an Annual State of the Science and Practice Preconference Session that is held in conjunction with the APON Conference. The format for this educational offering is a senior nurse investigator and/or team present the program of study related to either clinical problems experienced by children with cancer or problems faced by care providers, parents or nurses. Invited experts provide critiques of the research program and proposed application in the clinical arena.

Audience participants (clinical nurse specialists, nurse practitioners, researchers, and academicians) discuss in small groups either clinical practice implementation or future research implications. A consensus statement to reflect the scientific knowledge gained from the research study to guide evidence-based nursing practice and the proceedings are published in the Association's official publication, Journal of Pediatric Oncology Nursing (JOPON). This application requests support of the APON's State of the Science and Practice Preconference Session for five years. The APON's Board of Directors supports the aim to further research of children with cancer, but due to financial constraints of the Association, they recommend that the research and clinical practice committees seek funding for these outcomes. Members of these committees are committed to foster investigations of phenomena that occur in pediatric oncology nursing and contribute to knowledge base for nursing practice. Additionally we strive to promote collaboration between researchers and clinicians as well as mentoring nurses beginning their research careers. In Year one, September 2000, Dr. Ida Marie (Ki) Moore and team will present "Development and Testing of School Competence Assessment Scale" (SCAS). They will describe effects of central nervous system treatment on the child's cognitive development, development of SCAS, and future research implications. After experts from education and child developments provide critiques, an advanced clinical practitioner will describe challenges associated with implementation of SCAS. In small groups the audience will discuss either implementing of SCAS and interventions to promote the child's academic performance or future research collaboration. A consensus statement regarding effects of central nervous system treatment on the child's cognitive development to direct evidenced-based interventions and proceedings will be published.

Website: http://crisp.cit.nih.gov/crisp/Crisp_Query.Generate_Screen

- **Project Title: SUPPLEMENTAL ZINC & FETAL DEVELOPMENT: 4-YEAR FOLLOW-UP**

  Principal Investigator & Institution: Caulfield, Laura E.; Associate Professor; International Health; Johns Hopkins University 3400 N Charles St Baltimore, Md 21218

  Timing: Fiscal Year 2002; Project Start 08-AUG-2002; Project End 30-JUN-2006

  Summary: (provided by applicant): The overall goal of the project is to test whether previously demonstrated differences in heart rate (HR) and variability (HRV) in the fetus associated with maternal zinc supplementation result in differences in cognitive and physiologic function during childhood as assessed at 4 years of age. We propose to evaluate the cognitive and physiologic functioning, general health and nutritional status of 155 Peruvian children from a cohort of 195 fetuses whose neural development we studied during pregnancy. To assess cognitive and social-emotional functioning, we will utilize a protocol developed at NICHD and already adapted for studying multiple facets of cognitive and social functioning in 4-year old Latin American children. Specifically, we will assess representational ability, language and number skills, mechanical ability, problem solving and intelligence, as well as adjustment and adaptive behavior through questionnaires administered to the mother. To characterize physiologic function, we will monitor HR and movements in these children at rest and during cognitive tasks. In addition, we will conduct a general medical exam and assess overall nutriture (anthropometric status, usual dietary intake, and current micronutrient status). Relevant history on postnatal morbidity, growth and development will be abstracted from clinic records. Because maternal and environmental factors influence **child development,** we plan to assess aspects of the mother (maternal verbal intelligence, maternal-child interaction, stresses, social support in parenting, anthropometric and mineral status)

and of the home environment (socioeconomic status, family composition, child care, employment, HOME inventory). This study presents a unique opportunity to examine the fetal origins of individual differences in cognitive function, and the neurobehavioral basis for these differences. The findings will open new avenues for investigating the influence of gestational zinc status on the ontogeny of human neurobehavioral development, and inform public health recommendations for optimal zinc intakes during pregnancy.

Website: http://crisp.cit.nih.gov/crisp/Crisp_Query.Generate_Screen

- **Project Title: THE ILLINOIS FAMILIES STUDY: CHILD WELL-BEING**

  Principal Investigator & Institution: Holl, Jane L.; Assistant Professor; None; Northwestern University 633 Clark St Evanston, Il 60208

  Timing: Fiscal Year 2001; Project Start 13-SEP-2000; Project End 31-MAR-2004

  Summary: This study focuses on the etiology of two specific forms of child neglect: physical neglect and supervisory neglect. Welfare reform requires parents to spend more time in formal employment, subject them to time limits and sanctions on the receipt of income assistance, and may result in unstable health care coverage for their families. Assessing whether such changes results in a differential rate of child maltreatment in general, and different types of child neglect in particular, is the focus of this study. The specific aims of the project are to assess the relationship between child and (1) employment, (2) income (dynamics), and (3) health care coverage. We will also identify the factors that mediate or moderate such relationships and expand the knowledge about causal pathways leading to specific forms of child neglect. We will also include baseline assessments of **child development** so that future studies may assess the developmental impacts of these forms of child neglect. This study builds upon the Illinois Families Study (IFS). The IFS will follow 1,500 families over six-years to study the effects of welfare and work by conducting annual surveys to gather information about demographics, employment, income, parenting, child care, health, and domestic violence and will gather, quarterly administrative data about use of welfare, Medicaid, unemployment, and social services. Nine Illinois counties have been selected for the study representing over 75% of the Illinois TANF caseload. This study will involve a sub-sample of children the IFS (500 children <2 years at the first interview). A parent will be interviewed, in-person, 6 months after the first IFS interview and then annually. The interview will focus on **child development** and temperament, parenting beliefs, household accident risks, adequacy of basic needs, and health care. Medical chart reviews will be conducted to assess access and adequacy of health care and to identify additional risks for neglect. Quarterly administrative data from the Illinois Department of Employment's Insurance database, the New-Hire registry, and all social agency registries (Food Stamps, Medicaid, Child Abuse) will be linked for each subject. Data from a continuously integrated database of children's services in Illinois that depicts a full network of relationships linking individual children and public services (e.g. child protection, juvenile justice, Medicaid, special education, and mental health services) will also be linked. The more likely statistical power levels for each neglect outcome range from.72 to.94 for a two-tailed test, and from.82 to.97 for a one-tailed test. This study will not rely solely on formal indicators of neglect, but will investigate other "informal" indicators based on operationalized definitions of environmental, physical, and supervisory neglect. Independent measures will include demographics, parental characteristics, parent-child interaction, parent and child physical and mental health, and **child development.** The means, standard deviations, and ranges associated with each indicators will be reported, and for repeated measured,

the average change from one interview to the next will be provided. The primary goal of the multivariate analyses is to determine which factors or combinations of factors place children at greater risk for child neglect and CPS intervention.

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- **Project Title: THE NICHD STUDY OF EARLY CHILD CARE--PHASE 3**

  Principal Investigator & Institution: Clarke-Stewart, K Alison.; Professor; Psychology and Social Behavior; University of California Irvine Campus Dr Irvine, Ca 92697

  Timing: Fiscal Year 2001; Project Start 24-JAN-1990; Project End 31-DEC-2004

  Summary: (Adapted from applicant's description) The goal of Phase III of the NICHD Study of Early Child Care is to extend a collaborative, prospective, longitudinal study of a cohort of 1103 children and their families, first enrolled at one month of age and studied intensively through first grade (age 7) in Phases I and II of this cooperative agreement. These participants will be studied through middle childhood (fifth grade) in order to investigate how important contexts contribute to trajectories of development from birth through middle childhood within the broader social ecology of work and family. The design of Phase III involves intensive study of the children and their parents at third and fifth grades (home visits, school observations, and laboratory assessments) as well as regularly scheduled (at least one per year) phone-call interviews with the children and mothers. In addition, questionnaires will be gathered from teachers in second through fifth grades. Structural and process features of key contexts (home/family, school, out-of- school settings, neighborhood/community, parents' work, and socioeconomic/cultural niches) will be examined in relation to trajectories in three principal domains of **child development** (achievement/cognition, social/emotional, and health), as well as the domain of parental well-being. Through multivariate modeling of longitudinal relations among features of multiple contexts and developmental trajectories, work in Phase III will be organized by four central research issues: a) the interplay between early and concurrent experience in varied contexts and developmental trajectories from birth through middle childhood; b) the extent to which different processes account for development trajectories across children and/or families that differ with regard to cultural, social, or economic niche; c) the ways in which experiences in familial and extrafamilial contexts contribute to risk and resilience; and d) the relations between parents' work and family life and the consequences of work-family relations for parents' well-being and that of their children.

  Website: http://crisp.cit.nih.gov/crisp/Crisp_Query.Generate_Screen

- **Project Title: TOXICITY OF METHYL MERCURY IN A FISH EATING POPULATION**

  Principal Investigator & Institution: Clarkson, Thomas W.; Associate Professor; Environmental Medicine; University of Rochester Orpa - Rc Box 270140 Rochester, Ny 14627

  Timing: Fiscal Year 2001; Project Start 21-JUL-2000; Project End 30-JUN-2005

  Summary: Methyl mercury is considered to be a developmental neurotoxicant. However, contrary to expected findings, a longitudinal study in the Seychelles has revealed a positive association between increasing mercury levels, measured in maternal hair prenatally and in infant hair, and enhanced **child development.** Given that fish consumption the Seychelles is high, and that fish intakes correlate with hair mercury levels, we hypothesize that certain micronutrients in fish may be (a) beneficial the **child development** and (b) protective against the neurotoxic effects of methyl

mercury. We propose to test this hypothesis in a new study of 250 mother-infant pairs recruited in the Seychelles during the first trimester and followed longitudinally until the infants reach 29 months of age using the most sensitive developmental endpoints available. The four likely micronutrients, based on their levels in fish and their documented roles in brain development and prioritized in terms of biological plausibility, are the long chain polyunsaturated fatty acids principally docosahexaenoic acid, iodine, iron and the amino acid taurine. Also, selenium may play a role as a modifier of the toxic action of methyl mercury and, as such, will be included with mercury as an independent variable. Mercury in maternal and infant hair will continue to be used as our primary measure of prenatal and post natal exposures. In addition to direct measures of mercury, micronutrient status and selenium levels in biological samples from mother and infant, a diet survey including fish consumption will be made at selected pre- and postnatal stages of this study. These data will allow us to characterize metabolic interrelationship between fish intake and levels of mercury and micronutrients that should further test the plausibility of our hypothesis. This proposed study should break new scientific grounds on the interrelationship between nutrition and toxicology. Specifically, we expect that data emanating from the project to indicate that nutritional variables must be taken into account in any evaluation of the neurotoxicity of methyl mercury when fish is the principal source of human exposure to mercury.

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- **Project Title: WEALTH AND HEALTH: RACE, ASSETS AND CHILD DEVELOPMENT**

  Principal Investigator & Institution: Conley, Dalton C.; Associate Professor & Adjunct Associate; Sociology; New York University 15 Washington Place New York, Ny 10003

  Timing: Fiscal Year 2003; Project Start 01-MAY-2003; Project End 30-APR-2005

  Summary: (provided by applicant): What is the relationship between race, wealth and health among children? There has been much epidemiological research done to investigate the association of children's health and developmental indicators with parental social economical status (SES) as measured by education level, occupation and income. However, household wealth (i.e. net worth) - which displays a distribution that is more unequal than that for income - has received little attention with respect to child health. In fact, the income and wealth distributions are not very co-linear at all (some research shows a correlation between a multiyear income measure and net worth of around.45). Also, racial wealth differences are substantial even when controlling for income. Some recent research has shown that parental net worth differences may explain a significant portion of black-white disparities in areas such as educational attainment, work patterns, teenage fertility, and welfare usage (Conley 1999). Despite such tantalizing evidence, wealth has been under-examined with respect to children's health and other aspects of development such as cognitive ability and behavior problems, where a number of racial disparities have also been shown to persist. Addressing this gap in the literature is the purpose of the current proposal. The investigators intend to examine the relationship between parental wealth and children's development, with a particular emphasis on how net worth may mediate or modify the race - child health association. The mechanism through which family wealth influences children's health and achievements will be a focus of this study. Data for this study will come from the Panel Study of Income Dynamics (PSID), **Child Development** Supplement (CDS) and Main File.

  Website: http://crisp.cit.nih.gov/crisp/Crisp_Query.Generate_Screen

The National Library of Medicine: PubMed

One of the quickest and most comprehensive ways to find academic studies in both English and other languages is to use PubMed, maintained by the National Library of Medicine.[3] The advantage of PubMed over previously mentioned sources is that it covers a greater number of domestic and foreign references. It is also free to use. If the publisher has a Web site that offers full text of its journals, PubMed will provide links to that site, as well as to sites offering other related data. User registration, a subscription fee, or some other type of fee may be required to access the full text of articles in some journals.

To generate your own bibliography of studies dealing with child development, simply go to the PubMed Web site at **http://www.ncbi.nlm.nih.gov/pubmed**. Type "child development" (or synonyms) into the search box, and click "Go." The following is the type of output you can expect from PubMed for child development (hyperlinks lead to article summaries):

- **A comprehensive care program for pregnant addicts: obstetrical, neonatal, and child development outcomes.**
  Author(s): Suffet F, Brotman R.
  Source: Int J Addict. 1984 April; 19(2): 199-219.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=6724763&dopt=Abstract

- **A foundation course in child development.**
  Author(s): Speight IM.
  Source: Midwife Health Visit Community Nurse. 1979 December; 15(12): 506-9. No Abstract Available.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=259898&dopt=Abstract

- **A higher level of analysis: Bellinger's, interpreting the literature on lead and child development.**
  Author(s): Dietrich KN.
  Source: Neurotoxicology and Teratology. 1995 May-June; 17(3): 223-5; Discussion 249-51.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=7542730&dopt=Abstract

- **A longitudinal study on child development in relation to socio-economic factors.**
  Author(s): Bhandari A, Ghosh BN.
  Source: The Indian Journal of Medical Research. 1980 November; 72: 677-84.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=7203569&dopt=Abstract

[3] PubMed was developed by the National Center for Biotechnology Information (NCBI) at the National Library of Medicine (NLM) at the National Institutes of Health (NIH). The PubMed database was developed in conjunction with publishers of biomedical literature as a search tool for accessing literature citations and linking to full-text journal articles at Web sites of participating publishers. Publishers that participate in PubMed supply NLM with their citations electronically prior to or at the time of publication.

- **A methodological model to study the effects of toxins on child development.**
  Author(s): Marcus J, Hans SL.
  Source: Neurobehav Toxicol Teratol. 1982 July-August; 4(4): 483-7.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=7121701&dopt=Abstract

- **A normative study of child development using a culture-appropriate test battery in rural Haryana, India.**
  Author(s): Kumar R, Iyengar SD, Bhasin S, Gupta I, Kumar V.
  Source: Journal of Tropical Pediatrics. 1995 February; 41(1): 38-42.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=7723128&dopt=Abstract

- **A regional register of early childhood impairments: a discussion paper. The Steering Committee of the Oxford Region Child Development Project.**
  Author(s): Johnson A, King R.
  Source: Community Med. 1989 November; 11(4): 352-63. Review.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=2699446&dopt=Abstract

- **A review of child health in the 1958 birth cohort: National Child Development Study.**
  Author(s): Power C.
  Source: Paediatric and Perinatal Epidemiology. 1992 January; 6(1): 81-110. Review.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=1553321&dopt=Abstract

- **A review of methylmercury and child development.**
  Author(s): Myers GJ, Davidson PW, Shamlaye CF.
  Source: Neurotoxicology. 1998 April; 19(2): 313-28. Review.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=9553968&dopt=Abstract

- **A study of the relationship of ninety background, developmental, behavioural and medical factors to child hood accidents. A report from the Dunedin Multidisciplinary Child Development Study.**
  Author(s): Langley J, Silva PA, Williams S.
  Source: Aust Paediatr J. 1980 December; 16(4): 244-7. No Abstract Available.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=7236129&dopt=Abstract

- **A study on child development in Cape Town. The cohort and sample.**
  Author(s): Molteno CD, Hollingshead J, Moodie AD, Willoughby W, Bowie MD, Bradshaw D, Pretorius JP.
  Source: South African Medical Journal. Suid-Afrikaanse Tydskrif Vir Geneeskunde. 1980 November 1; 58(18): 729-32.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=7423318&dopt=Abstract

- **A test battery of child development for examining functional vision (ABCDEFV).**
  Author(s): Atkinson J, Anker S, Rae S, Hughes C, Braddick O.
  Source: Strabismus. 2002 December; 10(4): 245-69.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=12660850&dopt=Abstract

- **Accidental injuries in the sixth and seventh years of life: a report from the Dunedin Multidisciplinary Child Development Study.**
  Author(s): Langley JD, Silva PA, Williams SM.
  Source: N Z Med J. 1981 May 27; 93(684): 344-7.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=6942297&dopt=Abstract

- **Accidents in the first five years of life: a report from the Dunedin Multidisciplinary Child Development Study.**
  Author(s): Langley J, Dodge J, Silva PA.
  Source: Aust Paediatr J. 1979 December; 15(4): 255-9. No Abstract Available.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=546390&dopt=Abstract

- **Aloneness and borderline psychopathology: the possible relevance of child development issues.**
  Author(s): Adler G, Buie DH Jr.
  Source: The International Journal of Psycho-Analysis. 1979; 60(1): 83-96.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=457345&dopt=Abstract

- **An adaptation of the Minnesota Child Development Inventory for preschool developmental screening.**
  Author(s): Sturner RA, Funk SG, Thomas PD, Green JA.
  Source: Journal of Pediatric Psychology. 1982 September; 7(3): 295-306.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=7131216&dopt=Abstract

- **An evaluation of efforts to educate mothers about child development in pediatric office practices.**
  Author(s): Chamberlin RW, Szumowski EK, Zastowny TR.
  Source: American Journal of Public Health. 1979 September; 69(9): 875-86.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=474843&dopt=Abstract

- **Anna Freud's contributions to our knowledge of child development. An overview.**
  Author(s): Yorke C.
  Source: Psychoanal Study Child. 1996; 51: 7-24. Review.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=9029946&dopt=Abstract

- **Are impaired childhood motor skills a risk factor for adolescent anxiety? Results from the 1958 U.K. birth cohort and the National Child Development Study.**
  Author(s): Sigurdsson E, Van Os J, Fombonne E.
  Source: The American Journal of Psychiatry. 2002 June; 159(6): 1044-6.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=12042195&dopt=Abstract

- **Assessing child development.**
  Author(s): Kimmel SR, Quinn EA, Phelps KA.
  Source: Primary Care. 1994 December; 21(4): 673-92.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=7531850&dopt=Abstract

- **Assessing children's development using parents' reports. The Child Development Inventory.**
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- **Rise and fall of a child development team.**
  Author(s): Frenkiel AL.
  Source: The Practitioner. 1983 February; 227(1376): 291-4.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=6223291&dopt=Abstract

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  Author(s): Coleman JC.
  Source: J Proj Tech Pers Assess. 1968 October; 32(5): 434-42. No Abstract Available.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=5684429&dopt=Abstract

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  Author(s): Newcomb S, Broadhurst L, Kissane K.
  Source: Military Medicine. 1997 December; 162(12): 783-7.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=9433081&dopt=Abstract

- **Screening for sensorineural deafness by health visitors. The Steering Committee, Oxford Region Child Development Project.**
  Author(s): Johnson A, Ashurst H.
  Source: Archives of Disease in Childhood. 1990 August; 65(8): 841-5.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=2400220&dopt=Abstract

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  Author(s): Myers GJ, Davidson PW, Palumbo D, Shamlaye C, Cox C, Cernichiari E, Clarkson TW.
  Source: Environmental Research. 2000 September; 84(1): 12-9.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=10991778&dopt=Abstract

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  Author(s): McLoyd VC, Randolph SM.
  Source: Monographs of the Society for Research in Child Development. 1985; 50(4-5): 78-92.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=3915789&dopt=Abstract

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  Author(s): Axtell CD, Myers GJ, Davidson PW, Choi AL, Cernichiari E, Sloane-Reeves J, Cox C, Shamlaye C, Clarkson TW.
  Source: Environmental Health Perspectives. 1998 September; 106(9): 559-63.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=9721255&dopt=Abstract

- **Sending a copy of the letter to the general practitioner also to the parents in a child development centre: does it work?**
  Author(s): Bailey G, Hyde L, Morton R.
  Source: Child: Care, Health and Development. 1996 November; 22(6): 411-9.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=8937752&dopt=Abstract

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  Author(s): Sherwen LN.
  Source: Top Clin Nurs. 1983 April; 5(1): 1-11. No Abstract Available.
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  Author(s): Nettelbladt P, Uddenberg N, Englesson I.
  Source: Acta Psychiatrica Scandinavica. 1981 July; 64(1): 12-24.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=7315492&dopt=Abstract

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  Author(s): McGee R, Stanton WR.
  Source: Journal of Paediatrics and Child Health. 1994 June; 30(3): 263-8.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=7521190&dopt=Abstract

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  Author(s): Neel AF.
  Source: Psychological Reports. 1977 June; 40(3 Pt. 2): 1143-6.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=897037&dopt=Abstract

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  Author(s): Eisenberg L.
  Source: Pediatrics. 1981 November; 68(5): 705-12.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=7312475&dopt=Abstract

- **Social determinants of initiation, duration and exclusivity of breastfeeding at the population level: the results of the Longitudinal Study of Child Development in Quebec (ELDEQ 1998-2002).**
  Author(s): Dubois L, Girard M.
  Source: Canadian Journal of Public Health. Revue Canadienne De Sante Publique. 2003 July-August; 94(4): 300-5.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=12873091&dopt=Abstract

- **Socioeconomic disadvantage and child development.**
  Author(s): McLoyd VC.
  Source: The American Psychologist. 1998 February; 53(2): 185-204. Review.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=9491747&dopt=Abstract

- **Socioeconomic status and child development.**
  Author(s): Bradley RH, Corwyn RF.
  Source: Annual Review of Psychology. 2002; 53: 371-99. Review.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=11752490&dopt=Abstract

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  Author(s): Swanwick M.
  Source: Nursing (Lond). 1987 November; 3(23): 853-7. No Abstract Available.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=3696571&dopt=Abstract

- **Some maternal and child developmental characteristics associated with breast feeding: a report from the Dunedin Multidisciplinary Child Development Study.**
  Author(s): Silva PA, Buckfield P, Spears GF.
  Source: Aust Paediatr J. 1978 December; 14(4): 265-8. No Abstract Available.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=747545&dopt=Abstract

- **Stage-related behavioural problems in the 1-4 year old child: parental expectations in a child development unit referral group compared with a control group.**
  Author(s): Ticehurst RL, Henry RL.
  Source: Aust Paediatr J. 1989 February; 25(1): 39-42.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=2730468&dopt=Abstract

- **Stress and mood disorders during pregnancy: implications for child development.**
  Author(s): Monk C.
  Source: The Psychiatric Quarterly. 2001 Winter; 72(4): 347-57. Review.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=11525082&dopt=Abstract

- **Sudden infant death syndrome, child sexual abuse, and child development.**
  Author(s): Blatt SD, Meguid V, Church CC, Botash AS, Jean-Louis F, Siripornsawan MP, Weinberger HL.
  Source: Current Opinion in Pediatrics. 1999 April; 11(2): 175-86. Review.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=10202629&dopt=Abstract

- **Summary of the Seychelles child development study on the relationship of fetal methylmercury exposure to neurodevelopment.**
  Author(s): Myers GJ, Davidson PW, Cox C, Shamlaye CF, Tanner MA, Marsh DO, Cernichiari E, Lapham LW, Berlin M, Clarkson TW.
  Source: Neurotoxicology. 1995 Winter; 16(4): 711-16.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=8714875&dopt=Abstract

- **Teaching teenagers about child development.**
  Author(s): Montague J.
  Source: Midwife Health Visit Community Nurse. 1979 April; 15(4): 150-1. No Abstract Available.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=253924&dopt=Abstract

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  Author(s): Okimoto JT, Settlage CF, Freed W, Klein K, Dao E, Campbell JA, Yoshiike Y, Lui B, Mason C.
  Source: J Am Psychoanal Assoc. 2001 Winter; 49(1): 187-215. Erratum In: J Am Psychoanal Assoc 2001 Spring; 49(2): 728.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=11379721&dopt=Abstract

- **The appropriateness of western models of parent involvement in Calcutta, India. Part 1: Parents' views on teaching and child development.**
  Author(s): Goldbart J, Mukherjee S.
  Source: Child: Care, Health and Development. 1999 September; 25(5): 335-47.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=10494460&dopt=Abstract

- **The brain and child development: time for some critical thinking.**
  Author(s): Bruer JT.
  Source: Public Health Reports (Washington, D.C. : 1974). 1998 September-October; 113(5): 388-97. Review.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=9769763&dopt=Abstract

- **The case for child development as a determinant of health.**
  Author(s): Hertzman C.
  Source: Canadian Journal of Public Health. Revue Canadienne De Sante Publique. 1998 May-June; 89 Suppl 1: S14-9, S16-21. Review. English, French.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=9654787&dopt=Abstract

- **The Child Development Inventory: A developmental outcome measure for follow-up of the high-risk infant.**
  Author(s): Doig KB, Macias MM, Saylor CF, Craver JR, Ingram PE.
  Source: The Journal of Pediatrics. 1999 September; 135(3): 358-62.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=10484803&dopt=Abstract

- **The Child Development-Community Policing Program: a partnership to address the impact of violence.**
  Author(s): Berkowitz SJ, Marans SM.
  Source: The Israel Journal of Psychiatry and Related Sciences. 2000; 37(2): 103-14.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=10994294&dopt=Abstract

- **The developmental case conference as a method of teaching pediatricians about child development on an inpatient service.**
  Author(s): Drotar D, Malone C.
  Source: Clinical Pediatrics. 1980 April; 19(4): 261-2.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=7357781&dopt=Abstract

- **The economic impact of child development services on families of retarded children.**
  Author(s): Liberman A, Barnes MJ, Ho ES, Cuellar I, Little T.
  Source: Mental Retardation. 1979 June; 17(3): 158-9.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=542122&dopt=Abstract

- **The effect of breastfeeding on child development at 5 years: a cohort study.**
  Author(s): Quinn PJ, O'Callaghan M, Williams GM, Najman JM, Andersen MJ, Bor W.
  Source: Journal of Paediatrics and Child Health. 2001 October; 37(5): 465-9.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=11885710&dopt=Abstract

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  Author(s): Stainton MC.
  Source: Nursing Forum. 1980; 19(2): 165-79.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=6902917&dopt=Abstract

- **The effect of pregnancy intention on child development.**
  Author(s): Joyce TJ, Kaestner R, Korenman S.
  Source: Demography. 2000 February; 37(1): 83-94.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=10748991&dopt=Abstract

- **The effects of home environment on child development.**
  Author(s): Parkinson CE.
  Source: Midwife Health Visit Community Nurse. 1979 June; 15(6): 236-9. No Abstract Available.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=255756&dopt=Abstract

- **The effects of postpartum depression on child development: a meta-analysis.**
  Author(s): Beck CT.
  Source: Archives of Psychiatric Nursing. 1998 February; 12(1): 12-20.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=9489170&dopt=Abstract

- **The European study of assisted reproduction families: a comparison of family functioning and child development between Eastern and Western Europe.**
  Author(s): Cook R, Vatev I, Michova Z, Golombok S.
  Source: Journal of Psychosomatic Obstetrics and Gynaecology. 1997 September; 18(3): 203-12.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=9304541&dopt=Abstract

- **The future of applied child development research and public policy.**
  Author(s): McCall RB, Groark CJ.
  Source: Child Development. 2000 January-February; 71(1): 197-204.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=10836574&dopt=Abstract

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  Author(s): Tirosh E, Amit Y, Harel J.
  Source: International Journal of Rehabilitation Research. Internationale Zeitschrift Fur Rehabilitationsforschung. Revue Internationale De Recherches De Readaptation. 1999 June; 22(2): 147-50.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=10448627&dopt=Abstract

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  Author(s): Bonney H.
  Source: Journal of Psychosomatic Obstetrics and Gynaecology. 2002 September; 23(3): 201-8.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=12436806&dopt=Abstract

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  Author(s): Popplewell JF, Sheikh AA.
  Source: The International Journal of Social Psychiatry. 1979; 25(4): 267-84.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=541177&dopt=Abstract

- **The working child and the street child: effect on future child development.**
  Author(s): Damodaran A.
  Source: Bull N Y Acad Med. 1997 Summer; 74(1): 81-9. No Abstract Available.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=9211003&dopt=Abstract

- **Undernutrition and child development.**
  Author(s): Chase HP, Martin HP.
  Source: The New England Journal of Medicine. 1970 April 23; 282(17): 933-9.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=5436028&dopt=Abstract

- **Understanding child development through group techniques and play.**
  Author(s): Kernberg PF, Ware LM.
  Source: Bulletin of the Menninger Clinic. 1975 September; 39(5): 409-19.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=1182325&dopt=Abstract

- **Understanding child development.**
  Author(s): Holt KS.
  Source: Indian Pediatrics. 1990 January; 27(1): 9-13.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=2361751&dopt=Abstract

- **Unprovoked seizures and developmental disabilities: clinical characteristics of children referred to a child development center.**
  Author(s): Nevo Y, Shinnar S, Samuel E, Kramer U, Leitner Y, Fatal A, Kutai M, Harel S.
  Source: Pediatric Neurology. 1995 October; 13(3): 235-41.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=8554661&dopt=Abstract

- **Unrealistic expectations of parents who maltreat their children: an educational deficit that pertains to child development.**
  Author(s): Twentyman CT, Plotkin RC.
  Source: Journal of Clinical Psychology. 1982 July; 38(3): 497-503.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=7107912&dopt=Abstract

- **Unusual palm creases and unusual children. The Sydney line and "type C" palmar lines and their clinical significance in a child development clinic.**
  Author(s): Johnson CF, Opitz E.
  Source: Clinical Pediatrics. 1973 February; 12(2): 101-12.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=4119799&dopt=Abstract

- **Use of the child development inventory to screen high-risk populations.**
  Author(s): Montgomery ML, Saylor CF, Bell NL, Macias MM, Charles JM, Katikaneni LD.
  Source: Clinical Pediatrics. 1999 September; 38(9): 535-9.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=10500886&dopt=Abstract

- **Use of the child development review increases residents' discussion of behavioral problems.**
  Author(s): Felt BT, O'Connor ME.
  Source: Ambulatory Pediatrics : the Official Journal of the Ambulatory Pediatric Association. 2003 January-February; 3(1): 2-8.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=12540245&dopt=Abstract

- **Using home visits for multiple purposes: the Comprehensive Child Development Program.**
  Author(s): St Pierre RG, Layzer JI.
  Source: Future Child. 1999 Spring-Summer; 9(1): 134-51.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=10414014&dopt=Abstract

- **Using measurement error models to assess effects of prenatal and postnatal methylmercury exposure in the Seychelles Child Development Study.**
  Author(s): Huang LS, Cox C, Wilding GE, Myers GJ, Davidson PW, Shamlaye CF, Cernichiari E, Sloane-Reeves J, Clarkson TW.
  Source: Environmental Research. 2003 October; 93(2): 115-22.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=12963395&dopt=Abstract

- **Using the one-way mirror to train foster parents in child development.**
  Author(s): Gross BD, Shuman BJ, Magid DT.
  Source: Child Welfare. 1978 December; 57(10): 685-8.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=738143&dopt=Abstract

- **Validation of the measure of processes of care for use when there is no Child Development Centre.**
  Author(s): McConachie H, Logan S; Measure of Process of Care UK Validation Working Group.
  Source: Child: Care, Health and Development. 2003 January; 29(1): 35-45.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=12534565&dopt=Abstract

- **Validity of Minnesota Child Development Inventory in screening young children's developmental status.**
  Author(s): Gottfried AW, Guerin D, Spencer JE, Meyer C.
  Source: Journal of Pediatric Psychology. 1984 June; 9(2): 219-30.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=6470904&dopt=Abstract

- **Vision screening at 8 and 18 months. Steering Committee of Oxford Region Child Development Project.**
  Author(s): Johnson A, Stayte M, Wortham C.
  Source: Bmj (Clinical Research Ed.). 1989 August 26; 299(6698): 545-9.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=2507064&dopt=Abstract

- **Vygotsky's view about the age periodization of child development.**
  Author(s): Zender MA, Zender BF.
  Source: Human Development. 1974; 17(1): 24-40.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=4597754&dopt=Abstract

- **Welfare reform, family support, and child development: perspectives from policy analysis and developmental psychopathology.**
  Author(s): Knitzer J, Yoshikawa H, Cauthen NK, Aber JL.
  Source: Development and Psychopathology. 2000 Autumn; 12(4): 619-32.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=11202036&dopt=Abstract

- **Who's in the house? Race differences in cohabitation, single parenthood, and child development.**
  Author(s): Dunifon R, Kowaleski-Jones L.
  Source: Child Development. 2002 July-August; 73(4): 1249-64.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=12146746&dopt=Abstract

- **Youth, permissiveness, and child development.**
  Author(s): Philips I.
  Source: Pediatrics. 1972 January; 49(1): 1-4.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=5059307&dopt=Abstract

CHAPTER 2. NUTRITION AND CHILD DEVELOPMENT

Overview

In this chapter, we will show you how to find studies dedicated specifically to nutrition and child development.

Finding Nutrition Studies on Child Development

The National Institutes of Health's Office of Dietary Supplements (ODS) offers a searchable bibliographic database called the IBIDS (International Bibliographic Information on Dietary Supplements; National Institutes of Health, Building 31, Room 1B29, 31 Center Drive, MSC 2086, Bethesda, Maryland 20892-2086, Tel: 301-435-2920, Fax: 301-480-1845, E-mail: ods@nih.gov). The IBIDS contains over 460,000 scientific citations and summaries about dietary supplements and nutrition as well as references to published international, scientific literature on dietary supplements such as vitamins, minerals, and botanicals.[4] The IBIDS includes references and citations to both human and animal research studies.

As a service of the ODS, access to the IBIDS database is available free of charge at the following Web address: **http://ods.od.nih.gov/databases/ibids.html**. After entering the search area, you have three choices: (1) IBIDS Consumer Database, (2) Full IBIDS Database, or (3) Peer Reviewed Citations Only.

Now that you have selected a database, click on the "Advanced" tab. An advanced search allows you to retrieve up to 100 fully explained references in a comprehensive format. Type "child development" (or synonyms) into the search box, and click "Go." To narrow the search, you can also select the "Title" field.

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[4] Adapted from **http://ods.od.nih.gov**. IBIDS is produced by the Office of Dietary Supplements (ODS) at the National Institutes of Health to assist the public, healthcare providers, educators, and researchers in locating credible, scientific information on dietary supplements. IBIDS was developed and will be maintained through an interagency partnership with the Food and Nutrition Information Center of the National Agricultural Library, U.S. Department of Agriculture.

The following is a typical result when searching for recently indexed consumer information on child development:

- **Environmental factors and childhood development (iron and lead).**
  Source: Jimenez, E. Long-term consequences of early feeding /. Philadelphia : Lippincott-Raven, c1996. page 57-68. ISBN: 0397517289

Federal Resources on Nutrition

In addition to the IBIDS, the United States Department of Health and Human Services (HHS) and the United States Department of Agriculture (USDA) provide many sources of information on general nutrition and health. Recommended resources include:

- healthfinder®, HHS's gateway to health information, including diet and nutrition: **http://www.healthfinder.gov/scripts/SearchContext.asp?topic=238&page=0**
- The United States Department of Agriculture's Web site dedicated to nutrition information: **www.nutrition.gov**
- The Food and Drug Administration's Web site for federal food safety information: **www.foodsafety.gov**
- The National Action Plan on Overweight and Obesity sponsored by the United States Surgeon General: **http://www.surgeongeneral.gov/topics/obesity/**
- The Center for Food Safety and Applied Nutrition has an Internet site sponsored by the Food and Drug Administration and the Department of Health and Human Services: **http://vm.cfsan.fda.gov/**
- Center for Nutrition Policy and Promotion sponsored by the United States Department of Agriculture: **http://www.usda.gov/cnpp/**
- Food and Nutrition Information Center, National Agricultural Library sponsored by the United States Department of Agriculture: **http://www.nal.usda.gov/fnic/**
- Food and Nutrition Service sponsored by the United States Department of Agriculture: **http://www.fns.usda.gov/fns/**

Additional Web Resources

A number of additional Web sites offer encyclopedic information covering food and nutrition. The following is a representative sample:

- AOL: **http://search.aol.com/cat.adp?id=174&layer=&from=subcats**
- Family Village: **http://www.familyvillage.wisc.edu/med_nutrition.html**
- Google: **http://directory.google.com/Top/Health/Nutrition/**
- Healthnotes: **http://www.healthnotes.com/**
- Open Directory Project: **http://dmoz.org/Health/Nutrition/**
- Yahoo.com: **http://dir.yahoo.com/Health/Nutrition/**
- WebMD®Health: **http://my.webmd.com/nutrition**

- WholeHealthMD.com: **http://www.wholehealthmd.com/reflib/0,1529,00.html**

The following is a specific Web list relating to child development; please note that any particular subject below may indicate either a therapeutic use, or a contraindication (potential danger), and does not reflect an official recommendation:

- **Minerals**

  Iron
  Source: Healthnotes, Inc.; www.healthnotes.com

CHAPTER 3. ALTERNATIVE MEDICINE AND CHILD DEVELOPMENT

Overview

In this chapter, we will begin by introducing you to official information sources on complementary and alternative medicine (CAM) relating to child development. At the conclusion of this chapter, we will provide additional sources.

National Center for Complementary and Alternative Medicine

The National Center for Complementary and Alternative Medicine (NCCAM) of the National Institutes of Health (**http://nccam.nih.gov/**) has created a link to the National Library of Medicine's databases to facilitate research for articles that specifically relate to child development and complementary medicine. To search the database, go to the following Web site: **http://www.nlm.nih.gov/nccam/camonpubmed.html**. Select "CAM on PubMed." Enter "child development" (or synonyms) into the search box. Click "Go." The following references provide information on particular aspects of complementary and alternative medicine that are related to child development:

- **Between the laboratory and life: child development research in Toronto, 1919-1965.**
  Author(s): Pols H.
  Source: History of Psychology. 2002 May; 5(2): 135-62.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=12096758&dopt=Abstract

- **Early child development and the next child decision.**
  Author(s): Adeokun LA.
  Source: Genus. 1983 January-December; 39(1-4): 115-40.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=12266115&dopt=Abstract

- **Effects of word predictability, child development, and aging on time-gated speech recognition performance.**
  Author(s): Craig CH, Kim BW, Rhyner PM, Chirillo TK.

Source: Journal of Speech and Hearing Research. 1993 August; 36(4): 832-41.
http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=8377495&dopt=Abstract

- **Integrated Child Development Services (ICDS) scheme: a program for holistic development of children in India.**
  Author(s): Kapil U.
  Source: Indian J Pediatr. 2002 July; 69(7): 597-601.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=12173700&dopt=Abstract

- **Integrated Child Development Services programme.**
  Author(s): Ghosh S.
  Source: Natl Med J India. 2003; 16 Suppl 2: 20-3. Review. No Abstract Available.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=12816202&dopt=Abstract

- **Integrated Child Development Services scheme (ICDS) and its impact on nutritional status of children in India and recent initiatives.**
  Author(s): Kapil U, Pradhan R.
  Source: Indian J Public Health. 1999 January-March; 43(1): 21-5. Review.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=11243083&dopt=Abstract

- **Integrated child development services scheme: need for reappraisal.**
  Author(s): Tandon M, Kapil U.
  Source: Indian Pediatrics. 1998 March; 35(3): 257-60; Discussion 260-1. Review.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=9707880&dopt=Abstract

- **Pets play role in child development.**
  Author(s): Meehan SK.
  Source: J Am Vet Med Assoc. 1995 October 15; 207(8): 1010-1. No Abstract Available.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=7559032&dopt=Abstract

- **Poverty and child development: relevance of research in developing countries to the United States.**
  Author(s): Pollitt E.
  Source: Child Development. 1994 April; 65(2 Spec No): 283-95.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=7516848&dopt=Abstract

- **Promoting holistic child development: a collaborative school health approach.**
  Author(s): Haynes NM.
  Source: The Journal of School Health. 1998 November; 68(9): 381-3. Review.
  http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=9854695&dopt=Abstract

Additional Web Resources

A number of additional Web sites offer encyclopedic information covering CAM and related topics. The following is a representative sample:

- Alternative Medicine Foundation, Inc.: **http://www.herbmed.org/**
- AOL: **http://search.aol.com/cat.adp?id=169&layer=&from=subcats**
- Chinese Medicine: **http://www.newcenturynutrition.com/**
- drkoop.com®: **http://www.drkoop.com/InteractiveMedicine/IndexC.html**
- Family Village: **http://www.familyvillage.wisc.edu/med_altn.htm**
- Google: **http://directory.google.com/Top/Health/Alternative/**
- Healthnotes: **http://www.healthnotes.com/**
- MedWebPlus: **http://medwebplus.com/subject/Alternative_and_Complementary_Medicine**
- Open Directory Project: **http://dmoz.org/Health/Alternative/**
- HealthGate: **http://www.tnp.com/**
- WebMD®Health: **http://my.webmd.com/drugs_and_herbs**
- WholeHealthMD.com: **http://www.wholehealthmd.com/reflib/0,1529,00.html**
- Yahoo.com: **http://dir.yahoo.com/Health/Alternative_Medicine/**

The following is a specific Web list relating to child development; please note that any particular subject below may indicate either a therapeutic use, or a contraindication (potential danger), and does not reflect an official recommendation:

- **General Overview**

  Birth Defects Prevention
  Source: Healthnotes, Inc.; www.healthnotes.com

General References

A good place to find general background information on CAM is the National Library of Medicine. It has prepared within the MEDLINEplus system an information topic page dedicated to complementary and alternative medicine. To access this page, go to the MEDLINEplus site at **http://www.nlm.nih.gov/medlineplus/alternativemedicine.html**. This Web site provides a general overview of various topics and can lead to a number of general sources.

CHAPTER 4. DISSERTATIONS ON CHILD DEVELOPMENT

Overview

In this chapter, we will give you a bibliography on recent dissertations relating to child development. We will also provide you with information on how to use the Internet to stay current on dissertations. **IMPORTANT NOTE:** When following the search strategy described below, you may discover non-medical dissertations that use the generic term "child development" (or a synonym) in their titles. To accurately reflect the results that you might find while conducting research on child development, we have not necessarily excluded non-medical dissertations in this bibliography.

Dissertations on Child Development

ProQuest Digital Dissertations, the largest archive of academic dissertations available, is located at the following Web address: **http://wwwlib.umi.com/dissertations**. From this archive, we have compiled the following list covering dissertations devoted to child development. You will see that the information provided includes the dissertation's title, its author, and the institution with which the author is associated. The following covers recent dissertations found when using this search procedure:

- **A Comparison of Selected Performance Characteristics, Teacher Knowledge of Child Development, and Student Perceptions of Practicing First Year Alternate Route and Traditionally Certified Teachers in the State of Mississippi** by Sweatt, Janet Nolan, Phd from The University of Mississippi, 1989, 114 pages
  http://wwwlib.umi.com/dissertations/fullcit/8925026
- **A Comparison of the Competencies Needed by Child Care Providers As Identified by Center Directors, Experienced Workers, and Instructors of Training Programs with the Standards for the Child Development Associate Certificate (certification)** by Galloway, Diane Mclean, Edd from The University of Memphis, 1996, 96 pages
  http://wwwlib.umi.com/dissertations/fullcit/9633850
- **A Descriptive Study of Two Public School Family-focused Child Development Programs** by Ayers, Sandra Mcalister, Phd from University of South Carolina, 1996, 219 pages
  http://wwwlib.umi.com/dissertations/fullcit/9637089

- **A Dynamic Analysis of the Effects of Women's Labor Supply and Fertility Decisions on Child Development** by Heiland, Frank; Phd from State University of New York at Stony Brook, 2002, 165 pages
  http://wwwlib.umi.com/dissertations/fullcit/3077766
- **A Meta-analysis of Published Research on the Effects of Nonmaternal Care on Child Development** by Russell, Clare Marlane, Phd from University of Calgary (canada), 1998, 169 pages
  http://wwwlib.umi.com/dissertations/fullcit/NQ31072
- **A Migration Study of Mother's Work, Welfare Participation and Child Development** by Liu, Haiyong; Phd from The University of North Carolina at Chapel Hill, 2003, 94 pages
  http://wwwlib.umi.com/dissertations/fullcit/3086563
- **A Study of the Perceptions of Early Childhood Educators Concerning the Child Development Associate Competencies** by Wadlington, Elizabeth Marsalis, Phd from The University of Southern Mississippi, 1988, 141 pages
  http://wwwlib.umi.com/dissertations/fullcit/8902508
- **A Study of the Relationship between Empathy, Social Interest, Knowledge of Child Development, and the Potential for Child Maltreatment in Fathers** by Maloney, Joan Marguerite; Phd from Kent State University, 1999, 144 pages
  http://wwwlib.umi.com/dissertations/fullcit/9963718
- **An Evaluation of the Application of Child Development Theory to Educational Practice in the Early Childhood Studies Program at Riverside Community College** by Roberts, Cheryl Mac Isaac, Edd from University of Southern California, 1996, 141 pages
  http://wwwlib.umi.com/dissertations/fullcit/9705170
- **An Investigation of the Relationship among Social Support, Maternal Behavior and Child Development in Buenos Aires, Argentina** by Bohorquez-sanchez, Lucia Marcela, Phd from The University of Connecticut, 1990, 160 pages
  http://wwwlib.umi.com/dissertations/fullcit/9115572
- **Articulation and Transfer between Child Development and Early Childhood Education Programs in Texas** by Morrison, Kathryn L.; Edd from Texas Woman's University, 2000, 125 pages
  http://wwwlib.umi.com/dissertations/fullcit/9976868
- **Assessing Practitioner Competence with the Child Development Associate Credentialing System: What Is the Relationship between Knowledge and Practice?** by Fleming, Jana Olivia, Phd from The University of North Carolina at Chapel Hill, 1996, 134 pages
  http://wwwlib.umi.com/dissertations/fullcit/9715698
- **Caregiver-child Social Communication: Effects of Mother-child Interactions on Child Development in the Home** by Sheran, Christina P., Phd from University of Minnesota, 1999, 79 pages
  http://wwwlib.umi.com/dissertations/fullcit/9924686
- **Child Development in Music: a Basis for Formative Evaluation of the Elementary General/vocal Music Program** by Wagner, Wayne Lee, Phd from University of Colorado at Boulder, 1992, 284 pages
  http://wwwlib.umi.com/dissertations/fullcit/9232740

- **Child Development Theory and the California State Content Standards** by Fish, Shauna Jae; Ma from California State University, Long Beach, 2002, 96 pages
http://wwwlib.umi.com/dissertations/fullcit/1409186
- **Child Development Theory and the California State Content Standards** by Morley, Kimberly Lynne; Ma from California State University, Long Beach, 2002, 97 pages
http://wwwlib.umi.com/dissertations/fullcit/1409243
- **Child Development: Parental Beliefs and Parental Behaviors** by Chen, Shu-ling, Phd from University of Oregon, 1991, 185 pages
http://wwwlib.umi.com/dissertations/fullcit/9137336
- **Children at the Center: Promoting Child Development Through Evidence-based Practice** by Esler, Amy Nell; Phd from University of Minnesota, 2001, 182 pages
http://wwwlib.umi.com/dissertations/fullcit/9997644
- **Cross-cultural Perspective on Child Development: a Study of the Imaginative Play of Cambodian and Black Preschoolers** by Nyman, Nina Wachs, Dsw from University of California, Berkeley, 1986, 229 pages
http://wwwlib.umi.com/dissertations/fullcit/8717868
- **Early Adolescent Language: a Content Analysis of Child Development and Educational Psychology Textbooks** by Cave, Bobbin Kyte; Phd from University of Nevada, Reno, 2002, 381 pages
http://wwwlib.umi.com/dissertations/fullcit/3068510
- **Early Child Development Knowledge and Placement Recommendations by Prospective Teachers of Early Childhood and Special Education** by Stenberg, Margaret Hudon, Edd from Columbia University Teachers College, 1987, 117 pages
http://wwwlib.umi.com/dissertations/fullcit/8804245
- **Early Childhood Development among Mainland and Island Puerto Ricans: the Roles of Birth Outcomes, Socioeconomic Status, and Social Support** by Gorman, Bridget Kathleen; Phd from The Pennsylvania State University, 2000, 181 pages
http://wwwlib.umi.com/dissertations/fullcit/9982325
- **Effects of Gender Identity, Child Development and Televised Counter-stereotyped Messages about Masculinity on Male Children's Gender Stereotypes (boys, Television)** by Brand, Jeffrey Eugene, Phd from Michigan State University, 1995, 196 pages
http://wwwlib.umi.com/dissertations/fullcit/9619778
- **Equipping Parents to Share Their Beliefs with Their Children: a Small Group Study of the Heidelberg Catechism and Child Development Theory** by Weingartner, Robert John, Dmin from Princeton Theological Seminary, 1995, 105 pages
http://wwwlib.umi.com/dissertations/fullcit/9542127
- **Factors Influencing Credentialing of Child Development Associates (cda) Trained in Ohio Community Colleges** by Blount, Catherine Anne Thomas, Phd from The University of Akron, 1998, 313 pages
http://wwwlib.umi.com/dissertations/fullcit/9842118
- **Fixing: Assimilation in Language Acquisition (psycholinguistics, Phonology, Semantics, Child Development, Linguistics)** by Higginson, Roy Patrick, Phd from Washington State University, 1985, 748 pages
http://wwwlib.umi.com/dissertations/fullcit/8527130
- **Gender Differences between Daycare Teachers Interacting with Young Girls and Boys during Regular Daily Activities at a Child Development Center (young**

Children, Role Models) by Morales-flores, Juan Ramon, Phd from The Pennsylvania State University, 1991, 278 pages
http://wwwlib.umi.com/dissertations/fullcit/9204256

- **Lawrence K. Frank: Architect of Child Development, Prophet of Bio-technocracy (frank Lawrence K.)** by Bryson, Dennis Raymond, Phd from University of California, Irvine, 1993, 581 pages
http://wwwlib.umi.com/dissertations/fullcit/9318973
- **Linkages among Parental Beliefs about Development, Parental Attribution Styles, Parental Patterns of Information Use and Child Development** by Peet, Susan Hobbs, Phd from Purdue University, 1990, 269 pages
http://wwwlib.umi.com/dissertations/fullcit/9031373
- **Literacy and Early Schooling: Recursive Questions of Child Development and Public Responsibility** by Mcgill-franzen, Anne M., Edd from State University of New York at Albany, 1988, 305 pages
http://wwwlib.umi.com/dissertations/fullcit/8825809
- **On the Very Idea of the Normal Child (child Development)** by Wong, James, Phd from University of Toronto (canada), 1994, 172 pages
http://wwwlib.umi.com/dissertations/fullcit/NN92874
- **Parental Perceptions of Adoption: a Qualitative Study of the Integration and Maintenance of Older Children in the Family (sibling Relationships, Child Development)** by Pheatt, Judith Marie, Phd from The University of Toledo, 1995, 299 pages
http://wwwlib.umi.com/dissertations/fullcit/9532825
- **Participation in Decision Making and Its Effect on Job Satisfaction and Role Stress of Staff in Child Development Agencies in the United States** by Gray, Norma Seay, Edd from West Virginia University, 1985, 242 pages
http://wwwlib.umi.com/dissertations/fullcit/8610429
- **Predicting Dropouts from the Child Development Associate Program Using Selected Variables** by Sean, Janice E., Edd from University of South Florida, 1988, 106 pages
http://wwwlib.umi.com/dissertations/fullcit/8918218
- **Promoting Healthy Child Development: a Population Health Approach** by Fleming, Darcy Sunray; Phd from University of Alberta (canada), 2002, 143 pages
http://wwwlib.umi.com/dissertations/fullcit/NQ68574
- **Relationship of Experience, Knowledge of Child Development and Perceived Competence to Problem-solving Performance on a Child-rearing Task (parent Education)** by Finley, Diane Louise, Phd from University of Maryland College Park, 1990, 206 pages
http://wwwlib.umi.com/dissertations/fullcit/9110294
- **Russian Kindergarten Teachers' Understanding and Implementation of Child Development Theory** by Price-rom, Alison Elizabeth; Edd from Columbia University Teachers College, 1999, 181 pages
http://wwwlib.umi.com/dissertations/fullcit/9939538
- **Selected Trainee Perceptions of the Pennsylvania Child Care/early Childhood Development Training System** by Langan, Frances G., Edd from Temple University, 1998, 145 pages
http://wwwlib.umi.com/dissertations/fullcit/9911029

- **The Child Development Associate (cda) Credential and Family Child Care Practitioners in Oregon: the Perceived Impact of Obtaining the Cda on Child Care Practices, Personal Growth and Professional Development** by Mcilveen, Patricia Josephine; Edd from Portland State University, 2001, 227 pages
  http://wwwlib.umi.com/dissertations/fullcit/3018648
- **The Child Development Associate Credential As It Relates to Preschool Day Care Environmental Quality** by Beer, Hollis, Phd from Hofstra University, 1991, 128 pages
  http://wwwlib.umi.com/dissertations/fullcit/9135942
- **The Director's Role in Child Development Program Management (program Management)** by Hendrickson, Diane L., Edd from University of La Verne, 1994, 257 pages
  http://wwwlib.umi.com/dissertations/fullcit/9416534
- **The Effects of a Personal Safety Program on Affective Measures of Child Development** by Bodzy, Linda Lee, Edd from Peabody College for Teachers of Vanderbilt University, 1988, 98 pages
  http://wwwlib.umi.com/dissertations/fullcit/8820615
- **The Effects of a Short-term Parent Education Program on Knowledge of Child Development, Knowledge of Environmental Influences, and Varied Support Variables among Low-income Black Adolescent Single Mothers** by Booker, Bobbye Marie, Phd from Georgia State University, 1986, 154 pages
  http://wwwlib.umi.com/dissertations/fullcit/8703947
- **The Effects of Child Development Associate (cda) Training on the Attitudes of Head Start Teachers towards Mainstreaming Children with Disabilities: Head Start As a Laboratory for Early Childhood Special Education** by Butera, Gretchen Digman, Phd from University of California, Santa Barbara, 1993, 244 pages
  http://wwwlib.umi.com/dissertations/fullcit/9321661
- **The Effects of Maternal Labor Force Participation and Income on Child Development** by James-burdumy, Susanne N.; Phd from The Johns Hopkins University, 2000, 166 pages
  http://wwwlib.umi.com/dissertations/fullcit/9950543
- **The Experience of Adoption (child Development)** by Horn, Colin, Phd from The University of Michigan, 1992, 211 pages
  http://wwwlib.umi.com/dissertations/fullcit/9303749
- **The Information Behaviors of Early Childhood Caregivers: Constructing Child Development Knowledge** by Bomhold, Catharine Reese; Phd from The University of Alabama, 2003, 208 pages
  http://wwwlib.umi.com/dissertations/fullcit/3092341
- **The Relationship of Adolescents' Knowledge Child Development to Age, Sex, Ethnicity, Experience, and Training (parenthood)** by Walker, Lewis Harvey, Edd from Peabody College for Teachers of Vanderbilt University, 1986, 94 pages
  http://wwwlib.umi.com/dissertations/fullcit/8619621
- **The Relationship of Maternal Perceptions with Infant Development, and with Other Relevant Variables, across Three Ethnic Groups (preventive Care, Child Development)** by Sheridan, Mary Therese, Phd from New York University, 1986, 221 pages
  http://wwwlib.umi.com/dissertations/fullcit/8614349

- **The Relationship of Parental Locus of Control, Interpersonal Support, and the Young Child's Level of Developmental Functioning in a Preschool Setting (child Development, Family, Interrelationships, Interaction)** by Graves, Stephen Bundy, Phd from University of South Carolina, 1986, 84 pages
  http://wwwlib.umi.com/dissertations/fullcit/8615901
- **The Social Construction of Young Children's Play (child Development)** by Meckley, Alice Marie, Phd from University of Pennsylvania, 1994, 309 pages
  http://wwwlib.umi.com/dissertations/fullcit/9427578
- **The Validity of the Child Development Inventory** by Sturgill, Gary King; Phd from Vanderbilt University, 1999, 103 pages
  http://wwwlib.umi.com/dissertations/fullcit/9958466
- **Training Kuwaiti Kindergarten Professionals in Knowledge of Child Development, Facilitation Strategies, and Developmental Analysis Through the Transdisciplinary Play-based Assessment Techniques** by Al-balhan, Eisa Mohammed, Phd from University of Denver, 1998, 387 pages
  http://wwwlib.umi.com/dissertations/fullcit/9826065

Keeping Current

Ask the medical librarian at your library if it has full and unlimited access to the *ProQuest Digital Dissertations* database. From the library, you should be able to do more complete searches via **http://wwwlib.umi.com/dissertations**.

CHAPTER 5. CLINICAL TRIALS AND CHILD DEVELOPMENT

Overview

In this chapter, we will show you how to keep informed of the latest clinical trials concerning child development.

Recent Trials on Child Development

The following is a list of recent trials dedicated to child development.[5] Further information on a trial is available at the Web site indicated.

- **Effect of Improving Caregiving on Early Mental Health**

  Condition(s): Child Development Disorders

  Study Status: This study is currently recruiting patients.

  Sponsor(s): National Institute of Child Health and Human Development (NICHD)

  Purpose - Excerpt: This study evaluates the effect on children and caregivers of providing training in warm, sensitive, responsive caregiving to caregivers in three orphanages in St. Petersburg, Russia. The study also assesses the effectiveness of having more consistent care from fewer caregivers in a family-like environment.

  Phase(s): Phase II

  Study Type: Interventional

  Contact(s): see Web site below

  Web Site: http://clinicaltrials.gov/ct/show/NCT00057291

- **Longitudinal and Biological Study of Childhood Disintegrative Disorder**

  Condition(s): Pervasive Child Development Disorders; Autism

  Study Status: This study is terminated.

  Sponsor(s): National Institute of Child Health and Human Development (NICHD); Yale University

[5] These are listed at **www.ClinicalTrials.gov**.

Purpose - Excerpt: Objectives: I. Compare the developmental course (language acquisition, diagnostic stability, predictors of outcome, and restricted interests and behaviors) of childhood disintegrative disorder versus autism and non-autistic developmental delays. II. Collect data on molecular genetics of proband and family members.

Study Type: Observational

Contact(s): see Web site below

Web Site: http://clinicaltrials.gov/ct/show/NCT00004458

Keeping Current on Clinical Trials

The U.S. National Institutes of Health, through the National Library of Medicine, has developed ClinicalTrials.gov to provide current information about clinical research across the broadest number of diseases and conditions.

The site was launched in February 2000 and currently contains approximately 5,700 clinical studies in over 59,000 locations worldwide, with most studies being conducted in the United States. ClinicalTrials.gov receives about 2 million hits per month and hosts approximately 5,400 visitors daily. To access this database, simply go to the Web site at **http://www.clinicaltrials.gov/** and search by "child development" (or synonyms).

While ClinicalTrials.gov is the most comprehensive listing of NIH-supported clinical trials available, not all trials are in the database. The database is updated regularly, so clinical trials are continually being added. The following is a list of specialty databases affiliated with the National Institutes of Health that offer additional information on trials:

- For clinical studies at the Warren Grant Magnuson Clinical Center located in Bethesda, Maryland, visit their Web site: **http://clinicalstudies.info.nih.gov/**
- For clinical studies conducted at the Bayview Campus in Baltimore, Maryland, visit their Web site: **http://www.jhbmc.jhu.edu/studies/index.html**
- For cancer trials, visit the National Cancer Institute: **http://cancertrials.nci.nih.gov/**
- For eye-related trials, visit and search the Web page of the National Eye Institute: **http://www.nei.nih.gov/neitrials/index.htm**
- For heart, lung and blood trials, visit the Web page of the National Heart, Lung and Blood Institute: **http://www.nhlbi.nih.gov/studies/index.htm**
- For trials on aging, visit and search the Web site of the National Institute on Aging: **http://www.grc.nia.nih.gov/studies/index.htm**
- For rare diseases, visit and search the Web site sponsored by the Office of Rare Diseases: **http://ord.aspensys.com/asp/resources/rsch_trials.asp**
- For alcoholism, visit the National Institute on Alcohol Abuse and Alcoholism: **http://www.niaaa.nih.gov/intramural/Web_dicbr_hp/particip.htm**
- For trials on infectious, immune, and allergic diseases, visit the site of the National Institute of Allergy and Infectious Diseases: **http://www.niaid.nih.gov/clintrials/**

- For trials on arthritis, musculoskeletal and skin diseases, visit newly revised site of the National Institute of Arthritis and Musculoskeletal and Skin Diseases of the National Institutes of Health: **http://www.niams.nih.gov/hi/studies/index.htm**
- For hearing-related trials, visit the National Institute on Deafness and Other Communication Disorders: **http://www.nidcd.nih.gov/health/clinical/index.htm**
- For trials on diseases of the digestive system and kidneys, and diabetes, visit the National Institute of Diabetes and Digestive and Kidney Diseases: **http://www.niddk.nih.gov/patient/patient.htm**
- For drug abuse trials, visit and search the Web site sponsored by the National Institute on Drug Abuse: **http://www.nida.nih.gov/CTN/Index.htm**
- For trials on mental disorders, visit and search the Web site of the National Institute of Mental Health: **http://www.nimh.nih.gov/studies/index.cfm**
- For trials on neurological disorders and stroke, visit and search the Web site sponsored by the National Institute of Neurological Disorders and Stroke of the NIH: **http://www.ninds.nih.gov/funding/funding_opportunities.htm#Clinical_Trials**

CHAPTER 6. PATENTS ON CHILD DEVELOPMENT

Overview

Patents can be physical innovations (e.g. chemicals, pharmaceuticals, medical equipment) or processes (e.g. treatments or diagnostic procedures). The United States Patent and Trademark Office defines a patent as a grant of a property right to the inventor, issued by the Patent and Trademark Office.[6] Patents, therefore, are intellectual property. For the United States, the term of a new patent is 20 years from the date when the patent application was filed. If the inventor wishes to receive economic benefits, it is likely that the invention will become commercially available within 20 years of the initial filing. It is important to understand, therefore, that an inventor's patent does not indicate that a product or service is or will be commercially available. The patent implies only that the inventor has "the right to exclude others from making, using, offering for sale, or selling" the invention in the United States. While this relates to U.S. patents, similar rules govern foreign patents.

In this chapter, we show you how to locate information on patents and their inventors. If you find a patent that is particularly interesting to you, contact the inventor or the assignee for further information. **IMPORTANT NOTE:** When following the search strategy described below, you may discover non-medical patents that use the generic term "child development" (or a synonym) in their titles. To accurately reflect the results that you might find while conducting research on child development, we have not necessarily excluded non-medical patents in this bibliography.

Patents on Child Development

By performing a patent search focusing on child development, you can obtain information such as the title of the invention, the names of the inventor(s), the assignee(s) or the company that owns or controls the patent, a short abstract that summarizes the patent, and a few excerpts from the description of the patent. The abstract of a patent tends to be more technical in nature, while the description is often written for the public. Full patent descriptions contain much more information than is presented here (e.g. claims, references, figures, diagrams, etc.). We will tell you how to obtain this information later in the chapter.

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[6]Adapted from the United States Patent and Trademark Office:
http://www.uspto.gov/web/offices/pac/doc/general/whatis.htm.

The following is an example of the type of information that you can expect to obtain from a patent search on child development:

- **Method and apparatus for assessing risks of injury**

  Inventor(s): Rider; Eugene (Naperville, IL), Stool; Daniel K. (Addison, IL)

  Assignee(s): Risk Analysis & Management (Oak Brook, IL)

  Patent Number: 6,192,329

  Date filed: August 12, 1998

  Abstract: Children, particularly those younger than 4 years, frequently place foreign objects such as toys and small parts of consumer products in their mouths, nasal cavities and ear canals. These actions not infrequently lead to injury or death. To asses the risk of injury or death in children at the critical stages of **child development,** accurate computerized and physical models of anatomical areas including the oral cavity, orbit, ear canal and nasal passages that are most often severely injured by foreign body impaction are created. These computer and physical anatomical models are used in combination with computer and physical models of products to assess the possible hazards inherent in a product design and to communicate the risks associated with product design to manufacturers and marketing groups.

  Excerpt(s): The present invention relates generally to assessing the risk of injury to a child by a product, and more particularly to using computer and physical anatomical models of young children in conjunction with computer and physical models of a product to determine the risk of injury to a child from that product. For young children, particularly those younger than 4 years old, placing objects of all kinds in their mouths or other body orifices is normal developmental behavior. However, this behavior carries risk of injury and, in the case of foreign bodies that become impacted in the airway, death by asphyxiation. A study of choking in young children examined the characteristics of objects that had caused serious aerodigestive tract (airway, cricopharyngeal, or esophageal) injury, as indicated by the need for operative removal, or death due to choking as reported to the Consumer Product Safety Commission (CPSC). The results confirmed previous reports in the medical literature that the risk of injury or death posed by a food, toy or toy part, or another object depends upon its size, shape, and consistency.

  Web site: http://www.delphion.com/details?pn=US06192329__

- **Method and apparatus for automated learning tool selection for child development**

  Inventor(s): Minkus; Leslie S. (1243 Selwyn La., Buffalo Grove, IL 60089)

  Assignee(s): none reported

  Patent Number: 5,122,952

  Date filed: October 22, 1990

  Abstract: Computer-assisted methods and apparatus for selecting and matching learning tools that possess developmental value with the individual characteristics of a child are disclosed. Commercially available products consisting of toys, games, books, and allied learning materials are analyzed and the data relating to the personal traits required to use the product, educational value of the product, learning value of the product, instructional variables required to use the product, and the description of the

product is entered into and stored in a computer system. Information concerning a child's sensory learning style preferences, hobbies and interests, academic conditions, medical conditions, social habits, emotional attitudes, and nutritional habits is entered into the computer system. The system compiles the child data into a report. The system also matches the child data with the product data and a list of preferred products is produced from which parents select appropriate learning tools for the child.

Excerpt(s): This invention relates generally to the field of computer-assisted selection of learning tools and more particularly to methods and apparatus for automated selection of learning tools for children based upon unique characteristics of the individual child and the cognitive, educational, social, entertainment, and play values of consumer learning tool products. Books, toys, games, and allied learning materials are the tools that all children, whether they are gifted, average, exceptional, learning disabled, or handicapped, naturally use for learning. However, the learning needs of individual children differ because of differences in the developmental stages, temperament, environment, and preferred social and cognitive styles of each child. As a result of these differences, many parents have had the experience of purchasing a toy, a book, or a game for their child, only to find that the item was too difficult, too easy, or simply did not match the interests of the child. Because parents rank the education of their children as one of the most important aspects of their lives, there is a great need for guidance in the selection of appropriate toys and other learning tools for children. Nevertheless, there is no automated system in the prior art to aid in the selection of learning tools for children which considers the unique strengths, weaknesses, deficiencies, preferences, and preferred sensory learning styles of the child during their various stages of cognitive, social, emotional, and physical development. Accordingly, it is an object of this invention to provide improved methods and means for evaluating the level of development and the preferred style in which a child learns.

Web site: http://www.delphion.com/details?pn=US05122952__

- **Method and apparatus for merging change control delta structure files of a source module from a parent and a child development environment**

  Inventor(s): Skinner; Glenn (Mountain View, CA)

  Assignee(s): Sun Microsystems, Inc. (Mountain View, CA)

  Patent Number: 5,481,722

  Date filed: November 14, 1994

  Abstract: A source module and its changes in a parent and a **child development** environment of an hierarchy of development environments are created as a first and a second delta structure in their respective environments. Various procedures and working tables/files are provided to merge the second delta structure into the first delta structure whenever the latest revision of the source module in the parent environment is reconciled to the latest edition of the source module in the child environment, and to merge the first delta structure into the second delta structure whenever the latest edition of the source module in the child environment is resynchronized to the latest revision of the source module in the parent environment. As a result, as the process is repeated by other parent and child environments of the hierarchy, change deltas are created and propagated among the environments without any loss in change history.

  Excerpt(s): This invention relates to the field of source code control for computer software development. More particularly, the present invention relates to the steps and

means employed for merging two change control delta structure files of a source module from a parent and a **child development** environment. For further description of SCCS and RCS, see Rochkind, M. J., The Source Code Control System, National Conference on Software Engineering, 1st Proceeding, Washington D.C., Sep. 11-12, 1975, pp. 37-43 (IEEE Computer Society 1975); Thomas, R., "The Source Code Control System, Unixworld, Vol. 1, No. 3, pp. 69-71 (1984); Tichy, W. F., Design, Implementation and Evaluation of a Revisions Control System, IEEE 6th Conference on Software Engineering, Sep. 13-16, 1982, Tokyo, Japan, pp. 58-67. If the latest revision of the object 96 in the parent environment is not the same revision of the object 91 in the parent environment previously acquired for the modified edition of the object 95 in the child environment, the reconciliation process is unsuccessful, resulting in the initiation of the resynchronization process to incorporate the modifications to the latest revision of the object 96 into the latest edition of the object 95 in the child environment. The resynchronization process acquires a new edition of the object 97 into the child environment from the new latest revision of the object 96 in the parent environment. After resolving the differences between the modified edition of the object 95 and the acquired new edition of the object 97, the latest revision of the object 96 in the parent environment is reconciled again to the consolidated edition of the object 98 in the child environment. Since the latest revision of the object 96 in the parent environment has remained unchanged, the reconciliation process is successful, resulting in another new latest revision of the object 99 being made in the parent environment.

Web site: http://www.delphion.com/details?pn=US05481722__

- **Method for developing answer-options to issue-questions relating to child-development**

  Inventor(s): Nocera; Tina M. (66 Union Ave., Nutley, NJ 07110)

  Assignee(s): none reported

  Patent Number: 6,193,518

  Date filed: November 20, 1998

  Abstract: Information concerning **child development** is developed and stored in first and second data sets containing topics and issue-questions related thereto. The information is accessed from these data sets by selectively combining an issue-question with at least one topic to produce a primary information product. A program means associated with the data sets modifies the primary information product by imposing thereon a plurality of answer-options to the selected issue-question. Each of the answer-options comprises at least one expert opinion and one parent-expert opinion, stored in third and fourth data sets. The imposition of answer-options on the information product produces a polycentric information product, which is readily communicated by oral, written or electronic means. Advantageously, the method provides to a parent, grandparent, child, teacher, nurse, caregiver, baby-sitter, or other user or viewer, an information product that is directed specifically to the concerns of that user. The polycentric information product may be presented to the user via a computer, television, video-tape, digital-video-disk (DVD), CD-ROM, a newsletter, and other oral and written communication means, electronically or otherwise.

  Excerpt(s): The present invention relates to a method of providing at least one answer-option to a specific issue-question relating to child-development. The answer-option is preferably comprised of an expert opinion and a parent-expert opinion of the issue-question. Child-rearing and development today presents challenges somewhat different

than those addressed by our parents and grandparents. Previous generations could rely on a large familial support system (i.e., the nuclear family) for help with child-rearing and other family issues. Today's care-givers, including parents, nannies, baby-sitters, teachers, nurses, and the like, do not enjoy the benefits afforded by this singular resource for valuable advice. A particularly advantageous feature provided by the nuclear family, and frequently missing today, is the ability to solicit and consider a variety of views on a particular issue--views that come from personal experience, subject matter experts (i.e., grandparents), and various other sources. This opportunity for consideration of divergent views on an issue better equips the caregiver to develop an informed decision on how best to handle that issue. Information is presently available for a wide variety of child-rearing and development issues. The quantum of literature addressing these issues becomes readily apparent upon perusal of library or bookstore shelves. Some of the literature deals with specific issues in excruciating detail (e.g., toilet training). Other literature addresses a whole host of subjects (e.g., the toddler years). A major problem with such literature is the tendency for presentation of singular points of view, typically the authors'. These one size fits all presentations do not apply to child-rearing and development. For this endeavor, numerous views concerning each issue afford far greater value to the care-giver. Literature references which are comprehensive enough to address the numerous issues important to each care-giver, and which offer a variety of views on these important issues, i.e., a "child's user guide", are virtually non-existent owing to the myriad of variables involved.

Web site: http://www.delphion.com/details?pn=US06193518__

Patent Applications on Child Development

As of December 2000, U.S. patent applications are open to public viewing.[7] Applications are patent requests which have yet to be granted. (The process to achieve a patent can take several years.) The following patent applications have been filed since December 2000 relating to child development:

- **Charting system**

  Inventor(s): Watson, Andrew John; (Surrey, GB)

  Correspondence: Sheridan Ross PC; 1560 Broadway; Suite 1200; Denver; CO; 80202

  Patent Application Number: 20030015869

  Date filed: June 19, 2002

  Abstract: A chart is provided with a plurality of zones within which are located groups of markers, which can denominate any month of the year. A series of labels representing events, objects or times are of a shape and form to overlie all or part of a marker. The chart could be used for **child development,** monitoring the progress of a patient or the like. It has the advantage of being configurable and easily visible.

  Excerpt(s): The present invention relates to a charting system for charting a series of events. An example is a **child development** book intended to record various stages in the development of a small child, typically from birth for a fixed period, such as to the age of one. These books typically have pre-printed sections to be completed by the parents. In book form they are intended to be easy to store. However, such books are

[7] This has been a common practice outside the United States prior to December 2000.

substantially limited to recording the data provided for in the books and require that the format set out in the books is followed. As soon as a user omits to enter the data pertaining to a particular event set out in a book, the book becomes incomplete and its appeal is reduced. Furthermore, as such books are typically stored in a substantially hidden location (such as in a bookcase with many other books) it is easy to forget about them and thus to miss the events to be recorded. As a result of this such books are of limited use. The present invention seeks to provide an improved charting system.

Web site: http://appft1.uspto.gov/netahtml/PTO/search-bool.html

Keeping Current

In order to stay informed about patents and patent applications dealing with child development, you can access the U.S. Patent Office archive via the Internet at the following Web address: **http://www.uspto.gov/patft/index.html**. You will see two broad options: (1) Issued Patent, and (2) Published Applications. To see a list of issued patents, perform the following steps: Under "Issued Patents," click "Quick Search." Then, type "child development" (or synonyms) into the "Term 1" box. After clicking on the search button, scroll down to see the various patents which have been granted to date on child development.

You can also use this procedure to view pending patent applications concerning child development. Simply go back to **http://www.uspto.gov/patft/index.html**. Select "Quick Search" under "Published Applications." Then proceed with the steps listed above.

CHAPTER 7. BOOKS ON CHILD DEVELOPMENT

Overview

This chapter provides bibliographic book references relating to child development. In addition to online booksellers such as **www.amazon.com** and **www.bn.com**, excellent sources for book titles on child development include the Combined Health Information Database and the National Library of Medicine. Your local medical library also may have these titles available for loan.

Book Summaries: Federal Agencies

The Combined Health Information Database collects various book abstracts from a variety of healthcare institutions and federal agencies. To access these summaries, go directly to the following hyperlink: **http://chid.nih.gov/detail/detail.html**. You will need to use the "Detailed Search" option. To find book summaries, use the drop boxes at the bottom of the search page where "You may refine your search by." Select the dates and language you prefer. For the format option, select "Monograph/Book." Now type "child development" (or synonyms) into the "For these words:" box. You should check back periodically with this database which is updated every three months. The following is a typical result when searching for books on child development:

- **Children with disabilities: A longitudinal study of child development and parent well-being**

  Source: Boston, MA: Blackwell Publishers. 2001. 131 pp.

  Contact: Available from Society for Research in Child Development, 505 East Huron, Suite 301, Ann Arbor, MI 48104. Telephone: (734) 998-6578 / fax: (734) 998-6569 / e-mail: srcd@umich.edu / Web site: http://www.srcd.org. Contact for cost information.

  Summary: This monograph presents the results of the Early Intervention Collaborative Study (EICS), a longitudinal investigation of child development and family well-being during the first decade of life for child with Down syndrome, motor impairment, or developmental delay of uncertain etiology. This six part report includes an introduction; a review of the literature on the development of children with disabilities, and the adaptation of their parents; the EICS design and methodology; EICS study results on

predictors of functioning and change in children's development and parent well-being; as well as discussion of and implications for research policy and practice; references and acknowledgments. The concluding commentary section provides an essay on advancing findings, theories, and methods concerning children with disabilities. Statistical data is provided in charts and tables throughout the monograph.

Book Summaries: Online Booksellers

Commercial Internet-based booksellers, such as Amazon.com and Barnes&Noble.com, offer summaries which have been supplied by each title's publisher. Some summaries also include customer reviews. Your local bookseller may have access to in-house and commercial databases that index all published books (e.g. Books in Print®). **IMPORTANT NOTE:** Online booksellers typically produce search results for medical and non-medical books. When searching for "child development" at online booksellers' Web sites, you may discover non-medical books that use the generic term "child development" (or a synonym) in their titles. The following is indicative of the results you might find when searching for "child development" (sorted alphabetically by title; follow the hyperlink to view more details at Amazon.com):

- **Ages and Stages: A Parent's Guide to Normal Childhood Development** by Charles E. Schaefer (Author), Theresa Foy DiGeronimo (Author); ISBN: 0471370878; http://www.amazon.com/exec/obidos/ASIN/0471370878/icongroupinterna
- **Child Development (6th Edition)** by Laura E. Berk (Author); ISBN: 0205355048; http://www.amazon.com/exec/obidos/ASIN/0205355048/icongroupinterna
- **Child Development and Education** by Teresa M. McDevitt (Author), Jeanne E. Ormrod (Author); ISBN: 0137619332; http://www.amazon.com/exec/obidos/ASIN/0137619332/icongroupinterna
- **Child Development W/Making the Grade CD** by Ganie B. Dehart, et al; ISBN: 0072420014; http://www.amazon.com/exec/obidos/ASIN/0072420014/icongroupinterna
- **Child Development, Third Edition** by Robert S. Feldman (Author); ISBN: 0131829610; http://www.amazon.com/exec/obidos/ASIN/0131829610/icongroupinterna
- **Child Development: A Practitioner's Guide** by Douglas Davies; ISBN: 1572304294; http://www.amazon.com/exec/obidos/ASIN/1572304294/icongroupinterna
- **Children at Play: Using Waldorf Principles to Foster Childhood Development** by Heidi Britz-Crecelius (1996); ISBN: 0892816295; http://www.amazon.com/exec/obidos/ASIN/0892816295/icongroupinterna
- **Creative Approaches to Child Development With Music, Language, and Movement: Incorporating the Philosophies and Techniques of Orff, Kodaly and Laban** by Grace C. Nash (1974); ISBN: 0882840142; http://www.amazon.com/exec/obidos/ASIN/0882840142/icongroupinterna
- **Cross-Cultural Roots of Minority Child Development** by Patricia Marks Greenfield (Editor), Rodney R. Cocking (Editor) (1994); ISBN: 0805812245; http://www.amazon.com/exec/obidos/ASIN/0805812245/icongroupinterna
- **Early Childhood Development: A Multicultural Perspective (3rd Edition)** by Jeffrey Trawick-Smith (Author); ISBN: 0130465763; http://www.amazon.com/exec/obidos/ASIN/0130465763/icongroupinterna

- **From Neurons to Neighborhoods : The Science of Early Childhood Development** by Jack P. Shonkoff (Editor), et al (2000); ISBN: 0309069882; http://www.amazon.com/exec/obidos/ASIN/0309069882/icongroupinterna
- **How Children Fail (Classics in Child Development)** by John Caldwell Holt (1995); ISBN: 0201484021; http://www.amazon.com/exec/obidos/ASIN/0201484021/icongroupinterna
- **How Children Learn (Classics in Child Development)** by John Caldwell Holt (1995); ISBN: 0201484048; http://www.amazon.com/exec/obidos/ASIN/0201484048/icongroupinterna
- **Play and Child Development** by Joe L. Frost (Author), et al; ISBN: 0136856039; http://www.amazon.com/exec/obidos/ASIN/0136856039/icongroupinterna
- **Play and Early Childhood Development (2nd Edition)** by James E. Johnson (Author), et al; ISBN: 032101166X; http://www.amazon.com/exec/obidos/ASIN/032101166X/icongroupinterna
- **Play in Child Development and Psychotherapy: Toward Empirically Supported Practice** by Sandra Walker Russ (2004); ISBN: 0805830650; http://www.amazon.com/exec/obidos/ASIN/0805830650/icongroupinterna
- **The Child, the Family, and the Outside World (Classics in Child Development)** by Donald Woods Winnicott, Marshall H. Klaus (Introduction) (1992); ISBN: 0201632683; http://www.amazon.com/exec/obidos/ASIN/0201632683/icongroupinterna
- **The Role of the Father in Child Development** by Michael E. Lamb (Editor) (1996); ISBN: 0471117714; http://www.amazon.com/exec/obidos/ASIN/0471117714/icongroupinterna
- **Toys, Play, and Child Development** by Jeffrey H. Goldstein (Editor) (1994); ISBN: 0521455642; http://www.amazon.com/exec/obidos/ASIN/0521455642/icongroupinterna
- **Understanding Child Development** by Rosalind Charlesworth; ISBN: 0766803384; http://www.amazon.com/exec/obidos/ASIN/0766803384/icongroupinterna

The National Library of Medicine Book Index

The National Library of Medicine at the National Institutes of Health has a massive database of books published on healthcare and biomedicine. Go to the following Internet site, **http://locatorplus.gov/**, and then select "Search LOCATORplus." Once you are in the search area, simply type "child development" (or synonyms) into the search box, and select "books only." From there, results can be sorted by publication date, author, or relevance. The following was recently catalogued by the National Library of Medicine:[8]

[8] In addition to LOCATORPlus, in collaboration with authors and publishers, the National Center for Biotechnology Information (NCBI) is currently adapting biomedical books for the Web. The books may be accessed in two ways: (1) by searching directly using any search term or phrase (in the same way as the bibliographic database PubMed), or (2) by following the links to PubMed abstracts. Each PubMed abstract has a "Books" button that displays a facsimile of the abstract in which some phrases are hypertext links. These phrases are also found in the books available at NCBI. Click on hyperlinked results in the list of books in which the phrase is found. Currently, the majority of the links are between the books and PubMed. In the future, more links will be created between the books and other types of information, such as gene and protein sequences and macromolecular structures. See **http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?db=Books**.

- **Child development and personality [by] Paul Henry Mussen, John Janeway Conger [and] Jerome Kagan.** Author: Mussen, Paul Henry.; Year: 1956; New York, London, Harper; Row [c1969]
- **Child development.** Author: Hurlock, Elizabeth Bergner,; Year: 1967; New York, McGraw-Hill [c1964]
- **Three theories of child development. The contributions of Erik H. Erikson, Jean Piaget, and Robert R. Sears, and their applications.** Author: Maier, Henry W. (Henry William); Year: 1967; New York, London, Harper; Row [c1969]

Chapters on Child Development

In order to find chapters that specifically relate to child development, an excellent source of abstracts is the Combined Health Information Database. You will need to limit your search to book chapters and child development using the "Detailed Search" option. Go to the following hyperlink: **http://chid.nih.gov/detail/detail.html**. To find book chapters, use the drop boxes at the bottom of the search page where "You may refine your search by." Select the dates and language you prefer, and the format option "Book Chapter." Type "child development" (or synonyms) into the "For these words:" box. The following is a typical result when searching for book chapters on child development:

- **Your Child's Development**

  Source: in Powers, M.D., ed. Children with Autism: A Parents' Guide. 2nd ed. Bethesda, MD: Woodbine House. 2000. p. 155-180.

  Contact: Available from Woodbine House. 6510 Bells Mill Road, Bethesda, MD 20817. (800) 843-7323 or (301) 897-3570. Fax (301) 897-5838. E-mail: info@woodbinehouse.com. Website: www.woodbinehouse.com. PRICE: $17.95 plus shipping and handling. ISBN: 1890627046.

  Summary: Autism is a physical disorder of the brain that causes a lifelong developmental disability. People with autism have three major symptoms: impaired social interaction, impaired communication, and repetitive, stereotypic, or odd patterns of behavior, unusual interests, or responses to the environment. This chapter on **child development** is from a book designed for both the new parent coping with a child's recent diagnosis and one who is an experienced advocate for their child. The author introduces the basics of human development and helps parents to understand not only how autism affects the child's development, but also how a good educational program and consistent, loving care can make a critical difference in the child's life. Topics include a definition of development and its six components (gross motor, fine motor, cognition, language, social, self help), cognitive development, motor skills, communication skills, social emotional development, development of the child with autism, cognitive development in children with autism, language development in children with autism, social development in children with autism, other developmental problems, behavior checklists, developmental milestones, and how parents can best foster and support their child's development. The chapter concludes with encouraging words from other parents of children with autism. 10 references.

- **Audiologic Management of Otitis Media**

  Source: in Bess, F.H. Children with Hearing Impairment: Contemporary Trends. Nashville, TN: Vanderbilt Bill Wilkerson Center Press. 1998. p. 215-227.

Contact: Available from Vanderbilt Bill Wilkerson Center Press. 1114 19th Avenue, South, Nashville, TN 37212-2197. (877) 844-3840 or (615) 936-5023. Fax (615) 936-5013. PRICE: $60.00 plus shipping and handling. ISBN: 0963143980.

Summary: This chapter from a section on otitis media is from a book of papers presented at the Fourth International Symposium on Childhood Deafness (Kiawah Island, South Carolina, 1996). This chapter considers the audiologic management of otitis media. The authors examine the audiometric manifestations of otitis media and review some of the current research that appears to support the existence of short and long term auditory sequelae in some children who experienced early, persistent histories of the disease or who continue to experience the condition into early childhood. The hearing loss associated with otitis media is qualitatively and often quantitatively different from that experienced by children with permanent forms of cochlear impairment. It is important that clinicians appreciate the characteristics as well as any unique consequences associated with this form of childhood hearing impairment. The authors offer a model of the potential effects of the hearing loss accompanying otitis media with effusion (OME) on **child development.** The authors conclude that the characteristics of the fluctuating hearing loss associated with a middle ear disorder require that audiologic monitoring become a routine component of the follow up of children with recurrent OME. 4 figures. 1 table. 66 references.

- **Does Adult Responsivity to Child Behavior Facilitate Communication Development?**

Source: in Wetherby, A.M.; Warren, S.F.; Reichle, J., eds. Transitions in Prelinguistic Communication. Baltimore, MD: Paul H. Brookes Publishing Co. 1998. p. 39-58.

Contact: Available from Paul H. Brookes Publishing Co. P.O. Box 10624, Baltimore, MD 21285. (800) 638-3775. Fax (410) 337-8539. Website: www.brookespublishing.com. PRICE: $42.95 plus shipping and handling. ISBN: 1557662622.

Summary: This chapter on adult responsivity to child behavior is from a textbook that compares and contrasts the emergence of intentional and symbolic communication in young children in prelinguistic stages of language development, and older adults functioning at limited language levels. Written for practicing professionals and for students, the book explores the critical transition periods in typical and atypical development, describes how foundational skills may affect future language development, and reports on valuable methods to build communicative competence, foster communication alternatives for challenging behaviors, include caregivers in assessment and intervention, create positive learning environments, and provide responsive communication partners. This chapter considers the conceptual and empirical support for the notion that adult social responsiveness to children's behavior and communication acts facilitates their journey through preintentional communication up to the point at which they are using multiword combinations. The authors first define responsiveness and classify the varied types of adult responsiveness that occur early in **child development.** The chapter then reviews the relevant literature, followed by a summation of this literature in terms of its clinical and research implications. The authors also consider how cultural variation may influence the effect that social responsiveness has on communicative development. The authors conclude that the effects of adult responsivity to children's communicative acts, while important, may have limitations. 69 references.

- **Autism and Other Pervasive Developmental Disorders**

  Source: in Batshaw, M.L., ed. Children with Disabilities. 4th ed. Baltimore, MD: Paul H. Brookes Publishing Company. 1997. p. 425-447.

  Contact: Available from Paul H. Brookes Publishing Company. P.O. Box 10624, Baltimore, MD 21285-0624. (800) 638-3775 or (410) 337-9580. Fax (410) 337-8539. E-mail: custserv@pbrookes.com. Website: www.brookespublishing.com. PRICE: $49.95 plus shipping and handling. ISBN: 1557662932.

  Summary: This chapter on autism and other pervasive developmental disorders (PDDs) is from a textbook that addresses the impact of disabilities on **child development** and function. The chapter covers the three central features of all PDDs (impairments in communication, impairments in reciprocal social interaction skills, and the presence of stereotyped patterns of behavior, interests, and activities); describes the spectrum of PDDs; discusses how to distinguish autism from other PDDs; and outlines interventions for these disorders. Disorders discussed include autism, Asperger disorder, Rett syndrome, and childhood disintegrative disorder (Heller syndrome). Treatment options covered include behavioral interventions, education, speech language therapy, and pharmacological management (drug therapy) for hyperactivity, aggression, self-injury, stereotypes and rigid behaviors, depression, seizure disorders, and sleep disorders. The chapter includes illustrative case studies of a child with autism and of a child with Asperger syndrome. As medical terms are introduced in the text, they appear in bold type; definitions for these terms are provided in a glossary at the end of the book. 1 figure. 2 tables. 108 references.

- **Hearing: Sounds and Silences**

  Source: in Batshaw, M.L., ed. Children with Disabilities. 4th ed. Baltimore, MD: Paul H. Brookes Publishing Company. 1997. p. 241-274.

  Contact: Available from Paul H. Brookes Publishing Company. P.O. Box 10624, Baltimore, MD 21285-0624. (800) 638-3775 or (410) 337-9580. Fax (410) 337-8539. E-mail: custserv@pbrookes.com. Website: www.brookespublishing.com. PRICE: $49.95 plus shipping and handling. ISBN: 1557662932.

  Summary: This chapter on hearing is from a textbook that addresses the impact of disabilities on **child development** and function. The chapter covers the anatomy of the ear, different types of hearing losses and their causes, the indications for various hearing tests, the multidimensional aspects of the assessment of a child with a hearing loss, treatment options for the child with a hearing loss, and educational options and potential outcomes for the child with a hearing loss. The authors conclude that regardless of the degree or etiology of the hearing loss, it is important for the professional working with children who have a hearing impairment to understand the impact of the hearing loss on the perception and processing of spoken language. Hearing loss in childhood offers a unique opportunity to witness adaptation to perceptual impairment and resilience in the face of a disruption in communication channels. The child's and family's innate strengths, capacities, and vulnerabilities must be viewed within a larger social, linguistic, educational, cultural, and environmental context. Hearing impairment need not impede typical development, place an individual at a functional disadvantage, or alter ultimate outcome. The chapter concludes with an illustrative case study of a child who is deaf. As medical terms are introduced in the text, they appear in bold type; definitions for these terms are provided in a glossary at the end of the book. 11 figures. 1 table. 96 references.

- **Language: A Code for Communicating**

  Source: in Batshaw, M.L., ed. Children with Disabilities. 4th ed. Baltimore, MD: Paul H. Brookes Publishing Company. 1997. p. 275-292.

  Contact: Available from Paul H. Brookes Publishing Company. P.O. Box 10624, Baltimore, MD 21285-0624. (800) 638-3775 or (410) 337-9580. Fax (410) 337-8539. E-mail: custserv@pbrookes.com. Website: www.brookespublishing.com. PRICE: $49.95 plus shipping and handling. ISBN: 1557662932.

  Summary: This chapter on language is from a textbook that addresses the impact of disabilities on **child development** and function. The chapter covers the different elements of speech and of language; the typical course of language development in infants and children; the biological processes that underlie speech and language; the major types of speech and language disorders and their causes; methods of speech and language assessment; and treatment alternatives for these communication disorders. Speech disorders discussed include articulation, resonance, voice, and fluency disorders, dysarthria and dyspraxia, and cleft palate. Topics related to language disorders include expressive versus receptive language disorders, general impairments that cause language impairments, and the causes of language disorders. The authors conclude that when the process of language acquisition goes awry, it may be part of a general developmental impairment or it may be an isolated problem. Regardless, children who have communicative impairments should have a comprehensive evaluation, including assessment of their general cognitive abilities, their hearing, and their many speech and language skills. An individualized therapy plan should then be constructed. With appropriate therapy and maturation, most speech and language skills are likely to improve, although there may be associated learning disabilities and residual impairments. The chapter includes an illustrative case study of a child with an expressive language disorder. As medical terms are introduced in the text, they appear in bold type; definitions for these terms are provided in a glossary at the end of the book. 4 figures. 2 tables. 55 references.

- **Learning Disabilities**

  Source: in Batshaw, M.L., ed. Children with Disabilities. 4th ed. Baltimore, MD: Paul H. Brookes Publishing Company. 1997. p. 471-497.

  Contact: Available from Paul H. Brookes Publishing Company. P.O. Box 10624, Baltimore, MD 21285-0624. (800) 638-3775 or (410) 337-9580. Fax (410) 337-8539. E-mail: custserv@pbrookes.com. Website: www.brookespublishing.com. PRICE: $49.95 plus shipping and handling. ISBN: 1557662932.

  Summary: This chapter on learning disabilities is from a textbook that addresses the impact of disabilities on **child development** and function. The authors define learning disability as a disorder in which a healthy child with typical intelligence fails to learn adequately in one or more subjects. The authors discuss impairments associated with learning disabilities, methods of early identification, various intervention strategies, and outcomes for children with learning disabilities. Two sections discuss the causes and neuroanatomy of specific reading disability, the most common form of learning disability. Impairments associated with learning disabilities include impairments in executive functions, memory impairments, attention deficit or hyperactivity disorder, social skills impairments, and emotional and behavior disorders. The authors emphasize that early detection of a specific learning disability is important because, if untreated, the child may develop secondary emotional and behavioral problems that hinder progress. The chapter concludes with illustrative case studies of a child with dyslexia

and a child with dysgraphia and dyscalculia. As medical terms are introduced in the text, they appear in bold type; definitions for these terms are provided in a glossary at the end of the book. 1 figure. 2 tables. 191 references.

Directories

In addition to the references and resources discussed earlier in this chapter, a number of directories relating to child development have been published that consolidate information across various sources. The Combined Health Information Database lists the following, which you may wish to consult in your local medical library:[9]

- **Sources of Health Materials for African Americans, American Indian-Alaska Natives, Asians, Hispanics, Pacific Islanders**

  Source: Washington, DC: Office of Minority Health Resource Center. October 1997. 56 p.

  Contact: Available from Office of Minority Health Resource Center. P.O. Box 37337, Washington, DC 20013-7337. (800) 444-6472. Website: www.omhrc.gov. PRICE: Single copy free.

  Summary: This bibliography lists sources of health materials that are written specifically for the needs of certain ethnic groups. This bibliography includes five sections: African Americans, American Indians (including Alaska Natives), Asians, Hispanics, and Pacific Islanders. The first section concentrates on health materials identified by the Office of Minority Health Resource Center (OMH-RC) as specifically targeting African Americans and includes resources on nutrition, exercise, and AIDS educational materials. This section also includes cancer, chemical dependency, diabetes, heart disease and stroke, infant mortality, and the associated risk factors. The second section lists culturally sensitive printed health materials identified for American Indians and includes sources of information for AIDS, cancer, **child development,** diabetes, high blood pressure, nutrition, and substance abuse. The third section includes culturally sensitive health materials identified in various Asian languages and lists resources on nutrition, exercise, and AIDS education. The fourth section covers health materials specifically targeting different Hispanic populations, noting that culturally sensitive and universally appropriate Spanish language materials for this diverse population are difficult to obtain and some do not take culture, linguistics and other factors that may influence health behaviors into consideration. The final section lists sources that produce or distribute health promotion materials for Pacific Islander populations. The listing includes sources of information for AIDS, diabetes, hepatitis, sexually transmitted diseases, and thalassemia, as well as other health areas. Each of the five sections offers a

[9] You will need to limit your search to "Directory" and "child development" using the "Detailed Search" option. Go directly to the following hyperlink: **http://chid.nih.gov/detail/detail.html**. To find directories, use the drop boxes at the bottom of the search page where "You may refine your search by." For publication date, select "All Years." Select your preferred language and the format option "Directory." Type "child development" (or synonyms) into the "For these words:" box. You should check back periodically with this database as it is updated every three months.

brief introduction, a listing of subject topics covered, and the organizations or publishers that serve as sources for the health materials. Representative publications (including audiovisual materials) are listed and briefly annotated under each organization.

CHAPTER 8. MULTIMEDIA ON CHILD DEVELOPMENT

Overview

In this chapter, we show you how to keep current on multimedia sources of information on child development. We start with sources that have been summarized by federal agencies, and then show you how to find bibliographic information catalogued by the National Library of Medicine.

Bibliography: Multimedia on Child Development

The National Library of Medicine is a rich source of information on healthcare-related multimedia productions including slides, computer software, and databases. To access the multimedia database, go to the following Web site: **http://locatorplus.gov/**. Select "Search LOCATORplus." Once in the search area, simply type in child development (or synonyms). Then, in the option box provided below the search box, select "Audiovisuals and Computer Files." From there, you can choose to sort results by publication date, author, or relevance. The following multimedia has been indexed on child development:

- **Child development: testing hearing in the pre-school child [motion picture] (six months to six years)** Source: Mary Sheridan in collaboration with Neil O'Doherty; [made by] ICEM; Year: 1970; Format: Motion picture; [Richmond, Eng. (Surrey): ICEM; [Atlanta: for loan by National Medical Audiovisual Center], 1970
- **Child development: testing vision in the pre-school child (six months to six years) [motion picture]** Source: Mary Sheridan, Neil O'Doherty; [made by] ICEM; Year: 1971; Format: Motion picture; [Windsor, Eng.?]: Stycar Test Materials: [Atlanta: for loan by National Medical Audiovisual Center, 1971?]
- **Child development: the early years [videorecording]** Source: Depts. of Neurology and Psychiatry, Columbia University College of Physicians and Surgeons; [made by] New York State Psychiatric Institute; Year: 1972; Format: Videorecording; New York: The Institute, [1972]
- **Child development: the twelve months examination [motion picture]** Source: Neil O'Doherty, Mary Sheridan; [made by] ICEM; Year: 1971; Format: Motion picture; [Richmond, Eng. (Surrey): ICEM; Atlanta: for loan by National Medical Audiovisual Center, 1971?]

- **Lectures in child development [sound recording]** Source: Society for Research in Child Development; Year: 1974; Format: Sound recording; Chicago: Univ. of Chicago Press, c1974
- **Transcripts and tapes of interviews on the child development movement** Source: interviewed by Milton J.E. Senn; Year: 1975

CHAPTER 9. PERIODICALS AND NEWS ON CHILD DEVELOPMENT

Overview

In this chapter, we suggest a number of news sources and present various periodicals that cover child development.

News Services and Press Releases

One of the simplest ways of tracking press releases on child development is to search the news wires. In the following sample of sources, we will briefly describe how to access each service. These services only post recent news intended for public viewing.

PR Newswire

To access the PR Newswire archive, simply go to **http://www.prnewswire.com/**. Select your country. Type "child development" (or synonyms) into the search box. You will automatically receive information on relevant news releases posted within the last 30 days. The search results are shown by order of relevance.

Reuters Health

The Reuters' Medical News and Health eLine databases can be very useful in exploring news archives relating to child development. While some of the listed articles are free to view, others are available for purchase for a nominal fee. To access this archive, go to **http://www.reutershealth.com/en/index.html** and search by "child development" (or synonyms). The following was recently listed in this archive for child development:

- **Thompson announces initiative on child development**
  Source: Reuters Health eLine
  Date: July 27, 2001

- **American parents misinformed about child development**
  Source: Reuters Health eLine
  Date: October 19, 2000
- **Mom's work does not affect child development**
  Source: Reuters Health eLine
  Date: March 01, 1999

The NIH

Within MEDLINEplus, the NIH has made an agreement with the New York Times Syndicate, the AP News Service, and Reuters to deliver news that can be browsed by the public. Search news releases at **http://www.nlm.nih.gov/medlineplus/alphanews_a.html**. MEDLINEplus allows you to browse across an alphabetical index. Or you can search by date at the following Web page: **http://www.nlm.nih.gov/medlineplus/newsbydate.html**. Often, news items are indexed by MEDLINEplus within its search engine.

Business Wire

Business Wire is similar to PR Newswire. To access this archive, simply go to **http://www.businesswire.com/**. You can scan the news by industry category or company name.

Market Wire

Market Wire is more focused on technology than the other wires. To browse the latest press releases by topic, such as alternative medicine, biotechnology, fitness, healthcare, legal, nutrition, and pharmaceuticals, access Market Wire's Medical/Health channel at **http://www.marketwire.com/mw/release_index?channel=MedicalHealth**. Or simply go to Market Wire's home page at **http://www.marketwire.com/mw/home**, type "child development" (or synonyms) into the search box, and click on "Search News." As this service is technology oriented, you may wish to use it when searching for press releases covering diagnostic procedures or tests.

Search Engines

Medical news is also available in the news sections of commercial Internet search engines. See the health news page at Yahoo (**http://dir.yahoo.com/Health/News_and_Media/**), or you can use this Web site's general news search page at **http://news.yahoo.com/**. Type in "child development" (or synonyms). If you know the name of a company that is relevant to child development, you can go to any stock trading Web site (such as **http://www.etrade.com/**) and search for the company name there. News items across various news sources are reported on indicated hyperlinks. Google offers a similar service at **http://news.google.com/**.

BBC

Covering news from a more European perspective, the British Broadcasting Corporation (BBC) allows the public free access to their news archive located at **http://www.bbc.co.uk/**. Search by "child development" (or synonyms).

Newsletters on Child Development

Find newsletters on child development using the Combined Health Information Database (CHID). You will need to use the "Detailed Search" option. To access CHID, go to the following hyperlink: **http://chid.nih.gov/detail/detail.html**. Limit your search to "Newsletter" and "child development." Go to the bottom of the search page where "You may refine your search by." Select the dates and language that you prefer. For the format option, select "Newsletter." Type "child development" (or synonyms) into the "For these words:" box. The following list was generated using the options described above:

- **Small hands: Information exchange for navy child development programs**

  Source: Washington, DC: Child Development Branch, U.S. Department of Defense. 1994. quarterly.

  Contact: Available from U.S. Department of Defense, Child Development Branch, Navy Department, Washington, DC 20370.

  Summary: This quarterly newsletter presents administrative and child development information to employees and members of the Information Exchange for Navy Child Development Program. It includes information, announcements, and news on accreditation, administration, training, health and safety, parenting, family child care, news from the field, child development resources and referrals, and new headquarter's releases.

Newsletter Articles

Use the Combined Health Information Database, and limit your search criteria to "newsletter articles." Again, you will need to use the "Detailed Search" option. Go directly to the following hyperlink: **http://chid.nih.gov/detail/detail.html**. Go to the bottom of the search page where "You may refine your search by." Select the dates and language that you prefer. For the format option, select "Newsletter Article." Type "child development" (or synonyms) into the "For these words:" box. You should check back periodically with this database as it is updated every three months. The following is a typical result when searching for newsletter articles on child development:

- **Growing up with NDI**

  Source: Endless Water. 7(3): 9. Summer 2002.

  Contact: Available from Diabetes Insipidus Foundation, Inc. 4533 Ridge Drive, Baltimore, MD 21229.E-mail: diabetesinsipidus@maxinter.net. Website: http://diabetesinsipidus.maxinter.net.

  Summary: This newsletter article helps readers understand what it is like to grow up with diabetes insipidus (a disease characterized by excessive urination and thirst). The

author shares her experiences with her fourteen year old son who had nephrogenic diabetes insipidus (NDI). The author describes early childhood, school experiences, **child development,** and working to increase tolerance of all differences.

Academic Periodicals covering Child Development

Numerous periodicals are currently indexed within the National Library of Medicine's PubMed database that are known to publish articles relating to child development. In addition to these sources, you can search for articles covering child development that have been published by any of the periodicals listed in previous chapters. To find the latest studies published, go to **http://www.ncbi.nlm.nih.gov/pubmed**, type the name of the periodical into the search box, and click "Go."

If you want complete details about the historical contents of a journal, you can also visit the following Web site: **http://www.ncbi.nlm.nih.gov/entrez/jrbrowser.cgi**. Here, type in the name of the journal or its abbreviation, and you will receive an index of published articles. At **http://locatorplus.gov/**, you can retrieve more indexing information on medical periodicals (e.g. the name of the publisher). Select the button "Search LOCATORplus." Then type in the name of the journal and select the advanced search option "Journal Title Search."

APPENDICES

APPENDIX A. PHYSICIAN RESOURCES

Overview

In this chapter, we focus on databases and Internet-based guidelines and information resources created or written for a professional audience.

NIH Guidelines

Commonly referred to as "clinical" or "professional" guidelines, the National Institutes of Health publish physician guidelines for the most common diseases. Publications are available at the following by relevant Institute[10]:

- Office of the Director (OD); guidelines consolidated across agencies available at **http://www.nih.gov/health/consumer/conkey.htm**
- National Institute of General Medical Sciences (NIGMS); fact sheets available at **http://www.nigms.nih.gov/news/facts/**
- National Library of Medicine (NLM); extensive encyclopedia (A.D.A.M., Inc.) with guidelines: **http://www.nlm.nih.gov/medlineplus/healthtopics.html**
- National Cancer Institute (NCI); guidelines available at **http://www.cancer.gov/cancerinfo/list.aspx?viewid=5f35036e-5497-4d86-8c2c-714a9f7c8d25**
- National Eye Institute (NEI); guidelines available at **http://www.nei.nih.gov/order/index.htm**
- National Heart, Lung, and Blood Institute (NHLBI); guidelines available at **http://www.nhlbi.nih.gov/guidelines/index.htm**
- National Human Genome Research Institute (NHGRI); research available at **http://www.genome.gov/page.cfm?pageID=10000375**
- National Institute on Aging (NIA); guidelines available at **http://www.nia.nih.gov/health/**

[10] These publications are typically written by one or more of the various NIH Institutes.

- National Institute on Alcohol Abuse and Alcoholism (NIAAA); guidelines available at **http://www.niaaa.nih.gov/publications/publications.htm**
- National Institute of Allergy and Infectious Diseases (NIAID); guidelines available at **http://www.niaid.nih.gov/publications/**
- National Institute of Arthritis and Musculoskeletal and Skin Diseases (NIAMS); fact sheets and guidelines available at **http://www.niams.nih.gov/hi/index.htm**
- National Institute of Child Health and Human Development (NICHD); guidelines available at **http://www.nichd.nih.gov/publications/pubskey.cfm**
- National Institute on Deafness and Other Communication Disorders (NIDCD); fact sheets and guidelines at **http://www.nidcd.nih.gov/health/**
- National Institute of Dental and Craniofacial Research (NIDCR); guidelines available at **http://www.nidr.nih.gov/health/**
- National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK); guidelines available at **http://www.niddk.nih.gov/health/health.htm**
- National Institute on Drug Abuse (NIDA); guidelines available at **http://www.nida.nih.gov/DrugAbuse.html**
- National Institute of Environmental Health Sciences (NIEHS); environmental health information available at **http://www.niehs.nih.gov/external/facts.htm**
- National Institute of Mental Health (NIMH); guidelines available at **http://www.nimh.nih.gov/practitioners/index.cfm**
- National Institute of Neurological Disorders and Stroke (NINDS); neurological disorder information pages available at **http://www.ninds.nih.gov/health_and_medical/disorder_index.htm**
- National Institute of Nursing Research (NINR); publications on selected illnesses at **http://www.nih.gov/ninr/news-info/publications.html**
- National Institute of Biomedical Imaging and Bioengineering; general information at **http://grants.nih.gov/grants/becon/becon_info.htm**
- Center for Information Technology (CIT); referrals to other agencies based on keyword searches available at **http://kb.nih.gov/www_query_main.asp**
- National Center for Complementary and Alternative Medicine (NCCAM); health information available at **http://nccam.nih.gov/health/**
- National Center for Research Resources (NCRR); various information directories available at **http://www.ncrr.nih.gov/publications.asp**
- Office of Rare Diseases; various fact sheets available at **http://rarediseases.info.nih.gov/html/resources/rep_pubs.html**
- Centers for Disease Control and Prevention; various fact sheets on infectious diseases available at **http://www.cdc.gov/publications.htm**

NIH Databases

In addition to the various Institutes of Health that publish professional guidelines, the NIH has designed a number of databases for professionals.[11] Physician-oriented resources provide a wide variety of information related to the biomedical and health sciences, both past and present. The format of these resources varies. Searchable databases, bibliographic citations, full-text articles (when available), archival collections, and images are all available. The following are referenced by the National Library of Medicine:[12]

- **Bioethics:** Access to published literature on the ethical, legal, and public policy issues surrounding healthcare and biomedical research. This information is provided in conjunction with the Kennedy Institute of Ethics located at Georgetown University, Washington, D.C.: **http://www.nlm.nih.gov/databases/databases_bioethics.html**
- **HIV/AIDS Resources:** Describes various links and databases dedicated to HIV/AIDS research: **http://www.nlm.nih.gov/pubs/factsheets/aidsinfs.html**
- **NLM Online Exhibitions:** Describes "Exhibitions in the History of Medicine": **http://www.nlm.nih.gov/exhibition/exhibition.html**. Additional resources for historical scholarship in medicine: **http://www.nlm.nih.gov/hmd/hmd.html**
- **Biotechnology Information:** Access to public databases. The National Center for Biotechnology Information conducts research in computational biology, develops software tools for analyzing genome data, and disseminates biomedical information for the better understanding of molecular processes affecting human health and disease: **http://www.ncbi.nlm.nih.gov/**
- **Population Information:** The National Library of Medicine provides access to worldwide coverage of population, family planning, and related health issues, including family planning technology and programs, fertility, and population law and policy: **http://www.nlm.nih.gov/databases/databases_population.html**
- **Cancer Information:** Access to cancer-oriented databases: **http://www.nlm.nih.gov/databases/databases_cancer.html**
- **Profiles in Science:** Offering the archival collections of prominent twentieth-century biomedical scientists to the public through modern digital technology: **http://www.profiles.nlm.nih.gov/**
- **Chemical Information:** Provides links to various chemical databases and references: **http://sis.nlm.nih.gov/Chem/ChemMain.html**
- **Clinical Alerts:** Reports the release of findings from the NIH-funded clinical trials where such release could significantly affect morbidity and mortality: **http://www.nlm.nih.gov/databases/alerts/clinical_alerts.html**
- **Space Life Sciences:** Provides links and information to space-based research (including NASA): **http://www.nlm.nih.gov/databases/databases_space.html**
- **MEDLINE:** Bibliographic database covering the fields of medicine, nursing, dentistry, veterinary medicine, the healthcare system, and the pre-clinical sciences: **http://www.nlm.nih.gov/databases/databases_medline.html**

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[11] Remember, for the general public, the National Library of Medicine recommends the databases referenced in MEDLINE*plus* (**http://medlineplus.gov/** or **http://www.nlm.nih.gov/medlineplus/databases.html**).

[12] See **http://www.nlm.nih.gov/databases/databases.html**.

- **Toxicology and Environmental Health Information (TOXNET):** Databases covering toxicology and environmental health: **http://sis.nlm.nih.gov/Tox/ToxMain.html**
- **Visible Human Interface:** Anatomically detailed, three-dimensional representations of normal male and female human bodies: **http://www.nlm.nih.gov/research/visible/visible_human.html**

The Combined Health Information Database

A comprehensive source of information on clinical guidelines written for professionals is the Combined Health Information Database. You will need to limit your search to one of the following: Brochure/Pamphlet, Fact Sheet, or Information Package, and "child development" using the "Detailed Search" option. Go directly to the following hyperlink: **http://chid.nih.gov/detail/detail.html**. To find associations, use the drop boxes at the bottom of the search page where "You may refine your search by." For the publication date, select "All Years." Select your preferred language and the format option "Fact Sheet." Type "child development" (or synonyms) into the "For these words:" box. The following is a sample result:

- **Using the Title V maternal and child health services block grant to support child development services**

  Source: New York, NY: Commonwealth Fund. 2002. 26 pp.

  Contact: Available from Commonwealth Fund, One East 75th Street, New York, NY 10021-2692. Telephone: (888) 777-2744 or (212) 606-3800 / fax: (212) 606-3500 / e-mail: cmwf@cmwf.org / Web site: http://www.cmwf.org. Available at no charge; also available from the Web site at no charge.

  Summary: This is the fourth in a series of reports presenting an overview of federal health policy related to child development. This report explains how services provided through the Title V Maternal and Child Health (MCH)Services Block Grant can be used to foster optimal child development intervention services in the early years of life. It contains an overview of the Title V MCH Services Block Grant, and discusses how to use these funds - either alone or in combination with money from other sources - to support the creation of comprehensive development services for young children and their families. The report contains an executive summary, background and overview of the Title V MCH Services Block Grant Program; chapter discussion on coordination of Title V, Medicaid, and Children's Health Insurance Program (CHIP) in promoting child development; and conclusions and recommendations. The appendices contain federal-state Title V Block Grant partnership budget information for 2001 and state expenditures by category of service for 1999. Additional statistical information is included in figures throughout the report.

- **Early childhood development: Putting knowledge into action**

  Source: Washington, DC: Grantmakers in Health. [2001]. 29 pp.

  Contact: Available from Grantmakers In Health, 1100 Connecticut Avenue, N.W., Suite 1200, Washington, DC 20036. Telephone: (202) 452-8331 / fax: (202) 452-8340 / e-mail: mbackley@gih.org / Web site: http://www.gih.org. Available at no charge; also available from the Web site at no charge.

Summary: This publication reports on a roundtable meeting of grantmakers and national experts discussing trends for improving the health and well- being of young children. This report is divided into the following sections: the continuum of child development, including research on brain development; child and family demographics; indicators of child health and well-being; government and privately-funded programs supporting early childhood development; elements of successful programs and evaluation results; and strategies and opportunities for grantmaker work in early childhood development. A list of sources is provided.

- **Primary care services: Promoting optimal child development from birth to three years**

  Source: New York, NY: Commonwealth Fund. 2002. 75 pp.

  Contact: Available from Commonwealth Fund, One East 75th Street, New York, NY 10021-2692. Telephone: (888) 777-2744 or (212) 606-3800 / fax: (212) 606-3500 / e-mail: cmwf@cmwf.org / Web site: http://www.cmwf.org. Available at no charge; also available from the Web site at no charge.

  Summary: This report defines and examines the evidence for the effectiveness of health services targeted at promoting optimal development in children from birth to three years of age. The services reviewed are provided in general pediatric settings as part of a routine well-child care and health supervision. The report begins with a review of health supervision guidelines for pediatricians, from the American Academy of Pediatricians and the Bright Futures project, along with the Commonwealth Healthy Steps Program and Zero to Three Developmental Specialist program. The second section provides results of a literature review on program efficacy, effectiveness, or cost effectiveness of services, and is categorized into four areas: assessment, education, intervention, and care coordination. The final section describes results and offers suggestions. Tables provide data on developmental services typology, assessments, education, and interventions. The report concludes with references.

- **Health policy and early child development: An overview**

  Source: New York, NY: Commonwealth Fund. 2001. 22 pp.

  Contact: Available from Commonwealth Fund, One East 75th Street, New York, NY 10021-2692. Telephone: (888) 777-2744 or (212) 606-3800 / fax: (212) 606-3500 / e-mail: cmwf@cmwf.org / Web site: http://www.cmwf.org. Available at no charge; Available from the Web site at no charge.

  Summary: This report is designed to provide an introduction to federal health policy related to early childhood development, as well as an overview of statistics on health insurance coverage for young children and certain program-specific data. The report focuses on those programs that have, as a major policy, the financing and provision of preventive health care for infants and young children. Topics include the evolution of federal health policy on early child development; health insurance for young children; and the federal role in promoting access to health care for medically underserved young children. The report contains figures and tables illustrating statistics on child participation in health insurance programs and Medicaid; federal roles; insurance coverage; and federal budget allocations.

- **Child development programs in community health centers**

  Source: New York, NY: Commonwealth Fund. 2002. 22 pp.

Contact: Available from Commonwealth Fund, One East 75th Street, New York, NY 10021-2692. Telephone: (888) 777-2744 or (212) 606-3800 / fax: (212) 606-3500 / e-mail: cmwf@cmwf.org / Web site: http://www.cmwf.org. Available at no charge; also available from the Web site at no charge.

Summary: This report, the third in a series that reviews federal health policy related to child development, examines the role of community health centers (CHCs) in providing child development programs for children age 3 and younger. It also presents an analysis of health center users, utilization, and financial information on each reporting center. In addition, the report presents findings from a 2000 survey of four categories of child development programs at 79 health centers; examines the new prospective payment system for health centers and its potential impact on the provision of child development services; and offers recommendations for improved delivery of these services at health centers. The report includes an executive summary; background information on CHCs; a chapter discussing the national survey of child development programs in CHCs; and health center payment provisions. Figures and tables present statistical data.

- **Room to grow: Promoting child development through Medicaid and CHIP**

  Source: New York, NY: Commonwealth Fund. 2001. 36 pp.

  Contact: Available from Commonwealth Fund, One East 75th Street, New York, NY 10021-2692. Telephone: (888) 777-2744 or (212) 606-3800 / fax: (212) 606-3500 / e-mail: cmwf@cmwf.org / Web site: http://www.cmwf.org. Available at no charge; also available from the Web site at no charge.

  Summary: This report, written primarily for policy makers and state health administrators, begins with an overview of Medicaid and the State Children's Health Insurance Program (SCHIP) and examines opportunities for states to use program funds to design quality preventive health services for young children. Additional topics include promoting coverage of early childhood development services and improving the quality of developmental services. Appendices describe the Early and Periodic Screening, Diagnostic and Treatment Services (EPSDT) program; income and asset standards under Medicaid and SCHIP programs; application and enrollment simplification efforts; pediatric developmental assessment services; and types of providers who can deliver services. The report contains numerous charts.

The NLM Gateway[13]

The NLM (National Library of Medicine) Gateway is a Web-based system that lets users search simultaneously in multiple retrieval systems at the U.S. National Library of Medicine (NLM). It allows users of NLM services to initiate searches from one Web interface, providing one-stop searching for many of NLM's information resources or databases.[14] To use the NLM Gateway, simply go to the search site at **http://gateway.nlm.nih.gov/gw/Cmd**. Type "child development" (or synonyms) into the search box and click "Search." The results will be presented in a tabular form, indicating the number of references in each database category.

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[13] Adapted from NLM: **http://gateway.nlm.nih.gov/gw/Cmd?Overview.x**.

[14] The NLM Gateway is currently being developed by the Lister Hill National Center for Biomedical Communications (LHNCBC) at the National Library of Medicine (NLM) of the National Institutes of Health (NIH).

Results Summary

Category	Items Found
Journal Articles	29882
Books / Periodicals / Audio Visual	3925
Consumer Health	1336
Meeting Abstracts	89
Other Collections	117
Total	35349

HSTAT[15]

HSTAT is a free, Web-based resource that provides access to full-text documents used in healthcare decision-making.[16] These documents include clinical practice guidelines, quick-reference guides for clinicians, consumer health brochures, evidence reports and technology assessments from the Agency for Healthcare Research and Quality (AHRQ), as well as AHRQ's Put Prevention Into Practice.[17] Simply search by "child development" (or synonyms) at the following Web site: **http://text.nlm.nih.gov**.

Coffee Break: Tutorials for Biologists[18]

Coffee Break is a general healthcare site that takes a scientific view of the news and covers recent breakthroughs in biology that may one day assist physicians in developing treatments. Here you will find a collection of short reports on recent biological discoveries. Each report incorporates interactive tutorials that demonstrate how bioinformatics tools are used as a part of the research process. Currently, all Coffee Breaks are written by NCBI staff.[19] Each report is about 400 words and is usually based on a discovery reported in one or more articles from recently published, peer-reviewed literature.[20] This site has new articles every few weeks, so it can be considered an online magazine of sorts. It is intended for general background information. You can access the Coffee Break Web site at the following hyperlink: **http://www.ncbi.nlm.nih.gov/Coffeebreak/**.

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[15] Adapted from HSTAT: **http://www.nlm.nih.gov/pubs/factsheets/hstat.html**.

[16] The HSTAT URL is **http://hstat.nlm.nih.gov/**.

[17] Other important documents in HSTAT include: the National Institutes of Health (NIH) Consensus Conference Reports and Technology Assessment Reports; the HIV/AIDS Treatment Information Service (ATIS) resource documents; the Substance Abuse and Mental Health Services Administration's Center for Substance Abuse Treatment (SAMHSA/CSAT) Treatment Improvement Protocols (TIP) and Center for Substance Abuse Prevention (SAMHSA/CSAP) Prevention Enhancement Protocols System (PEPS); the Public Health Service (PHS) Preventive Services Task Force's *Guide to Clinical Preventive Services*; the independent, nonfederal Task Force on Community Services' *Guide to Community Preventive Services*; and the Health Technology Advisory Committee (HTAC) of the Minnesota Health Care Commission (MHCC) health technology evaluations.

[18] Adapted from **http://www.ncbi.nlm.nih.gov/Coffeebreak/Archive/FAQ.html**.

[19] The figure that accompanies each article is frequently supplied by an expert external to NCBI, in which case the source of the figure is cited. The result is an interactive tutorial that tells a biological story.

[20] After a brief introduction that sets the work described into a broader context, the report focuses on how a molecular understanding can provide explanations of observed biology and lead to therapies for diseases. Each vignette is accompanied by a figure and hypertext links that lead to a series of pages that interactively show how NCBI tools and resources are used in the research process.

Other Commercial Databases

In addition to resources maintained by official agencies, other databases exist that are commercial ventures addressing medical professionals. Here are some examples that may interest you:

- **CliniWeb International:** Index and table of contents to selected clinical information on the Internet; see **http://www.ohsu.edu/cliniweb/**.
- **Medical World Search:** Searches full text from thousands of selected medical sites on the Internet; see **http://www.mwsearch.com/**.

APPENDIX B. PATIENT RESOURCES

Overview

Official agencies, as well as federally funded institutions supported by national grants, frequently publish a variety of guidelines written with the patient in mind. These are typically called "Fact Sheets" or "Guidelines." They can take the form of a brochure, information kit, pamphlet, or flyer. Often they are only a few pages in length. Since new guidelines on child development can appear at any moment and be published by a number of sources, the best approach to finding guidelines is to systematically scan the Internet-based services that post them.

Patient Guideline Sources

The remainder of this chapter directs you to sources which either publish or can help you find additional guidelines on topics related to child development. Due to space limitations, these sources are listed in a concise manner. Do not hesitate to consult the following sources by either using the Internet hyperlink provided, or, in cases where the contact information is provided, contacting the publisher or author directly.

The National Institutes of Health

The NIH gateway to patients is located at **http://health.nih.gov/**. From this site, you can search across various sources and institutes, a number of which are summarized below.

Topic Pages: MEDLINEplus

The National Library of Medicine has created a vast and patient-oriented healthcare information portal called MEDLINEplus. Within this Internet-based system are "health topic pages" which list links to available materials relevant to child development. To access this system, log on to **http://www.nlm.nih.gov/medlineplus/healthtopics.html**. From there you can either search using the alphabetical index or browse by broad topic areas. Recently, MEDLINEplus listed the following when searched for "child development":

- Guides on child development

  Child Development
  http://www.nlm.nih.gov/medlineplus/childdevelopment.html

- Other guides

  Child Day Care
  http://www.nlm.nih.gov/medlineplus/childdaycare.html

  Developmental Disabilities
  http://www.nlm.nih.gov/medlineplus/developmentaldisabilities.html

  Infant and Toddler Development
  http://www.nlm.nih.gov/medlineplus/infantandtoddlerdevelopment.html

  Teen Development
  http://www.nlm.nih.gov/medlineplus/teendevelopment.html

Within the health topic page dedicated to child development, the following was listed:

- General/Overviews

  Development and Behavior
  Source: American Academy of Pediatrics
  http://www.medem.com/MedLB/article_detaillb.cfm?article_ID=ZZZ8QW1A79C&sub_cat=21

  Growth and Your 6-to-12-Year-Old
  Source: Nemours Foundation
  http://kidshealth.org/parent/growth/growth/growth_6_12.html

  Healthy Minds: Nurturing Your Child's Development
  Source: Zero to Three
  http://www.zerotothree.org/healthyminds/

- Specific Conditions/Aspects

  Children and the News
  Source: American Academy of Child and Adolescent Psychiatry
  http://www.aacap.org/publications/factsfam/67.htm

  Children and TV Violence
  Source: American Academy of Child and Adolescent Psychiatry
  http://www.aacap.org/publications/factsfam/violence.htm

  Children and Watching TV
  Source: American Academy of Child and Adolescent Psychiatry
  http://www.aacap.org/publications/factsfam/tv.htm

  Communication and Your 6-to-12-Year-Old
  Source: Nemours Foundation
  http://kidshealth.org/parent/growth/communication/comm_6_to_12.html

  Discipline
  Source: American Academy of Child and Adolescent Psychiatry
  http://www.aacap.org/publications/factsfam/discplin.htm

Fighting and Biting
Source: American Academy of Child and Adolescent Psychiatry
http://www.aacap.org/publications/factsfam/81.htm

Helping Your Child to Better Handwriting
http://www.aota.org/featured/area6/docs/handwrit.pdf

How Does Your Child Hear and Talk?
Source: American Speech-Language-Hearing Association
http://www.asha.org/public/speech/development/child_hear_talk.htm

How Temperamental Traits Can Be Expressed
Source: American Academy of Pediatrics
http://www.medem.com/medlb/article_detaillb.cfm?article_ID=ZZZGCXG4W7C&sub_cat=21

Is Your Child Too Busy?
Source: Nemours Foundation
http://kidshealth.org/parent/growth/growing/child_too_busy.html

JAMA Patient Page: Helping Children Cope with Violence
Source: American Medical Association
http://www.medem.com/MedLB/article_detaillb.cfm?article_ID=ZZZ5F44A9CC&sub_cat=356

Lying
Source: American Academy of Pediatrics
http://www.medem.com/medlb/article_detaillb.cfm?article_ID=ZZZEZX4A79C&sub_cat=21

Puberty: What to Expect When Your Child Goes Through Puberty
Source: American Academy of Family Physicians
http://familydoctor.org/handouts/445.html

Put Reading First: Helping Your Child Learn to Read
http://www.nifl.gov/partnershipforreading/publications/Parent_br.pdf

Reading Checkup Guide: Helping Your Children Become Better Readers
Source: American Academy of Pediatrics
http://www.aap.org/family/readmeastory.htm

Self-Esteem Concerns for Girls and Boys
Source: American Academy of Pediatrics
http://www.medem.com/medlb/article_detaillb.cfm?article_ID=ZZZB0VXV8FC&sub_cat=105

Separation Anxiety in Toddlers
Source: Nemours Foundation
http://kidshealth.org/parent/positive/family/separation_anxiety.html

Social Development
Source: Ambulatory Pediatric Association
http://www.ambpeds.org/socialdevelopment.cfm

Sportsmanship
Source: Nemours Foundation
http://kidshealth.org/parent/growth/learning/sportsmanship.html

Starting School
Source: American Academy of Child and Adolescent Psychiatry
http://www.aacap.org/publications/factsfam/82.htm

Talking to Your Child about Puberty
Source: Nemours Foundation
http://kidshealth.org/parent/growth/growing/talk_about_puberty.html

Talking to Your Kids about Sex
Source: American Academy of Child and Adolescent Psychiatry
http://www.aacap.org/publications/factsfam/62.htm

Teaching Tolerance to Your Kids
Source: Mayo Foundation for Medical Education and Research
http://www.mayoclinic.com/invoke.cfm?id=HQ01492

What Media Teaches Children
Source: American Academy of Pediatrics
http://www.medem.com/MedLB/article_detaillb.cfm?article_ID=ZZZ5FI0XQ7C&sub_cat=17

What Parents Can Do to Change Their Child's Behavior
Source: American Academy of Family Physicians
http://familydoctor.org/handouts/201.html

Youth Athletics: Finding the Right Sport
Source: Mayo Foundation for Medical Education and Research
http://www.mayoclinic.com/invoke.cfm?id=HQ00414

- Journals/Newsletter

Hot Topics in the News
Source: Nemours Foundation
http://www.kidshealth.org/PageManager.jsp?dn=KidsHealth&lic=1&ps=122

- Latest New

Dyslexia Linked to Sound Processing
Source: 10/28/2003, United Press International
http://www.nlm.nih.gov//www.nlm.nih.gov/medlineplus/news/fullstory_14441.html

Education, Attention Helps Siblings of Sick Kids
Source: 10/29/2003, Reuters Health
http://www.nlm.nih.gov//www.nlm.nih.gov/medlineplus/news/fullstory_14464.html

New Study Identifies Gene Signaling Puberty
Source: 10/22/2003, National Institute of Child Health and Human Development
http://www.nih.gov/news/pr/oct2003/nichd-22.htm

Preschoolers Tuned Into TV
Source: 10/29/2003, Reuters Health
http://www.nlm.nih.gov//www.nlm.nih.gov/medlineplus/news/fullstory_14467.html

- Organizations

  American Academy of Child and Adolescent Psychiatry
  http://www.aacap.org/

  American Academy of Pediatrics
  http://www.aap.org/

  KidsHealth
  Source: Nemours Foundation
  http://kidshealth.org/index_noflash.html

  National Institute of Child Health and Human Development
  http://www.nichd.nih.gov/

- Research

  Child Care Linked to Assertive, Noncompliant, and Aggressive Behaviors
  Source: National Institute of Child Health and Human Development
  http://www.nih.gov/news/pr/jul2003/nichd-16.htm

  Mothers' Leaving Welfare Had No Effect on Preschoolers; Slight Improvement Seen for Young Adolescents
  Source: National Institute of Child Health and Human Development
  http://www.nih.gov/news/pr/mar2003/nichd-06.htm

  Nine Hours of Sleep Key to "Back to School" Success
  Source: National Heart, Lung, and Blood Institute
  http://www.nih.gov/news/pr/sep2002/nhlbi-19.htm

You may also choose to use the search utility provided by MEDLINEplus at the following Web address: **http://www.nlm.nih.gov/medlineplus/**. Simply type a keyword into the search box and click "Search." This utility is similar to the NIH search utility, with the exception that it only includes materials that are linked within the MEDLINEplus system (mostly patient-oriented information). It also has the disadvantage of generating unstructured results. We recommend, therefore, that you use this method only if you have a very targeted search.

The Combined Health Information Database (CHID)

CHID Online is a reference tool that maintains a database directory of thousands of journal articles and patient education guidelines on child development. CHID offers summaries that describe the guidelines available, including contact information and pricing. CHID's general Web site is **http://chid.nih.gov/**. To search this database, go to **http://chid.nih.gov/detail/detail.html**. In particular, you can use the advanced search options to look up pamphlets, reports, brochures, and information kits. The following was recently posted in this archive:

- **Oral Health Tip Sheet for Head Start Staff: Working With Health Professionals to Improve Access to Oral Health Care**

  Source: Washington, DC: National Maternal and Child Oral Health Resource Center. 2003. 2 p.

Contact: Available from National Maternal and Child Oral Health Resource Center. Georgetown University, Box 571272, Washington, DC 20057-1272. (202) 784-9771. Fax (202) 784-9777. E-mail: info@mchoralhealth.org. Website: www.mchoralhealth.org. PRICE: Single copy free; full-text available online at no charge. Also available from HRSA Information Center. 2070 Chain Bridge Road, Suite 450, Vienna, VA 22182-2536. (888) ASK-HRSA (275-4772). TTY (877) 474-4772. Fax (703) 821-2098. E-mail: ask@hrsa.gov. Website: http://www.ask.hrsa.gov. PRICE: Single copy free; full-text available online at no charge. Item Number: HRSA Info. Ctr. MCH 00081.

Summary: Early Head Start and Head Start are comprehensive **child development** programs that serve infants and children from birth through age 5, pregnant women, and their families. The overall goal of these child-focused programs is to increase the school readiness of young children from families with low incomes. This fact sheet was written to help ensure that pregnant women, infants, and children (including children with special health care needs) enrolled in Head Start receive oral health care. The fact sheet outlines a recommended schedule of preventive and primary care visits, and offers strategies for family partnerships, educational programs, and community partnerships. The fact sheet is designed to help Head Start employees learn about and obtain these types of oral health care services for their clients.

- **A Time to Share**

  Contact: Texas Childrens Hospital, Texas Childrens Allergy and Immunology Center, 6621 Fannin, The Feigin Center Bldg 4th Fl, Houston, TX, 77030-2399, (832) 824-1319, http://www.texaschildrenshospital.org.

  Summary: The videotape in this teaching aid shows volunteers and foster parents talking about how they overcame their fears and found personal satisfaction in their work with children and families coping with HIV/AIDS. They express their concerns about HIV transmission, caring for sick or developmentally delayed children, handling death, spending time, and overcommittment. They talk about the rewards and opportunities for growth learning that come with volunteering. A Speaker's Guide provides suggestions for structuring a recruitment session, and methods that the speaker or discussion leader can use to facilitate dynamic interaction among the participants on the topics covered in the videotape. The training manual has six modules designed to provide complete instruction for volunteers who plan to work with HIV-infected children. Each includes an outline, a speaker checklist, and resources lists. Reproducible fact sheets and handouts to help build and practice skills accompany each module. The topics that are covered are techniques for taking precautions against HIV transmission; basic first aid; giving emotional and respite support for the family, including dealing with crises, death and dying, and the family's right to privacy and effective communication; ways to provide care for infants and children, such as hygiene, feeding and nutrition, giving medications, **child development,** discipline, behavior and creating a relationship; handling difficult situations like child abuse, substance abuse, and overcoming biases; and personal and organizational support systems for volunteers.

- **Auditory-Verbal Therapy Scope of Practice**

  Source: Auricle. p. 5-6. Winter 1994.

  Contact: Available from Auditory-Verbal International, Inc. (AVI). 2121 Eisenhower Avenue, Suite 402, Alexandria, VA 22314. VOICE (703) 739-1049; TDD (703) 739-0874; FAX (730) 739-0395.

Summary: This article defines auditory-verbal therapy by its scope of practice. The document outlines goals, skills, responsibilities, and activities that are within the specialty of auditory-verbal therapy. This Scope of Practice statement is intended to be used by auditory-verbal therapists, allied professionals, educational personnel, consumers of auditory-verbal services, parents, and the general public. After a statement of purpose and the definition of an auditory-verbal therapist, the document defines the scope of practice, in categories including hearing and audiology, auditory functioning, spoken language communication, auditory-verbal techniques and procedures, **child development,** parent guidance, and history, philosophy, and professional issues. The document includes a membership form for joining Auditory- Verbal International, Inc. (AVI). (AA-M).

- **Sources of Health Materials for African Americans, American Indian-Alaska Natives, Asians, Hispanics, Pacific Islanders**

  Source: Washington, DC: Office of Minority Health Resource Center. October 1997. 56 p.

  Contact: Available from Office of Minority Health Resource Center. P.O. Box 37337, Washington, DC 20013-7337. (800) 444-6472. Website: www.omhrc.gov. PRICE: Single copy free.

  Summary: This bibliography lists sources of health materials that are written specifically for the needs of certain ethnic groups. This bibliography includes five sections: African Americans, American Indians (including Alaska Natives), Asians, Hispanics, and Pacific Islanders. The first section concentrates on health materials identified by the Office of Minority Health Resource Center (OMH-RC) as specifically targeting African Americans and includes resources on nutrition, exercise, and AIDS educational materials. This section also includes cancer, chemical dependency, diabetes, heart disease and stroke, infant mortality, and the associated risk factors. The second section lists culturally sensitive printed health materials identified for American Indians and includes sources of information for AIDS, cancer, **child development,** diabetes, high blood pressure, nutrition, and substance abuse. The third section includes culturally sensitive health materials identified in various Asian languages and lists resources on nutrition, exercise, and AIDS education. The fourth section covers health materials specifically targeting different Hispanic populations, noting that culturally sensitive and universally appropriate Spanish language materials for this diverse population are difficult to obtain and some do not take culture, linguistics and other factors that may influence health behaviors into consideration. The final section lists sources that produce or distribute health promotion materials for Pacific Islander populations. The listing includes sources of information for AIDS, diabetes, hepatitis, sexually transmitted diseases, and thalassemia, as well as other health areas. Each of the five sections offers a brief introduction, a listing of subject topics covered, and the organizations or publishers that serve as sources for the health materials. Representative publications (including audiovisual materials) are listed and briefly annotated under each organization.

- **Early Childhood Programs at the Clerc Center (Brochure)**

  Source: Gallaudet University. Washington, DC. 2002.

  Contact: Available from Laurent Clerc National Deaf Education Center. Gallaudet University, 800 Florida Avenue, NE., Washington DC 2002-3695. Voice/TTY (202) 651-5130. Web site: http://clerccenter.gallaudet.edu.

  Summary: This brochure describes the early childhood programs at the Laurent Clerc National Deaf Education Center, at Gallaudet University in Washington, DC. The center

offers a range of educational child and child care services to deaf and hard-of-hearing students and their families. The programs consist of the Early Childhood Education Team for deaf and hard-of-hearing children from birth through kindergarten as part of the Kendall Demonstration Elementary School (KDES), a federally funded, tuition-free, national demonstration school; and the **Child Development** Center (CDC), also located at KDES, a licensed, tuition-based early education and child care service for deaf, hard-of-hearing, and hearing children. The Early Childhood Education Team provides a range of services, such as a Parent-Infant program and a program for toddlers, preschoolers, and kindergartners. The brochure concludes with quotes from parents who have used the services offered by the Early Childhood Programs at the Clerc Center. 8 page fold-out.

- **Chinchuba Institute Auditory-Oral School for the Hearing Impaired**

  Source: Marrero, LA: Chinchuba Institute. 199x. 2 p.

  Contact: Available from Chinchuba Institute. 1131 Barataria Boulevard, Marrero, LA 70072. VOICE-TDD (504) 340-9261; FAX (504)340-9263. PRICE: Single copy free.

  Summary: This brochure describes the programs of the Chichuba Institute, an Auditory/Oral School for the Hearing Impaired, located in Marrero, Louisiana. Chichuba's mission is to educate children with hearing impairments in an auditory/oral environment, offering the opportunity to learn to process both spoken and written language through the use of speech, speechreading, and the use of residual hearing. The brochure describes the school's philosophy of educating children with hearing impairments and then describes the programs available, including parent-infant programs, the Center for **Child Development** (preschool for normal hearing children), preschool, elementary, and middle school programs, and mainstreaming support services. The brochure also describes the general characteristics of an auditory/oral program in some detail.

- **American Indian and Alaska Native: Sources of Health Materials**

  Source: Washington, DC: Office of Minority Health Resource Center. October 1997. [6 p.].

  Contact: Available from Office of Minority Health Resource Center. P.O. Box 37337, Washington, DC 20013-7337. (800) 444-6472. Website: www.omhrc.gov. PRICE: Single copy free.

  Summary: This chapter is from a bibliography that lists sources of health materials that are written specifically for the needs of certain ethnic groups. The bibliography includes five sections: African Americans, American Indians (including Alaska Natives), Asians, Hispanics, and Pacific Islanders. This chapter lists culturally sensitive printed health materials identified for American Indians by the Office of Minority Health Resource Center (OMH-RC). The listing includes sources of information for AIDS, cancer, **child development,** diabetes, high blood pressure, nutrition, and substance abuse. The chapter includes a brief introduction, a listing of subject topics covered, and the organizations or publishers that serve as sources for the health materials. Representative publications (including audiovisual materials) are listed and briefly annotated under each organization. Organizations included in the listing should be contacted directly to determine the cost and availability of bulk quantities and for permission to photocopy.

- **Training program for community outreach workers**

  Source: Birmingham, AL: University of Alabama at Birmingham. 1996. 457 pp.

  Summary: This documents contains the training program for community outreach workers part of the Birmingham Healthy Start program. The training addressed the following topics: preventing infant death, connecting with families, community resources, working with families, family violence, immunization and injury prevention, preconception care and family planning, prenatal care, labor and delivery, nutrition during pregnancy and infant nutrition, and **child development.**

- **Have You Ever Worried About Your Child's Hearing?**

  Source: Raleigh, NC: BEGINNINGS for Parents of Children Who Are Deaf or Hard of Hearing, Inc. 199x. [2 p.].

  Contact: Available from BEGINNINGS for Parents of Children Who Are Deaf or Hard of Hearing, Inc. P.O. Box 17646, Raleigh, NC 27619. Voice/TTY (919) 850-2746. Fax (919) 850-2804. PRICE: Single copy free.

  Summary: This educational brochure offers parents information about **child development,** focusing on developmental milestones related to hearing. The front page of the brochure encourages readers who have ever been concerned about their child's hearing to go ahead and have their hearing tested. Hearing can be tested at any age, even birth. The brochure then offers a checklist of expected behaviors, in different age groupings: 0 to 3 months, 3 to 6 months, 6 to 10 months, 12 months, 15 months, 18 months, and 4 months. In each age group, the brochure lists 2 or 3 things that the baby should be doing, usually in response to a trigger sound. For example, by age 12 months, the baby should turn his or her head directly toward an interesting sound, including someone calling his or her name. The brochure concludes with information about the organization that produced the brochure, BEGINNINGS for Parents of Children Who are Deaf or Hard of Hearing, a non profit agency that helps families of children who are deaf or hard of hearing and the professionals who serve them. The brochure offers contact information for the offices of BEGINNINGS, including the web site (www.beginningssvcs.com). Simple graphics illustrate the brochure.

- **Respite for Foster Parents**

  Contact: Access to Respite Care and Help, National Resource Center Coordinating Office, Chapel Hill Training Outreach Project, 800 Eastowne Dr Ste 105, Chapel Hill, NC, 27514, (919) 490-5577.

  Summary: This fact sheet explainls respite programs. Benefits include stress reduction and increased quality of care through exhaustion prevention. Respite program considerations include a review of state foster care regulations to insure compliance. In addition, a focus on a target population - for example, HIV-infected children - narrows the specialized training necessary and reduces costs. The article lists specific concerns and strategies to ease these concerns. For instance, one concern is proper care; a strategy is joint training of the parent and respite worker. The fact sheet looks at respite provider recruitment and screening. It lists necessary topics for training, which include **child development;** AIDS awareness; and loss, grief, and attachment. Finally, it discusses the challenges facing respite providers and notes the help that staff support meetings provide.

- **Parent-child attachment**

  Source: [St. Paul, MN]: Minnesota Coalition for Family Policy. [ca. 1999]. 2 pp.

  Contact: Available from Minnesota Coalition for Family Policy, 1295 Bandana Boulevard, North, Suite 210, St. Paul, MN 55108. Telephone: (651) 637- 2470 / fax: (651) 647-4623 / e-mail: ecs@wilder.org / Web site: http://www.cyfc.umn.edu/mcfp/. Available from the Web site at no charge.

  Summary: This fact sheet explains how the parent-child relationships influence **child development** and how public policy can promote healthy family relationships.

- **Program models of excellence: State and local Healthy Mothers, Healthy Babies coalitions**

  Source: Alexandria, VA: National Healthy Mothers, Health Babies Coalition. 2002. 4 pp.

  Contact: Available from National Healthy Mothers, Healthy Babies Coalition, 121 North Washington Street, Suite 300, Alexandria, VA 22314. Telephone: (703) 836-6110 / fax: (703) 836-3470 / e-mail: ldunne@hmhb.org / Web site: http://www.hmhb.org. Available at no charge.

  Summary: This fact sheet provides brief descriptions of various successful state and local Healthy Mothers Health Babies (HMHB) coalition programs and what makes each of them unique. The following HMHB coalitions are described: the Georgia state and Kern County, California programs on breastfeeding promotion; the Montana and Arizona programs on child passenger safety; the Washington state program on immunization; the Connecticut program on folic acid awareness; the Illinois state program on oral health; the Palm Beach County, Florida program on father and male involvement in **child development;** and the Pennsylvania program for community health outreach for expecting mothers and new families. Each entry provides contact information.

- **Cleft Lip and Palate: Effects on Speech, Language, and Development**

  Source: in Schrader, M., ed. Parent Articles 1: Enhance Parent Involvement in Language Learning. San Antonio, TX: Communication Skill Builders. 1988. p. 199-200.

  Contact: Available from Communication Skill Builders. Customer Service, 555 Academic Court, San Antonio, TX 78204-2498. (800) 211-8378; TTY (800) 723-1318; Fax (800) 232-1223. PRICE: $52.00 plus shipping and handling. Order Number 076-1674-39X-MS799.

  Summary: This fact sheet provides parents with information on cleft lip and palate and the effects of clefts on speech, language, and **child development.** Topics covered include a description of cleft lip and cleft palate; related speech problems including speech delay, articulation, voice quality, dental problems, and ear infections; and developmental problems, including language delay, feeding difficulties, and social development. The author also provides a list of related vocabulary terms. The fact sheet is one of a series of instructional materials designed to enhance parent involvement in language learning. The fact sheets share information on speech therapy and speech/language disorders targeted to parents of children 1 to 7 years old. The fact sheets also answer frequently-asked questions and suggest related activities to enhance children's speech and language skills.

- **Parents as teachers: Good beginnings for all children**

  Source: St. Louis, MI: Parents as Teachers National Center. [1997]. 11 items.

Contact: Available from Karen H. Hoelker, Parents as Teachers National Center, 10176 Corporate Square Drive, Suite 230, St. Louis, MO 63132. Telephone: (314) 432-4330 / fax: (314) 432-8963 / e-mail: patnc@patnc.org / Web site: http://www.patnc.org.

Summary: This information package is about the Parents as Teachers program which promotes teaching adolescent parents how to be effective as parents. The material includes several fact sheets about early brain and **child development,** and how the program could be used by Head Start and Early Start Programs. There is also a catalog of training materials which can be ordered from the organization.

- **Assuring the healthy development of young children: Opportunities for states**

  Source: New York, NY: Commonwealth Fund. 2000. 8 pp.

  Contact: Available from Commonwealth Fund, One East 75 Street, New York, NY 10021-2692. Telephone: (888) 777-2744 or (212) 606-3840 / e-mail: nb@cmwf.org / Web site: http://www.cmwf.org. Available from the Web site at no charge.

  Summary: This issue brief examines opportunities for states to enhance the provision of health-related developmental services to children in low- income families, particularly preventive services in primary, pediatric practices. It discusses using Medicaid and Medicaid managed care, and specific ways to broaden the reach of **child development** services.

- **Bright Futures: Your child's health record: From birth through six years of age**

  Source: Arlington, VA: National Center for Education in Maternal and Child Health. 2001. 2 pp.

  Contact: Available from National Maternal and Child Health Clearinghouse, 2070 Chain Bridge Road, Suite 450, Vienna, VA 22182-2536. Telephone: (703) 356-1964 or (888) 434-4MCH / fax: (703) 821-2098 / e-mail: nmchc@circsol.com / Web site: http://www.nmchc.org. Available at no charge.

  Summary: This tri-fold brochure provides for parents a place to record health information for infants and children through age 6. It also provides reminders about **child development,** well-child visits, health screening, vaccines and safety precautions. [Funded by the Maternal and Child Health Bureau].

Healthfinder™

Healthfinder™ is sponsored by the U.S. Department of Health and Human Services and offers links to hundreds of other sites that contain healthcare information. This Web site is located at **http://www.healthfinder.gov**. Again, keyword searches can be used to find guidelines. The following was recently found in this database:

- **National Child Care Information Center: Selected Resource Lists**

  Summary: This is a page of links to resource lists on numerous child care and child development topics.

  Source: National Child Care Information Center, Administration for Children and Families

  http://www.healthfinder.gov/scripts/recordpass.asp?RecordType=0&RecordID=7004

The NIH Search Utility

The NIH search utility allows you to search for documents on over 100 selected Web sites that comprise the NIH-WEB-SPACE. Each of these servers is "crawled" and indexed on an ongoing basis. Your search will produce a list of various documents, all of which will relate in some way to child development. The drawbacks of this approach are that the information is not organized by theme and that the references are often a mix of information for professionals and patients. Nevertheless, a large number of the listed Web sites provide useful background information. We can only recommend this route, therefore, for relatively rare or specific disorders, or when using highly targeted searches. To use the NIH search utility, visit the following Web page: **http://search.nih.gov/index.html**.

Additional Web Sources

A number of Web sites are available to the public that often link to government sites. These can also point you in the direction of essential information. The following is a representative sample:

- AOL: **http://search.aol.com/cat.adp?id=168&layer=&from=subcats**
- Family Village: **http://www.familyvillage.wisc.edu/specific.htm**
- Google: **http://directory.google.com/Top/Health/Conditions_and_Diseases/**
- Med Help International: **http://www.medhelp.org/HealthTopics/A.html**
- Open Directory Project: **http://dmoz.org/Health/Conditions_and_Diseases/**
- Yahoo.com: **http://dir.yahoo.com/Health/Diseases_and_Conditions/**
- WebMD®Health: **http://my.webmd.com/health_topics**

Finding Associations

There are several Internet directories that provide lists of medical associations with information on or resources relating to child development. By consulting all of associations listed in this chapter, you will have nearly exhausted all sources for patient associations concerned with child development.

The National Health Information Center (NHIC)

The National Health Information Center (NHIC) offers a free referral service to help people find organizations that provide information about child development. For more information, see the NHIC's Web site at **http://www.health.gov/NHIC/** or contact an information specialist by calling 1-800-336-4797.

Directory of Health Organizations

The Directory of Health Organizations, provided by the National Library of Medicine Specialized Information Services, is a comprehensive source of information on associations. The Directory of Health Organizations database can be accessed via the Internet at

http://www.sis.nlm.nih.gov/Dir/DirMain.html. It is composed of two parts: DIRLINE and Health Hotlines.

The DIRLINE database comprises some 10,000 records of organizations, research centers, and government institutes and associations that primarily focus on health and biomedicine. To access DIRLINE directly, go to the following Web site: **http://dirline.nlm.nih.gov/**. Simply type in "child development" (or a synonym), and you will receive information on all relevant organizations listed in the database.

Health Hotlines directs you to toll-free numbers to over 300 organizations. You can access this database directly at **http://www.sis.nlm.nih.gov/hotlines/**. On this page, you are given the option to search by keyword or by browsing the subject list. When you have received your search results, click on the name of the organization for its description and contact information.

The Combined Health Information Database

Another comprehensive source of information on healthcare associations is the Combined Health Information Database. Using the "Detailed Search" option, you will need to limit your search to "Organizations" and "child development". Type the following hyperlink into your Web browser: **http://chid.nih.gov/detail/detail.html**. To find associations, use the drop boxes at the bottom of the search page where "You may refine your search by." For publication date, select "All Years." Then, select your preferred language and the format option "Organization Resource Sheet." Type "child development" (or synonyms) into the "For these words:" box. You should check back periodically with this database since it is updated every three months.

The National Organization for Rare Disorders, Inc.

The National Organization for Rare Disorders, Inc. has prepared a Web site that provides, at no charge, lists of associations organized by health topic. You can access this database at the following Web site: **http://www.rarediseases.org/search/orgsearch.html**. Type "child development" (or a synonym) into the search box, and click "Submit Query."

APPENDIX C. FINDING MEDICAL LIBRARIES

Overview

In this Appendix, we show you how to quickly find a medical library in your area.

Preparation

Your local public library and medical libraries have interlibrary loan programs with the National Library of Medicine (NLM), one of the largest medical collections in the world. According to the NLM, most of the literature in the general and historical collections of the National Library of Medicine is available on interlibrary loan to any library. If you would like to access NLM medical literature, then visit a library in your area that can request the publications for you.[21]

Finding a Local Medical Library

The quickest method to locate medical libraries is to use the Internet-based directory published by the National Network of Libraries of Medicine (NN/LM). This network includes 4626 members and affiliates that provide many services to librarians, health professionals, and the public. To find a library in your area, simply visit **http://nnlm.gov/members/adv.html** or call 1-800-338-7657.

Medical Libraries in the U.S. and Canada

In addition to the NN/LM, the National Library of Medicine (NLM) lists a number of libraries with reference facilities that are open to the public. The following is the NLM's list and includes hyperlinks to each library's Web site. These Web pages can provide information on hours of operation and other restrictions. The list below is a small sample of

[21] Adapted from the NLM: **http://www.nlm.nih.gov/psd/cas/interlibrary.html**.

libraries recommended by the National Library of Medicine (sorted alphabetically by name of the U.S. state or Canadian province where the library is located)[22]:

- **Alabama:** Health InfoNet of Jefferson County (Jefferson County Library Cooperative, Lister Hill Library of the Health Sciences), **http://www.uab.edu/infonet/**
- **Alabama:** Richard M. Scrushy Library (American Sports Medicine Institute)
- **Arizona:** Samaritan Regional Medical Center: The Learning Center (Samaritan Health System, Phoenix, Arizona), **http://www.samaritan.edu/library/bannerlibs.htm**
- **California:** Kris Kelly Health Information Center (St. Joseph Health System, Humboldt), **http://www.humboldt1.com/~kkhic/index.html**
- **California:** Community Health Library of Los Gatos, **http://www.healthlib.org/orgresources.html**
- **California:** Consumer Health Program and Services (CHIPS) (County of Los Angeles Public Library, Los Angeles County Harbor-UCLA Medical Center Library) - Carson, CA, **http://www.colapublib.org/services/chips.html**
- **California:** Gateway Health Library (Sutter Gould Medical Foundation)
- **California:** Health Library (Stanford University Medical Center), **http://www-med.stanford.edu/healthlibrary/**
- **California:** Patient Education Resource Center - Health Information and Resources (University of California, San Francisco), **http://sfghdean.ucsf.edu/barnett/PERC/default.asp**
- **California:** Redwood Health Library (Petaluma Health Care District), **http://www.phcd.org/rdwdlib.html**
- **California:** Los Gatos PlaneTree Health Library, **http://planetreesanjose.org/**
- **California:** Sutter Resource Library (Sutter Hospitals Foundation, Sacramento), **http://suttermedicalcenter.org/library/**
- **California:** Health Sciences Libraries (University of California, Davis), **http://www.lib.ucdavis.edu/healthsci/**
- **California:** ValleyCare Health Library & Ryan Comer Cancer Resource Center (ValleyCare Health System, Pleasanton), **http://gaelnet.stmarys-ca.edu/other.libs/gbal/east/vchl.html**
- **California:** Washington Community Health Resource Library (Fremont), **http://www.healthlibrary.org/**
- **Colorado:** William V. Gervasini Memorial Library (Exempla Healthcare), **http://www.saintjosephdenver.org/yourhealth/libraries/**
- **Connecticut:** Hartford Hospital Health Science Libraries (Hartford Hospital), **http://www.harthosp.org/library/**
- **Connecticut:** Healthnet: Connecticut Consumer Health Information Center (University of Connecticut Health Center, Lyman Maynard Stowe Library), **http://library.uchc.edu/departm/hnet/**

[22] Abstracted from **http://www.nlm.nih.gov/medlineplus/libraries.html**.

- **Connecticut:** Waterbury Hospital Health Center Library (Waterbury Hospital, Waterbury), **http://www.waterburyhospital.com/library/consumer.shtml**
- **Delaware:** Consumer Health Library (Christiana Care Health System, Eugene du Pont Preventive Medicine & Rehabilitation Institute, Wilmington), **http://www.christianacare.org/health_guide/health_guide_pmri_health_info.cfm**
- **Delaware:** Lewis B. Flinn Library (Delaware Academy of Medicine, Wilmington), **http://www.delamed.org/chls.html**
- **Georgia:** Family Resource Library (Medical College of Georgia, Augusta), **http://cmc.mcg.edu/kids_families/fam_resources/fam_res_lib/frl.htm**
- **Georgia:** Health Resource Center (Medical Center of Central Georgia, Macon), **http://www.mccg.org/hrc/hrchome.asp**
- **Hawaii:** Hawaii Medical Library: Consumer Health Information Service (Hawaii Medical Library, Honolulu), **http://hml.org/CHIS/**
- **Idaho:** DeArmond Consumer Health Library (Kootenai Medical Center, Coeur d'Alene), **http://www.nicon.org/DeArmond/index.htm**
- **Illinois:** Health Learning Center of Northwestern Memorial Hospital (Chicago), **http://www.nmh.org/health_info/hlc.html**
- **Illinois:** Medical Library (OSF Saint Francis Medical Center, Peoria), **http://www.osfsaintfrancis.org/general/library/**
- **Kentucky:** Medical Library - Services for Patients, Families, Students & the Public (Central Baptist Hospital, Lexington), **http://www.centralbap.com/education/community/library.cfm**
- **Kentucky:** University of Kentucky - Health Information Library (Chandler Medical Center, Lexington), **http://www.mc.uky.edu/PatientEd/**
- **Louisiana:** Alton Ochsner Medical Foundation Library (Alton Ochsner Medical Foundation, New Orleans), **http://www.ochsner.org/library/**
- **Louisiana:** Louisiana State University Health Sciences Center Medical Library-Shreveport, **http://lib-sh.lsuhsc.edu/**
- **Maine:** Franklin Memorial Hospital Medical Library (Franklin Memorial Hospital, Farmington), **http://www.fchn.org/fmh/lib.htm**
- **Maine:** Gerrish-True Health Sciences Library (Central Maine Medical Center, Lewiston), **http://www.cmmc.org/library/library.html**
- **Maine:** Hadley Parrot Health Science Library (Eastern Maine Healthcare, Bangor), **http://www.emh.org/hll/hpl/guide.htm**
- **Maine:** Maine Medical Center Library (Maine Medical Center, Portland), **http://www.mmc.org/library/**
- **Maine:** Parkview Hospital (Brunswick), **http://www.parkviewhospital.org/**
- **Maine:** Southern Maine Medical Center Health Sciences Library (Southern Maine Medical Center, Biddeford), **http://www.smmc.org/services/service.php3?choice=10**
- **Maine:** Stephens Memorial Hospital's Health Information Library (Western Maine Health, Norway), **http://www.wmhcc.org/Library/**

- **Manitoba, Canada:** Consumer & Patient Health Information Service (University of Manitoba Libraries), **http://www.umanitoba.ca/libraries/units/health/reference/chis.html**
- **Manitoba, Canada:** J.W. Crane Memorial Library (Deer Lodge Centre, Winnipeg), **http://www.deerlodge.mb.ca/crane_library/about.asp**
- **Maryland:** Health Information Center at the Wheaton Regional Library (Montgomery County, Dept. of Public Libraries, Wheaton Regional Library), **http://www.mont.lib.md.us/healthinfo/hic.asp**
- **Massachusetts:** Baystate Medical Center Library (Baystate Health System), **http://www.baystatehealth.com/1024/**
- **Massachusetts:** Boston University Medical Center Alumni Medical Library (Boston University Medical Center), **http://med-libwww.bu.edu/library/lib.html**
- **Massachusetts:** Lowell General Hospital Health Sciences Library (Lowell General Hospital, Lowell), **http://www.lowellgeneral.org/library/HomePageLinks/WWW.htm**
- **Massachusetts:** Paul E. Woodard Health Sciences Library (New England Baptist Hospital, Boston), **http://www.nebh.org/health_lib.asp**
- **Massachusetts:** St. Luke's Hospital Health Sciences Library (St. Luke's Hospital, Southcoast Health System, New Bedford), **http://www.southcoast.org/library/**
- **Massachusetts:** Treadwell Library Consumer Health Reference Center (Massachusetts General Hospital), **http://www.mgh.harvard.edu/library/chrcindex.html**
- **Massachusetts:** UMass HealthNet (University of Massachusetts Medical School, Worchester), **http://healthnet.umassmed.edu/**
- **Michigan:** Botsford General Hospital Library - Consumer Health (Botsford General Hospital, Library & Internet Services), **http://www.botsfordlibrary.org/consumer.htm**
- **Michigan:** Helen DeRoy Medical Library (Providence Hospital and Medical Centers), **http://www.providence-hospital.org/library/**
- **Michigan:** Marquette General Hospital - Consumer Health Library (Marquette General Hospital, Health Information Center), **http://www.mgh.org/center.html**
- **Michigan:** Patient Education Resouce Center - University of Michigan Cancer Center (University of Michigan Comprehensive Cancer Center, Ann Arbor), **http://www.cancer.med.umich.edu/learn/leares.htm**
- **Michigan:** Sladen Library & Center for Health Information Resources - Consumer Health Information (Detroit), **http://www.henryford.com/body.cfm?id=39330**
- **Montana:** Center for Health Information (St. Patrick Hospital and Health Sciences Center, Missoula)
- **National:** Consumer Health Library Directory (Medical Library Association, Consumer and Patient Health Information Section), **http://caphis.mlanet.org/directory/index.html**
- **National:** National Network of Libraries of Medicine (National Library of Medicine) - provides library services for health professionals in the United States who do not have access to a medical library, **http://nnlm.gov/**
- **National:** NN/LM List of Libraries Serving the Public (National Network of Libraries of Medicine), **http://nnlm.gov/members/**

- **Nevada:** Health Science Library, West Charleston Library (Las Vegas-Clark County Library District, Las Vegas), **http://www.lvccld.org/special_collections/medical/index.htm**
- **New Hampshire:** Dartmouth Biomedical Libraries (Dartmouth College Library, Hanover), **http://www.dartmouth.edu/~biomed/resources.htmld/conshealth.htmld/**
- **New Jersey:** Consumer Health Library (Rahway Hospital, Rahway), **http://www.rahwayhospital.com/library.htm**
- **New Jersey:** Dr. Walter Phillips Health Sciences Library (Englewood Hospital and Medical Center, Englewood), **http://www.englewoodhospital.com/links/index.htm**
- **New Jersey:** Meland Foundation (Englewood Hospital and Medical Center, Englewood), **http://www.geocities.com/ResearchTriangle/9360/**
- **New York:** Choices in Health Information (New York Public Library) - NLM Consumer Pilot Project participant, **http://www.nypl.org/branch/health/links.html**
- **New York:** Health Information Center (Upstate Medical University, State University of New York, Syracuse), **http://www.upstate.edu/library/hic/**
- **New York:** Health Sciences Library (Long Island Jewish Medical Center, New Hyde Park), **http://www.lij.edu/library/library.html**
- **New York:** ViaHealth Medical Library (Rochester General Hospital), **http://www.nyam.org/library/**
- **Ohio:** Consumer Health Library (Akron General Medical Center, Medical & Consumer Health Library), **http://www.akrongeneral.org/hwlibrary.htm**
- **Oklahoma:** The Health Information Center at Saint Francis Hospital (Saint Francis Health System, Tulsa), **http://www.sfh-tulsa.com/services/healthinfo.asp**
- **Oregon:** Planetree Health Resource Center (Mid-Columbia Medical Center, The Dalles), **http://www.mcmc.net/phrc/**
- **Pennsylvania:** Community Health Information Library (Milton S. Hershey Medical Center, Hershey), **http://www.hmc.psu.edu/commhealth/**
- **Pennsylvania:** Community Health Resource Library (Geisinger Medical Center, Danville), **http://www.geisinger.edu/education/commlib.shtml**
- **Pennsylvania:** HealthInfo Library (Moses Taylor Hospital, Scranton), **http://www.mth.org/healthwellness.html**
- **Pennsylvania:** Hopwood Library (University of Pittsburgh, Health Sciences Library System, Pittsburgh), **http://www.hsls.pitt.edu/guides/chi/hopwood/index_html**
- **Pennsylvania:** Koop Community Health Information Center (College of Physicians of Philadelphia), **http://www.collphyphil.org/kooppg1.shtml**
- **Pennsylvania:** Learning Resources Center - Medical Library (Susquehanna Health System, Williamsport), **http://www.shscares.org/services/lrc/index.asp**
- **Pennsylvania:** Medical Library (UPMC Health System, Pittsburgh), **http://www.upmc.edu/passavant/library.htm**
- **Quebec, Canada:** Medical Library (Montreal General Hospital), **http://www.mghlib.mcgill.ca/**

- **South Dakota:** Rapid City Regional Hospital Medical Library (Rapid City Regional Hospital), **http://www.rcrh.org/Services/Library/Default.asp**
- **Texas:** Houston HealthWays (Houston Academy of Medicine-Texas Medical Center Library), **http://hhw.library.tmc.edu/**
- **Washington:** Community Health Library (Kittitas Valley Community Hospital), **http://www.kvch.com/**
- **Washington:** Southwest Washington Medical Center Library (Southwest Washington Medical Center, Vancouver), **http://www.swmedicalcenter.com/body.cfm?id=72**

ONLINE GLOSSARIES

The Internet provides access to a number of free-to-use medical dictionaries. The National Library of Medicine has compiled the following list of online dictionaries:

- ADAM Medical Encyclopedia (A.D.A.M., Inc.), comprehensive medical reference: **http://www.nlm.nih.gov/medlineplus/encyclopedia.html**
- MedicineNet.com Medical Dictionary (MedicineNet, Inc.): **http://www.medterms.com/Script/Main/hp.asp**
- Merriam-Webster Medical Dictionary (Inteli-Health, Inc.): **http://www.intelihealth.com/IH/**
- Multilingual Glossary of Technical and Popular Medical Terms in Eight European Languages (European Commission) - Danish, Dutch, English, French, German, Italian, Portuguese, and Spanish: **http://allserv.rug.ac.be/~rvdstich/eugloss/welcome.html**
- On-line Medical Dictionary (CancerWEB): **http://cancerweb.ncl.ac.uk/omd/**
- Rare Diseases Terms (Office of Rare Diseases): **http://ord.aspensys.com/asp/diseases/diseases.asp**
- Technology Glossary (National Library of Medicine) - Health Care Technology: **http://www.nlm.nih.gov/nichsr/ta101/ta10108.htm**

Beyond these, MEDLINEplus contains a very patient-friendly encyclopedia covering every aspect of medicine (licensed from A.D.A.M., Inc.). The ADAM Medical Encyclopedia can be accessed at **http://www.nlm.nih.gov/medlineplus/encyclopedia.html**. ADAM is also available on commercial Web sites such as drkoop.com (**http://www.drkoop.com/**) and Web MD (**http://my.webmd.com/adam/asset/adam_disease_articles/a_to_z/a**).

Online Dictionary Directories

The following are additional online directories compiled by the National Library of Medicine, including a number of specialized medical dictionaries:

- Medical Dictionaries: Medical & Biological (World Health Organization): **http://www.who.int/hlt/virtuallibrary/English/diction.htm#Medical**
- MEL-Michigan Electronic Library List of Online Health and Medical Dictionaries (Michigan Electronic Library): **http://mel.lib.mi.us/health/health-dictionaries.html**
- Patient Education: Glossaries (DMOZ Open Directory Project): **http://dmoz.org/Health/Education/Patient_Education/Glossaries/**
- Web of Online Dictionaries (Bucknell University): **http://www.yourdictionary.com/diction5.html#medicine**

CHILD DEVELOPMENT DICTIONARY

The definitions below are derived from official public sources, including the National Institutes of Health [NIH] and the European Union [EU].

6-Mercaptopurine: An antimetabolite antineoplastic agent with immunosuppressant properties. It interferes with nucleic acid synthesis by inhibiting purine metabolism and is used, usually in combination with other drugs, in the treatment of or in remission maintenance programs for leukemia. [NIH]

Activity Cycles: Bouts of physical irritability or movement alternating with periods of quiescence. It includes biochemical activity and hormonal activity which may be cellular. These cycles are shorter than 24 hours and include sleep-wakefulness cycles and the periodic activation of the digestive system. [NIH]

Acuity: Clarity or clearness, especially of the vision. [EU]

Adaptability: Ability to develop some form of tolerance to conditions extremely different from those under which a living organism evolved. [NIH]

Adaptation: 1. The adjustment of an organism to its environment, or the process by which it enhances such fitness. 2. The normal ability of the eye to adjust itself to variations in the intensity of light; the adjustment to such variations. 3. The decline in the frequency of firing of a neuron, particularly of a receptor, under conditions of constant stimulation. 4. In dentistry, (a) the proper fitting of a denture, (b) the degree of proximity and interlocking of restorative material to a tooth preparation, (c) the exact adjustment of bands to teeth. 5. In microbiology, the adjustment of bacterial physiology to a new environment. [EU]

Adjustment: The dynamic process wherein the thoughts, feelings, behavior, and biophysiological mechanisms of the individual continually change to adjust to the environment. [NIH]

Adolescence: The period of life beginning with the appearance of secondary sex characteristics and terminating with the cessation of somatic growth. The years usually referred to as adolescence lie between 13 and 18 years of age. [NIH]

Adolescent Behavior: Any observable response or action of an adolescent. [NIH]

Adrenal Cortex: The outer layer of the adrenal gland. It secretes mineralocorticoids, androgens, and glucocorticoids. [NIH]

Adrenergic: Activated by, characteristic of, or secreting epinephrine or substances with similar activity; the term is applied to those nerve fibres that liberate norepinephrine at a synapse when a nerve impulse passes, i.e., the sympathetic fibres. [EU]

Adverse Effect: An unwanted side effect of treatment. [NIH]

A-HA: First enzyme in the biosynthetic pathway of branched-chain amino acids. [NIH]

Airway: A device for securing unobstructed passage of air into and out of the lungs during general anesthesia. [NIH]

Alexia: The inability to recognize or comprehend written or printed words. [NIH]

Algorithms: A procedure consisting of a sequence of algebraic formulas and/or logical steps to calculate or determine a given task. [NIH]

Alimentary: Pertaining to food or nutritive material, or to the organs of digestion. [EU]

Alkaloid: A member of a large group of chemicals that are made by plants and have

nitrogen in them. Some alkaloids have been shown to work against cancer. [NIH]

Alternative medicine: Practices not generally recognized by the medical community as standard or conventional medical approaches and used instead of standard treatments. Alternative medicine includes the taking of dietary supplements, megadose vitamins, and herbal preparations; the drinking of special teas; and practices such as massage therapy, magnet therapy, spiritual healing, and meditation. [NIH]

Alveoli: Tiny air sacs at the end of the bronchioles in the lungs. [NIH]

Amino Acid Sequence: The order of amino acids as they occur in a polypeptide chain. This is referred to as the primary structure of proteins. It is of fundamental importance in determining protein conformation. [NIH]

Amino Acids: Organic compounds that generally contain an amino (-NH2) and a carboxyl (-COOH) group. Twenty alpha-amino acids are the subunits which are polymerized to form proteins. [NIH]

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Amniotic Fluid: Amniotic cavity fluid which is produced by the amnion and fetal lungs and kidneys. [NIH]

Amphetamines: Analogs or derivatives of amphetamine. Many are sympathomimetics and central nervous system stimulators causing excitation, vasopression, bronchodilation, and to varying degrees, anorexia, analepsis, nasal decongestion, and some smooth muscle relaxation. [NIH]

Anal: Having to do with the anus, which is the posterior opening of the large bowel. [NIH]

Anatomical: Pertaining to anatomy, or to the structure of the organism. [EU]

Anemia: A reduction in the number of circulating erythrocytes or in the quantity of hemoglobin. [NIH]

Anesthesia: A state characterized by loss of feeling or sensation. This depression of nerve function is usually the result of pharmacologic action and is induced to allow performance of surgery or other painful procedures. [NIH]

Anomalies: Birth defects; abnormalities. [NIH]

Antecedent: Existing or occurring before in time or order often with consequential effects. [EU]

Antibacterial: A substance that destroys bacteria or suppresses their growth or reproduction. [EU]

Antibiotic: A drug used to treat infections caused by bacteria and other microorganisms. [NIH]

Antibodies: Immunoglobulin molecules having a specific amino acid sequence by virtue of which they interact only with the antigen that induced their synthesis in cells of the lymphoid series (especially plasma cells), or with an antigen closely related to it. [NIH]

Antibody: A type of protein made by certain white blood cells in response to a foreign substance (antigen). Each antibody can bind to only a specific antigen. The purpose of this binding is to help destroy the antigen. Antibodies can work in several ways, depending on the nature of the antigen. Some antibodies destroy antigens directly. Others make it easier for white blood cells to destroy the antigen. [NIH]

Antidepressant: A drug used to treat depression. [NIH]

Antidiuretic: Suppressing the rate of urine formation. [EU]

Antigen: Any substance which is capable, under appropriate conditions, of inducing a specific immune response and of reacting with the products of that response, that is, with specific antibody or specifically sensitized T-lymphocytes, or both. Antigens may be soluble substances, such as toxins and foreign proteins, or particulate, such as bacteria and tissue cells; however, only the portion of the protein or polysaccharide molecule known as the antigenic determinant (q.v.) combines with antibody or a specific receptor on a lymphocyte. Abbreviated Ag. [EU]

Anti-infective: An agent that so acts. [EU]

Antimetabolite: A chemical that is very similar to one required in a normal biochemical reaction in cells. Antimetabolites can stop or slow down the reaction. [NIH]

Antimicrobial: Killing microorganisms, or suppressing their multiplication or growth. [EU]

Antineoplastic: Inhibiting or preventing the development of neoplasms, checking the maturation and proliferation of malignant cells. [EU]

Anus: The opening of the rectum to the outside of the body. [NIH]

Anxiety: Persistent feeling of dread, apprehension, and impending disaster. [NIH]

Aqueous: Having to do with water. [NIH]

Arterial: Pertaining to an artery or to the arteries. [EU]

Arteries: The vessels carrying blood away from the heart. [NIH]

Articulation: The relationship of two bodies by means of a moveable joint. [NIH]

Astringents: Agents, usually topical, that cause the contraction of tissues for the control of bleeding or secretions. [NIH]

Atrial: Pertaining to an atrium. [EU]

Attenuated: Strain with weakened or reduced virulence. [NIH]

Atypical: Irregular; not conformable to the type; in microbiology, applied specifically to strains of unusual type. [EU]

Audiology: The study of hearing and hearing impairment. [NIH]

Audiometry: The testing of the acuity of the sense of hearing to determine the thresholds of the lowest intensity levels at which an individual can hear a set of tones. The frequencies between 125 and 8000 Hz are used to test air conduction thresholds, and the frequencies between 250 and 4000 Hz are used to test bone conduction thresholds. [NIH]

Auditory: Pertaining to the sense of hearing. [EU]

Bacteria: Unicellular prokaryotic microorganisms which generally possess rigid cell walls, multiply by cell division, and exhibit three principal forms: round or coccal, rodlike or bacillary, and spiral or spirochetal. [NIH]

Bacterial Physiology: Physiological processes and activities of bacteria. [NIH]

Bacterium: Microscopic organism which may have a spherical, rod-like, or spiral unicellular or non-cellular body. Bacteria usually reproduce through asexual processes. [NIH]

Base: In chemistry, the nonacid part of a salt; a substance that combines with acids to form salts; a substance that dissociates to give hydroxide ions in aqueous solutions; a substance whose molecule or ion can combine with a proton (hydrogen ion); a substance capable of donating a pair of electrons (to an acid) for the formation of a coordinate covalent bond. [EU]

Bilateral: Affecting both the right and left side of body. [NIH]

Bile: An emulsifying agent produced in the liver and secreted into the duodenum. Its composition includes bile acids and salts, cholesterol, and electrolytes. It aids digestion of

fats in the duodenum. [NIH]

Bile Acids: Acids made by the liver that work with bile to break down fats. [NIH]

Biochemical: Relating to biochemistry; characterized by, produced by, or involving chemical reactions in living organisms. [EU]

Biological Factors: Compounds made by living organisms that contribute to or influence a phenomenon or process. They have biological or physiological activities. [NIH]

Biotechnology: Body of knowledge related to the use of organisms, cells or cell-derived constituents for the purpose of developing products which are technically, scientifically and clinically useful. Alteration of biologic function at the molecular level (i.e., genetic engineering) is a central focus; laboratory methods used include transfection and cloning technologies, sequence and structure analysis algorithms, computer databases, and gene and protein structure function analysis and prediction. [NIH]

Birth Certificates: Official certifications by a physician recording the individual's birth date, place of birth, parentage and other required identifying data which are filed with the local registrar of vital statistics. [NIH]

Birth Order: The sequence in which children are born into the family. [NIH]

Blood pressure: The pressure of blood against the walls of a blood vessel or heart chamber. Unless there is reference to another location, such as the pulmonary artery or one of the heart chambers, it refers to the pressure in the systemic arteries, as measured, for example, in the forearm. [NIH]

Blood vessel: A tube in the body through which blood circulates. Blood vessels include a network of arteries, arterioles, capillaries, venules, and veins. [NIH]

Body Composition: The relative amounts of various components in the body, such as percent body fat. [NIH]

Body Mass Index: One of the anthropometric measures of body mass; it has the highest correlation with skinfold thickness or body density. [NIH]

Bone Conduction: Sound transmission through the bones of the skull to the inner ear. [NIH]

Bone Marrow: The soft tissue filling the cavities of bones. Bone marrow exists in two types, yellow and red. Yellow marrow is found in the large cavities of large bones and consists mostly of fat cells and a few primitive blood cells. Red marrow is a hematopoietic tissue and is the site of production of erythrocytes and granular leukocytes. Bone marrow is made up of a framework of connective tissue containing branching fibers with the frame being filled with marrow cells. [NIH]

Bowel: The long tube-shaped organ in the abdomen that completes the process of digestion. There is both a small and a large bowel. Also called the intestine. [NIH]

Bowel Movement: Body wastes passed through the rectum and anus. [NIH]

Branch: Most commonly used for branches of nerves, but applied also to other structures. [NIH]

Breast Feeding: The nursing of an infant at the mother's breast. [NIH]

Carcinogenic: Producing carcinoma. [EU]

Cardiac: Having to do with the heart. [NIH]

Causal: Pertaining to a cause; directed against a cause. [EU]

Causality: The relating of causes to the effects they produce. Causes are termed necessary when they must always precede an effect and sufficient when they initiate or produce an effect. Any of several factors may be associated with the potential disease causation or

outcome, including predisposing factors, enabling factors, precipitating factors, reinforcing factors, and risk factors. [NIH]

Cell: The individual unit that makes up all of the tissues of the body. All living things are made up of one or more cells. [NIH]

Central Nervous System: The main information-processing organs of the nervous system, consisting of the brain, spinal cord, and meninges. [NIH]

Check-up: A general physical examination. [NIH]

Child Behavior: Any observable response or action of a child from 24 months through 12 years of age. For neonates or children younger than 24 months, infant behavior is available. [NIH]

Child Care: Care of children in the home or institution. [NIH]

Child Development: The continuous sequential physiological and psychological maturing of the child from birth up to but not including adolescence. It includes healthy responses to situations, but does not include growth in stature or size (= growth). [NIH]

Child Health Services: Organized services to provide health care for children. [NIH]

Child Psychiatry: The medical science that deals with the origin, diagnosis, prevention, and treatment of mental disorders in children. [NIH]

Child Rearing: The training or bringing-up of children by parents or parent-substitutes. It is used also for child rearing practices in different societies, at different economic levels, in different ethnic groups, etc. It differs from parenting in that in child rearing the emphasis is on the act of training or bringing up the child and the interaction between the parent and child, while parenting emphasizes the responsibility and qualities of exemplary behavior of the parent. [NIH]

Choroid: The thin, highly vascular membrane covering most of the posterior of the eye between the retina and sclera. [NIH]

Chronic: A disease or condition that persists or progresses over a long period of time. [NIH]

Chronobiology: The study of biological systems as affected by time. Aging, biological rhythms, and cyclic phenomena are included. Statistical, computer-aided mathematical procedures are used to describe, in mathematical terminology, various biological functions over time. [NIH]

Circadian: Repeated more or less daily, i. e. on a 23- to 25-hour cycle. [NIH]

Cleft Palate: Congenital fissure of the soft and/or hard palate, due to faulty fusion. [NIH]

Clinical Medicine: The study and practice of medicine by direct examination of the patient. [NIH]

Clinical trial: A research study that tests how well new medical treatments or other interventions work in people. Each study is designed to test new methods of screening, prevention, diagnosis, or treatment of a disease. [NIH]

Cloning: The production of a number of genetically identical individuals; in genetic engineering, a process for the efficient replication of a great number of identical DNA molecules. [NIH]

Coca: Any of several South American shrubs of the Erythroxylon genus (and family) that yield cocaine; the leaves are chewed with alum for CNS stimulation. [NIH]

Cocaine: An alkaloid ester extracted from the leaves of plants including coca. It is a local anesthetic and vasoconstrictor and is clinically used for that purpose, particularly in the eye, ear, nose, and throat. It also has powerful central nervous system effects similar to the amphetamines and is a drug of abuse. Cocaine, like amphetamines, acts by multiple

mechanisms on brain catecholaminergic neurons; the mechanism of its reinforcing effects is thought to involve inhibition of dopamine uptake. [NIH]

Cochlea: The part of the internal ear that is concerned with hearing. It forms the anterior part of the labyrinth, is conical, and is placed almost horizontally anterior to the vestibule. [NIH]

Cochlear: Of or pertaining to the cochlea. [EU]

Cofactor: A substance, microorganism or environmental factor that activates or enhances the action of another entity such as a disease-causing agent. [NIH]

Cognition: Intellectual or mental process whereby an organism becomes aware of or obtains knowledge. [NIH]

Colitis: Inflammation of the colon. [NIH]

Communication Disorders: Disorders of verbal and nonverbal communication caused by receptive or expressive language disorders, cognitive dysfunction (e.g., mental retardation), psychiatric conditions, and hearing disorders. [NIH]

Community Health Centers: Facilities which administer the delivery of health care services to people living in a community or neighborhood. [NIH]

Competency: The capacity of the bacterium to take up DNA from its surroundings. [NIH]

Complement: A term originally used to refer to the heat-labile factor in serum that causes immune cytolysis, the lysis of antibody-coated cells, and now referring to the entire functionally related system comprising at least 20 distinct serum proteins that is the effector not only of immune cytolysis but also of other biologic functions. Complement activation occurs by two different sequences, the classic and alternative pathways. The proteins of the classic pathway are termed 'components of complement' and are designated by the symbols C1 through C9. C1 is a calcium-dependent complex of three distinct proteins C1q, C1r and C1s. The proteins of the alternative pathway (collectively referred to as the properdin system) and complement regulatory proteins are known by semisystematic or trivial names. Fragments resulting from proteolytic cleavage of complement proteins are designated with lower-case letter suffixes, e.g., C3a. Inactivated fragments may be designated with the suffix 'i', e.g. C3bi. Activated components or complexes with biological activity are designated by a bar over the symbol e.g. C1 or C4b,2a. The classic pathway is activated by the binding of C1 to classic pathway activators, primarily antigen-antibody complexes containing IgM, IgG1, IgG3; C1q binds to a single IgM molecule or two adjacent IgG molecules. The alternative pathway can be activated by IgA immune complexes and also by nonimmunologic materials including bacterial endotoxins, microbial polysaccharides, and cell walls. Activation of the classic pathway triggers an enzymatic cascade involving C1, C4, C2 and C3; activation of the alternative pathway triggers a cascade involving C3 and factors B, D and P. Both result in the cleavage of C5 and the formation of the membrane attack complex. Complement activation also results in the formation of many biologically active complement fragments that act as anaphylatoxins, opsonins, or chemotactic factors. [EU]

Complementary and alternative medicine: CAM. Forms of treatment that are used in addition to (complementary) or instead of (alternative) standard treatments. These practices are not considered standard medical approaches. CAM includes dietary supplements, megadose vitamins, herbal preparations, special teas, massage therapy, magnet therapy, spiritual healing, and meditation. [NIH]

Complementary medicine: Practices not generally recognized by the medical community as standard or conventional medical approaches and used to enhance or complement the standard treatments. Complementary medicine includes the taking of dietary supplements, megadose vitamins, and herbal preparations; the drinking of special teas; and practices such

as massage therapy, magnet therapy, spiritual healing, and meditation. [NIH]

Computational Biology: A field of biology concerned with the development of techniques for the collection and manipulation of biological data, and the use of such data to make biological discoveries or predictions. This field encompasses all computational methods and theories applicable to molecular biology and areas of computer-based techniques for solving biological problems including manipulation of models and datasets. [NIH]

Conception: The onset of pregnancy, marked by implantation of the blastocyst; the formation of a viable zygote. [EU]

Conduction: The transfer of sound waves, heat, nervous impulses, or electricity. [EU]

Constriction: The act of constricting. [NIH]

Consumption: Pulmonary tuberculosis. [NIH]

Continuum: An area over which the vegetation or animal population is of constantly changing composition so that homogeneous, separate communities cannot be distinguished. [NIH]

Contraindications: Any factor or sign that it is unwise to pursue a certain kind of action or treatment, e. g. giving a general anesthetic to a person with pneumonia. [NIH]

Control group: In a clinical trial, the group that does not receive the new treatment being studied. This group is compared to the group that receives the new treatment, to see if the new treatment works. [NIH]

Controlled study: An experiment or clinical trial that includes a comparison (control) group. [NIH]

Coordination: Muscular or motor regulation or the harmonious cooperation of muscles or groups of muscles, in a complex action or series of actions. [NIH]

Coronary: Encircling in the manner of a crown; a term applied to vessels; nerves, ligaments, etc. The term usually denotes the arteries that supply the heart muscle and, by extension, a pathologic involvement of them. [EU]

Coronary Thrombosis: Presence of a thrombus in a coronary artery, often causing a myocardial infarction. [NIH]

Cortical: Pertaining to or of the nature of a cortex or bark. [EU]

Cortisol: A steroid hormone secreted by the adrenal cortex as part of the body's response to stress. [NIH]

Cross-Sectional Studies: Studies in which the presence or absence of disease or other health-related variables are determined in each member of the study population or in a representative sample at one particular time. This contrasts with longitudinal studies which are followed over a period of time. [NIH]

Cues: Signals for an action; that specific portion of a perceptual field or pattern of stimuli to which a subject has learned to respond. [NIH]

Curative: Tending to overcome disease and promote recovery. [EU]

Cyclic: Pertaining to or occurring in a cycle or cycles; the term is applied to chemical compounds that contain a ring of atoms in the nucleus. [EU]

Data Collection: Systematic gathering of data for a particular purpose from various sources, including questionnaires, interviews, observation, existing records, and electronic devices. The process is usually preliminary to statistical analysis of the data. [NIH]

Databases, Bibliographic: Extensive collections, reputedly complete, of references and citations to books, articles, publications, etc., generally on a single subject or specialized subject area. Databases can operate through automated files, libraries, or computer disks.

The concept should be differentiated from factual databases which is used for collections of data and facts apart from bibliographic references to them. [NIH]

Day Care: Institutional health care of patients during the day. The patients return home at night. [NIH]

Degenerative: Undergoing degeneration : tending to degenerate; having the character of or involving degeneration; causing or tending to cause degeneration. [EU]

Delivery of Health Care: The concept concerned with all aspects of providing and distributing health services to a patient population. [NIH]

Density: The logarithm to the base 10 of the opacity of an exposed and processed film. [NIH]

Dental Care: The total of dental diagnostic, preventive, and restorative services provided to meet the needs of a patient (from Illustrated Dictionary of Dentistry, 1982). [NIH]

Deprivation: Loss or absence of parts, organs, powers, or things that are needed. [EU]

Developing Countries: Countries in the process of change directed toward economic growth, that is, an increase in production, per capita consumption, and income. The process of economic growth involves better utilization of natural and human resources, which results in a change in the social, political, and economic structures. [NIH]

Developmental psychology: That branch of psychology which studies the processes of pre- and post-natal growth and the maturation of behavior. In its broadest sense, developmental psychology includes the periods of infancy, childhood, and adulthood. [NIH]

Diabetes Insipidus: A metabolic disorder due to disorders in the production or release of vasopressin. It is characterized by the chronic excretion of large amounts of low specific gravity urine and great thirst. [NIH]

Diagnostic procedure: A method used to identify a disease. [NIH]

Diastolic: Of or pertaining to the diastole. [EU]

Digestive system: The organs that take in food and turn it into products that the body can use to stay healthy. Waste products the body cannot use leave the body through bowel movements. The digestive system includes the salivary glands, mouth, esophagus, stomach, liver, pancreas, gallbladder, small and large intestines, and rectum. [NIH]

Direct: 1. Straight; in a straight line. 2. Performed immediately and without the intervention of subsidiary means. [EU]

Disposition: A tendency either physical or mental toward certain diseases. [EU]

Distal: Remote; farther from any point of reference; opposed to proximal. In dentistry, used to designate a position on the dental arch farther from the median line of the jaw. [EU]

Domestic Violence: Deliberate, often repetitive, physical abuse by one family member against another: marital partners, parents, children, siblings, or any other member of a household. [NIH]

Dopamine: An endogenous catecholamine and prominent neurotransmitter in several systems of the brain. In the synthesis of catecholamines from tyrosine, it is the immediate precursor to norepinephrine and epinephrine. Dopamine is a major transmitter in the extrapyramidal system of the brain, and important in regulating movement. A family of dopaminergic receptor subtypes mediate its action. Dopamine is used pharmacologically for its direct (beta adrenergic agonist) and indirect (adrenergic releasing) sympathomimetic effects including its actions as an inotropic agent and as a renal vasodilator. [NIH]

Dothiepin: A tricyclic antidepressant with some tranquilizing action. [NIH]

Drug Interactions: The action of a drug that may affect the activity, metabolism, or toxicity of another drug. [NIH]

Drug Tolerance: Progressive diminution of the susceptibility of a human or animal to the effects of a drug, resulting from its continued administration. It should be differentiated from drug resistance wherein an organism, disease, or tissue fails to respond to the intended effectiveness of a chemical or drug. It should also be differentiated from maximum tolerated dose and no-observed-adverse-effect level. [NIH]

Duct: A tube through which body fluids pass. [NIH]

Dysarthria: Imperfect articulation of speech due to disturbances of muscular control which result from damage to the central or peripheral nervous system. [EU]

Dyslexia: Partial alexia in which letters but not words may be read, or in which words may be read but not understood. [NIH]

Edema: Excessive amount of watery fluid accumulated in the intercellular spaces, most commonly present in subcutaneous tissue. [NIH]

Efficacy: The extent to which a specific intervention, procedure, regimen, or service produces a beneficial result under ideal conditions. Ideally, the determination of efficacy is based on the results of a randomized control trial. [NIH]

Effusion: The escape of fluid into a part or tissue, as an exudation or a transudation. [EU]

Elective: Subject to the choice or decision of the patient or physician; applied to procedures that are advantageous to the patient but not urgent. [EU]

Electrons: Stable elementary particles having the smallest known negative charge, present in all elements; also called negatrons. Positively charged electrons are called positrons. The numbers, energies and arrangement of electrons around atomic nuclei determine the chemical identities of elements. Beams of electrons are called cathode rays or beta rays, the latter being a high-energy biproduct of nuclear decay. [NIH]

Electrophysiological: Pertaining to electrophysiology, that is a branch of physiology that is concerned with the electric phenomena associated with living bodies and involved in their functional activity. [EU]

Embryo: The prenatal stage of mammalian development characterized by rapid morphological changes and the differentiation of basic structures. [NIH]

Embryo Transfer: Removal of a mammalian embryo from one environment and replacement in the same or a new environment. The embryo is usually in the pre-nidation phase, i.e., a blastocyst. The process includes embryo or blastocyst transplantation or transfer after in vitro fertilization and transfer of the inner cell mass of the blastocyst. It is not used for transfer of differentiated embryonic tissue, e.g., germ layer cells. [NIH]

Empirical: A treatment based on an assumed diagnosis, prior to receiving confirmatory laboratory test results. [NIH]

Environmental Health: The science of controlling or modifying those conditions, influences, or forces surrounding man which relate to promoting, establishing, and maintaining health. [NIH]

Enzyme: A protein that speeds up chemical reactions in the body. [NIH]

Epidemiological: Relating to, or involving epidemiology. [EU]

ERV: The expiratory reserve volume is the largest volume of gas that can be expired from the end-expiratory level. [NIH]

Erythrocytes: Red blood cells. Mature erythrocytes are non-nucleated, biconcave disks containing hemoglobin whose function is to transport oxygen. [NIH]

Esophageal: Having to do with the esophagus, the muscular tube through which food passes from the throat to the stomach. [NIH]

Esophagus: The muscular tube through which food passes from the throat to the stomach. [NIH]

Ethnic Groups: A group of people with a common cultural heritage that sets them apart from others in a variety of social relationships. [NIH]

Exhaustion: The feeling of weariness of mind and body. [NIH]

Exogenous: Developed or originating outside the organism, as exogenous disease. [EU]

Expiratory: The volume of air which leaves the breathing organs in each expiration. [NIH]

Expiratory Reserve Volume: The extra volume of air that can be expired with maximum effort beyond the level reached at the end of a normal, quiet expiration. Common abbreviation is ERV. [NIH]

Family Leave: The authorized absence from work of a family member to attend the illness or participate in the care of a parent, a sibling, or other family member. For the care of a parent for a child or for pre- or postnatal leave of a parent, parental leave is available. [NIH]

Family Planning: Programs or services designed to assist the family in controlling reproduction by either improving or diminishing fertility. [NIH]

Family Relations: Behavioral, psychological, and social relations among various members of the nuclear family and the extended family. [NIH]

Fat: Total lipids including phospholipids. [NIH]

Fatty acids: A major component of fats that are used by the body for energy and tissue development. [NIH]

Fertilization in Vitro: Fertilization of an egg outside the body when the egg is normally fertilized in the body. [NIH]

Fetal Blood: Blood of the fetus. Exchange of nutrients and waste between the fetal and maternal blood occurs via the placenta. The cord blood is blood contained in the umbilical vessels at the time of delivery. [NIH]

Fetal Development: Morphologic and physiologic growth and development of the mammalian embryo or fetus. [NIH]

Fetus: The developing offspring from 7 to 8 weeks after conception until birth. [NIH]

Fissure: Any cleft or groove, normal or otherwise; especially a deep fold in the cerebral cortex which involves the entire thickness of the brain wall. [EU]

Fluoxetine: The first highly specific serotonin uptake inhibitor. It is used as an antidepressant and often has a more acceptable side-effects profile than traditional antidepressants. [NIH]

Folate: A B-complex vitamin that is being studied as a cancer prevention agent. Also called folic acid. [NIH]

Fold: A plication or doubling of various parts of the body. [NIH]

Folic Acid: N-(4-(((2-Amino-1,4-dihydro-4-oxo-6-pteridinyl)methyl)amino)benzoyl)-L-glutamic acid. A member of the vitamin B family that stimulates the hematopoietic system. It is present in the liver and kidney and is found in mushrooms, spinach, yeast, green leaves, and grasses. Folic acid is used in the treatment and prevention of folate deficiencies and megaloblastic anemia. [NIH]

Forearm: The part between the elbow and the wrist. [NIH]

Fungi: A kingdom of eukaryotic, heterotrophic organisms that live as saprobes or parasites, including mushrooms, yeasts, smuts, molds, etc. They reproduce either sexually or asexually, and have life cycles that range from simple to complex. Filamentous fungi refer to

those that grow as multicelluar colonies (mushrooms and molds). [NIH]

Gallbladder: The pear-shaped organ that sits below the liver. Bile is concentrated and stored in the gallbladder. [NIH]

Ganglia: Clusters of multipolar neurons surrounded by a capsule of loosely organized connective tissue located outside the central nervous system. [NIH]

Gas: Air that comes from normal breakdown of food. The gases are passed out of the body through the rectum (flatus) or the mouth (burp). [NIH]

Gas exchange: Primary function of the lungs; transfer of oxygen from inhaled air into the blood and of carbon dioxide from the blood into the lungs. [NIH]

Gastrin: A hormone released after eating. Gastrin causes the stomach to produce more acid. [NIH]

Gene: The functional and physical unit of heredity passed from parent to offspring. Genes are pieces of DNA, and most genes contain the information for making a specific protein. [NIH]

General practitioner: A medical practitioner who does not specialize in a particular branch of medicine or limit his practice to a specific class of diseases. [NIH]

Genetics: The biological science that deals with the phenomena and mechanisms of heredity. [NIH]

Gestation: The period of development of the young in viviparous animals, from the time of fertilization of the ovum until birth. [EU]

Gestational: Psychosis attributable to or occurring during pregnancy. [NIH]

Gestational Age: Age of the conceptus. In humans, this may be assessed by medical history, physical examination, early immunologic pregnancy tests, radiography, ultrasonography, and amniotic fluid analysis. [NIH]

Gestures: Movement of a part of the body for the purpose of communication. [NIH]

Gifted: As used in child psychiatry, this term is meant to refer to a child whose intelligence is in the upper 2 per cent of the total population of his age. [NIH]

Gland: An organ that produces and releases one or more substances for use in the body. Some glands produce fluids that affect tissues or organs. Others produce hormones or participate in blood production. [NIH]

Glutamic Acid: A non-essential amino acid naturally occurring in the L-form. Glutamic acid (glutamate) is the most common excitatory neurotransmitter in the central nervous system. [NIH]

Glutathione Peroxidase: An enzyme catalyzing the oxidation of 2 moles of glutathione in the presence of hydrogen peroxide to yield oxidized glutathione and water. EC 1.11.1.9. [NIH]

Governing Board: The group in which legal authority is vested for the control of health-related institutions and organizations. [NIH]

Grade: The grade of a tumor depends on how abnormal the cancer cells look under a microscope and how quickly the tumor is likely to grow and spread. Grading systems are different for each type of cancer. [NIH]

Graft: Healthy skin, bone, or other tissue taken from one part of the body and used to replace diseased or injured tissue removed from another part of the body. [NIH]

Grasses: A large family, Gramineae, of narrow-leaved herbaceous monocots. Many grasses produce highly allergenic pollens and are hosts to cattle parasites and toxic fungi. [NIH]

Growth: The progressive development of a living being or part of an organism from its

earliest stage to maturity. [NIH]

Habitat: An area considered in terms of its environment, particularly as this determines the type and quality of the vegetation the area can carry. [NIH]

Health Behavior: Behaviors expressed by individuals to protect, maintain or promote their health status. For example, proper diet, and appropriate exercise are activities perceived to influence health status. Life style is closely associated with health behavior and factors influencing life style are socioeconomic, educational, and cultural. [NIH]

Health Policy: Decisions, usually developed by government policymakers, for determining present and future objectives pertaining to the health care system. [NIH]

Health Promotion: Encouraging consumer behaviors most likely to optimize health potentials (physical and psychosocial) through health information, preventive programs, and access to medical care. [NIH]

Health Services: Services for the diagnosis and treatment of disease and the maintenance of health. [NIH]

Health Status: The level of health of the individual, group, or population as subjectively assessed by the individual or by more objective measures. [NIH]

Hearing Disorders: Conditions that impair the transmission or perception of auditory impulses and information from the level of the ear to the temporal cortices, including the sensorineural pathways. [NIH]

Hemoglobin: One of the fractions of glycosylated hemoglobin A1c. Glycosylated hemoglobin is formed when linkages of glucose and related monosaccharides bind to hemoglobin A and its concentration represents the average blood glucose level over the previous several weeks. HbA1c levels are used as a measure of long-term control of plasma glucose (normal, 4 to 6 percent). In controlled diabetes mellitus, the concentration of glycosylated hemoglobin A is within the normal range, but in uncontrolled cases the level may be 3 to 4 times the normal conentration. Generally, complications are substantially lower among patients with Hb levels of 7 percent or less than in patients with HbA1c levels of 9 percent or more. [NIH]

Hemolytic: A disease that affects the blood and blood vessels. It destroys red blood cells, cells that cause the blood to clot, and the lining of blood vessels. HUS is often caused by the Escherichia coli bacterium in contaminated food. People with HUS may develop acute renal failure. [NIH]

Hemorrhage: Bleeding or escape of blood from a vessel. [NIH]

Hepatitis: Inflammation of the liver and liver disease involving degenerative or necrotic alterations of hepatocytes. [NIH]

Hepatocytes: The main structural component of the liver. They are specialized epithelial cells that are organized into interconnected plates called lobules. [NIH]

Hereditary: Of, relating to, or denoting factors that can be transmitted genetically from one generation to another. [NIH]

Heredity: 1. The genetic transmission of a particular quality or trait from parent to offspring. 2. The genetic constitution of an individual. [EU]

Hobbies: Leisure activities engaged in for pleasure. [NIH]

Homogeneous: Consisting of or composed of similar elements or ingredients; of a uniform quality throughout. [EU]

Hormonal: Pertaining to or of the nature of a hormone. [EU]

Hormone: A substance in the body that regulates certain organs. Hormones such as gastrin

help in breaking down food. Some hormones come from cells in the stomach and small intestine. [NIH]

Host: Any animal that receives a transplanted graft. [NIH]

Human Development: Continuous sequential changes which occur in the physiological and psychological functions during the individual's life. [NIH]

Hydrogen: The first chemical element in the periodic table. It has the atomic symbol H, atomic number 1, and atomic weight 1. It exists, under normal conditions, as a colorless, odorless, tasteless, diatomic gas. Hydrogen ions are protons. Besides the common H1 isotope, hydrogen exists as the stable isotope deuterium and the unstable, radioactive isotope tritium. [NIH]

Hypertension: Persistently high arterial blood pressure. Currently accepted threshold levels are 140 mm Hg systolic and 90 mm Hg diastolic pressure. [NIH]

Hypothalamic: Of or involving the hypothalamus. [EU]

Hypothalamus: Ventral part of the diencephalon extending from the region of the optic chiasm to the caudal border of the mammillary bodies and forming the inferior and lateral walls of the third ventricle. [NIH]

Hypothyroidism: Deficiency of thyroid activity. In adults, it is most common in women and is characterized by decrease in basal metabolic rate, tiredness and lethargy, sensitivity to cold, and menstrual disturbances. If untreated, it progresses to full-blown myxoedema. In infants, severe hypothyroidism leads to cretinism. In juveniles, the manifestations are intermediate, with less severe mental and developmental retardation and only mild symptoms of the adult form. When due to pituitary deficiency of thyrotropin secretion it is called secondary hypothyroidism. [EU]

Id: The part of the personality structure which harbors the unconscious instinctive desires and strivings of the individual. [NIH]

Immune response: The activity of the immune system against foreign substances (antigens). [NIH]

Immune Sera: Serum that contains antibodies. It is obtained from an animal that has been immunized either by antigen injection or infection with microorganisms containing the antigen. [NIH]

Immunization: Deliberate stimulation of the host's immune response. Active immunization involves administration of antigens or immunologic adjuvants. Passive immunization involves administration of immune sera or lymphocytes or their extracts (e.g., transfer factor, immune RNA) or transplantation of immunocompetent cell producing tissue (thymus or bone marrow). [NIH]

Immunologic: The ability of the antibody-forming system to recall a previous experience with an antigen and to respond to a second exposure with the prompt production of large amounts of antibody. [NIH]

Immunosuppressant: An agent capable of suppressing immune responses. [EU]

Impaction: The trapping of an object in a body passage. Examples are stones in the bile duct or hardened stool in the colon. [NIH]

Impairment: In the context of health experience, an impairment is any loss or abnormality of psychological, physiological, or anatomical structure or function. [NIH]

Incarceration: Abnormal retention or confinement of a body part; specifically : a constriction of the neck of a hernial sac so that the hernial contents become irreducible. [EU]

Indicative: That indicates; that points out more or less exactly; that reveals fairly clearly. [EU]

Infancy: The period of complete dependency prior to the acquisition of competence in walking, talking, and self-feeding. [NIH]

Infant Behavior: Any observable response or action of a neonate or infant up through the age of 23 months. [NIH]

Infant Mortality: Perinatal, neonatal, and infant deaths in a given population. [NIH]

Infant Nutrition: Nutrition of children from birth to 2 years of age. [NIH]

Infarction: A pathological process consisting of a sudden insufficient blood supply to an area, which results in necrosis of that area. It is usually caused by a thrombus, an embolus, or a vascular torsion. [NIH]

Infection: 1. Invasion and multiplication of microorganisms in body tissues, which may be clinically unapparent or result in local cellular injury due to competitive metabolism, toxins, intracellular replication, or antigen-antibody response. The infection may remain localized, subclinical, and temporary if the body's defensive mechanisms are effective. A local infection may persist and spread by extension to become an acute, subacute, or chronic clinical infection or disease state. A local infection may also become systemic when the microorganisms gain access to the lymphatic or vascular system. 2. An infectious disease. [EU]

Infertility: The diminished or absent ability to conceive or produce an offspring while sterility is the complete inability to conceive or produce an offspring. [NIH]

Inflammation: A pathological process characterized by injury or destruction of tissues caused by a variety of cytologic and chemical reactions. It is usually manifested by typical signs of pain, heat, redness, swelling, and loss of function. [NIH]

Inflammatory bowel disease: A general term that refers to the inflammation of the colon and rectum. Inflammatory bowel disease includes ulcerative colitis and Crohn's disease. [NIH]

Initiation: Mutation induced by a chemical reactive substance causing cell changes; being a step in a carcinogenic process. [NIH]

Intensive Care: Advanced and highly specialized care provided to medical or surgical patients whose conditions are life-threatening and require comprehensive care and constant monitoring. It is usually administered in specially equipped units of a health care facility. [NIH]

Intensive Care Units: Hospital units providing continuous surveillance and care to acutely ill patients. [NIH]

Interindividual: Occurring between two or more individuals. [EU]

Intermittent: Occurring at separated intervals; having periods of cessation of activity. [EU]

Internal Medicine: A medical specialty concerned with the diagnosis and treatment of diseases of the internal organ systems of adults. [NIH]

Intracellular: Inside a cell. [NIH]

Intraindividual: Being or occurring within the individual. [EU]

Intramuscular: IM. Within or into muscle. [NIH]

Intravenous: IV. Into a vein. [NIH]

Involuntary: Reaction occurring without intention or volition. [NIH]

Iodine: A nonmetallic element of the halogen group that is represented by the atomic symbol I, atomic number 53, and atomic weight of 126.90. It is a nutritionally essential element, especially important in thyroid hormone synthesis. In solution, it has anti-infective properties and is used topically. [NIH]

Ions: An atom or group of atoms that have a positive or negative electric charge due to a gain (negative charge) or loss (positive charge) of one or more electrons. Atoms with a positive charge are known as cations; those with a negative charge are anions. [NIH]

Joint: The point of contact between elements of an animal skeleton with the parts that surround and support it. [NIH]

Kb: A measure of the length of DNA fragments, 1 Kb = 1000 base pairs. The largest DNA fragments are up to 50 kilobases long. [NIH]

Language Development: The gradual expansion in complexity and meaning of symbols and sounds as perceived and interpreted by the individual through a maturational and learning process. Stages in development include babbling, cooing, word imitation with cognition, and use of short sentences. [NIH]

Language Development Disorders: Conditions characterized by language abilities (comprehension and expression of speech and writing) that are below the expected level for a given age, generally in the absence of an intellectual impairment. These conditions may be associated with deafness; brain diseases; mental disorders; or environmental factors. [NIH]

Language Disorders: Conditions characterized by deficiencies of comprehension or expression of written and spoken forms of language. These include acquired and developmental disorders. [NIH]

Language Therapy: Rehabilitation of persons with language disorders or training of children with language development disorders. [NIH]

Large Intestine: The part of the intestine that goes from the cecum to the rectum. The large intestine absorbs water from stool and changes it from a liquid to a solid form. The large intestine is 5 feet long and includes the appendix, cecum, colon, and rectum. Also called colon. [NIH]

Latent: Phoria which occurs at one distance or another and which usually has no troublesome effect. [NIH]

Lens: The transparent, double convex (outward curve on both sides) structure suspended between the aqueous and vitreous; helps to focus light on the retina. [NIH]

Lethargy: Abnormal drowsiness or stupor; a condition of indifference. [EU]

Leukemia: Cancer of blood-forming tissue. [NIH]

Leukocytes: White blood cells. These include granular leukocytes (basophils, eosinophils, and neutrophils) as well as non-granular leukocytes (lymphocytes and monocytes). [NIH]

Library Services: Services offered to the library user. They include reference and circulation. [NIH]

Life cycle: The successive stages through which an organism passes from fertilized ovum or spore to the fertilized ovum or spore of the next generation. [NIH]

Life Expectancy: A figure representing the number of years, based on known statistics, to which any person of a given age may reasonably expect to live. [NIH]

Limbic: Pertaining to a limbus, or margin; forming a border around. [EU]

Lip: Either of the two fleshy, full-blooded margins of the mouth. [NIH]

Liver: A large, glandular organ located in the upper abdomen. The liver cleanses the blood and aids in digestion by secreting bile. [NIH]

Localized: Cancer which has not metastasized yet. [NIH]

Longitudinal Studies: Studies in which variables relating to an individual or group of individuals are assessed over a period of time. [NIH]

Longitudinal study: Also referred to as a "cohort study" or "prospective study"; the analytic method of epidemiologic study in which subsets of a defined population can be identified who are, have been, or in the future may be exposed or not exposed, or exposed in different degrees, to a factor or factors hypothesized to influence the probability of occurrence of a given disease or other outcome. The main feature of this type of study is to observe large numbers of subjects over an extended time, with comparisons of incidence rates in groups that differ in exposure levels. [NIH]

Long-Term Care: Care over an extended period, usually for a chronic condition or disability, requiring periodic, intermittent, or continuous care. [NIH]

Lymphatic: The tissues and organs, including the bone marrow, spleen, thymus, and lymph nodes, that produce and store cells that fight infection and disease. [NIH]

Lymphocyte: A white blood cell. Lymphocytes have a number of roles in the immune system, including the production of antibodies and other substances that fight infection and diseases. [NIH]

Lymphoid: Referring to lymphocytes, a type of white blood cell. Also refers to tissue in which lymphocytes develop. [NIH]

Malnutrition: A condition caused by not eating enough food or not eating a balanced diet. [NIH]

Marital Status: A demographic parameter indicating a person's status with respect to marriage, divorce, widowhood, singleness, etc. [NIH]

Medial: Lying near the midsaggital plane of the body; opposed to lateral. [NIH]

Mediate: Indirect; accomplished by the aid of an intervening medium. [EU]

Mediator: An object or substance by which something is mediated, such as (1) a structure of the nervous system that transmits impulses eliciting a specific response; (2) a chemical substance (transmitter substance) that induces activity in an excitable tissue, such as nerve or muscle; or (3) a substance released from cells as the result of the interaction of antigen with antibody or by the action of antigen with a sensitized lymphocyte. [EU]

Medical Records: Recording of pertinent information concerning patient's illness or illnesses. [NIH]

MEDLINE: An online database of MEDLARS, the computerized bibliographic Medical Literature Analysis and Retrieval System of the National Library of Medicine. [NIH]

Megaloblastic: A large abnormal red blood cell appearing in the blood in pernicious anaemia. [EU]

Membrane: A very thin layer of tissue that covers a surface. [NIH]

Memory: Complex mental function having four distinct phases: (1) memorizing or learning, (2) retention, (3) recall, and (4) recognition. Clinically, it is usually subdivided into immediate, recent, and remote memory. [NIH]

Meninges: The three membranes that cover and protect the brain and spinal cord. [NIH]

Mental Disorders: Psychiatric illness or diseases manifested by breakdowns in the adaptational process expressed primarily as abnormalities of thought, feeling, and behavior producing either distress or impairment of function. [NIH]

Mental Health: The state wherein the person is well adjusted. [NIH]

Mental Health Services: Organized services to provide mental health care. [NIH]

Mental Processes: Conceptual functions or thinking in all its forms. [NIH]

Mental Retardation: Refers to sub-average general intellectual functioning which originated

during the developmental period and is associated with impairment in adaptive behavior. [NIH]

Mentors: Senior professionals who provide guidance, direction and support to those persons desirous of improvement in academic positions, administrative positions or other career development situations. [NIH]

Mercury: A silver metallic element that exists as a liquid at room temperature. It has the atomic symbol Hg (from hydrargyrum, liquid silver), atomic number 80, and atomic weight 200.59. Mercury is used in many industrial applications and its salts have been employed therapeutically as purgatives, antisyphilitics, disinfectants, and astringents. It can be absorbed through the skin and mucous membranes which leads to mercury poisoning. Because of its toxicity, the clinical use of mercury and mercurials is diminishing. [NIH]

Meta-Analysis: A quantitative method of combining the results of independent studies (usually drawn from the published literature) and synthesizing summaries and conclusions which may be used to evaluate therapeutic effectiveness, plan new studies, etc., with application chiefly in the areas of research and medicine. [NIH]

Metabolic disorder: A condition in which normal metabolic processes are disrupted, usually because of a missing enzyme. [NIH]

MI: Myocardial infarction. Gross necrosis of the myocardium as a result of interruption of the blood supply to the area; it is almost always caused by atherosclerosis of the coronary arteries, upon which coronary thrombosis is usually superimposed. [NIH]

Microbiology: The study of microorganisms such as fungi, bacteria, algae, archaea, and viruses. [NIH]

Micronutrients: Essential dietary elements or organic compounds that are required in only small quantities for normal physiologic processes to occur. [NIH]

Modeling: A treatment procedure whereby the therapist presents the target behavior which the learner is to imitate and make part of his repertoire. [NIH]

Molecular: Of, pertaining to, or composed of molecules : a very small mass of matter. [EU]

Molecular Structure: The location of the atoms, groups or ions relative to one another in a molecule, as well as the number, type and location of covalent bonds. [NIH]

Molecule: A chemical made up of two or more atoms. The atoms in a molecule can be the same (an oxygen molecule has two oxygen atoms) or different (a water molecule has two hydrogen atoms and one oxygen atom). Biological molecules, such as proteins and DNA, can be made up of many thousands of atoms. [NIH]

Monitor: An apparatus which automatically records such physiological signs as respiration, pulse, and blood pressure in an anesthetized patient or one undergoing surgical or other procedures. [NIH]

Mood Disorders: Those disorders that have a disturbance in mood as their predominant feature. [NIH]

Mother-Child Relations: Interaction between the mother and the child. [NIH]

Motivations: The most compelling inner determinants of human behavior; also called drives, urges, impulses, needs, wants, tensions, and willful cravings. [NIH]

Motor Skills: Performance of complex motor acts. [NIH]

Multiparous: 1. Having had two or more pregnancies which resulted in viable fetuses. 2. Producing several ova or offspring at one time. [EU]

Myocardium: The muscle tissue of the heart composed of striated, involuntary muscle known as cardiac muscle. [NIH]

NCI: National Cancer Institute. NCI, part of the National Institutes of Health of the United States Department of Health and Human Services, is the federal government's principal agency for cancer research. NCI conducts, coordinates, and funds cancer research, training, health information dissemination, and other programs with respect to the cause, diagnosis, prevention, and treatment of cancer. Access the NCI Web site at http://cancer.gov. [NIH]

Necrosis: A pathological process caused by the progressive degradative action of enzymes that is generally associated with severe cellular trauma. It is characterized by mitochondrial swelling, nuclear flocculation, uncontrolled cell lysis, and ultimately cell death. [NIH]

Need: A state of tension or dissatisfaction felt by an individual that impels him to action toward a goal he believes will satisfy the impulse. [NIH]

Neonatal: Pertaining to the first four weeks after birth. [EU]

Nephrogenic: Constant thirst and frequent urination because the kidney tubules cannot respond to antidiuretic hormone. The result is an increase in urine formation and excessive urine flow. [NIH]

Nephrology: A subspecialty of internal medicine concerned with the anatomy, physiology, and pathology of the kidney. [NIH]

Nerve: A cordlike structure of nervous tissue that connects parts of the nervous system with other tissues of the body and conveys nervous impulses to, or away from, these tissues. [NIH]

Nervous System: The entire nerve apparatus composed of the brain, spinal cord, nerves and ganglia. [NIH]

Networks: Pertaining to a nerve or to the nerves, a meshlike structure of interlocking fibers or strands. [NIH]

Neural: 1. Pertaining to a nerve or to the nerves. 2. Situated in the region of the spinal axis, as the neutral arch. [EU]

Neuroanatomy: Study of the anatomy of the nervous system as a specialty or discipline. [NIH]

Neurons: The basic cellular units of nervous tissue. Each neuron consists of a body, an axon, and dendrites. Their purpose is to receive, conduct, and transmit impulses in the nervous system. [NIH]

Neurotoxic: Poisonous or destructive to nerve tissue. [EU]

Neurotoxicity: The tendency of some treatments to cause damage to the nervous system. [NIH]

Niche: The ultimate unit of the habitat, i. e. the specific spot occupied by an individual organism; by extension, the more or less specialized relationships existing between an organism, individual or synusia(e), and its environment. [NIH]

Nonverbal Communication: Transmission of emotions, ideas, and attitudes between individuals in ways other than the spoken language. [NIH]

Nuclear: A test of the structure, blood flow, and function of the kidneys. The doctor injects a mildly radioactive solution into an arm vein and uses x-rays to monitor its progress through the kidneys. [NIH]

Nuclear Family: A family composed of spouses and their children. [NIH]

Nuclei: A body of specialized protoplasm found in nearly all cells and containing the chromosomes. [NIH]

Nucleic acid: Either of two types of macromolecule (DNA or RNA) formed by polymerization of nucleotides. Nucleic acids are found in all living cells and contain the information (genetic code) for the transfer of genetic information from one generation to the

next. [NIH]

Nurse Practitioners: Nurses who are specially trained to assume an expanded role in providing medical care under the supervision of a physician. [NIH]

Nurseries: Facilities which provide care for infants. [NIH]

Nutritional Status: State of the body in relation to the consumption and utilization of nutrients. [NIH]

Oncology: The study of cancer. [NIH]

Opacity: Degree of density (area most dense taken for reading). [NIH]

Optic Nerve: The 2nd cranial nerve. The optic nerve conveys visual information from the retina to the brain. The nerve carries the axons of the retinal ganglion cells which sort at the optic chiasm and continue via the optic tracts to the brain. The largest projection is to the lateral geniculate nuclei; other important targets include the superior colliculi and the suprachiasmatic nuclei. Though known as the second cranial nerve, it is considered part of the central nervous system. [NIH]

Oral Health: The optimal state of the mouth and normal functioning of the organs of the mouth without evidence of disease. [NIH]

Orbit: One of the two cavities in the skull which contains an eyeball. Each eye is located in a bony socket or orbit. [NIH]

Orphanages: Institutions for the housing and care of orphans, foundlings, and abandoned children. They have existed as such since the medieval period but the heading is applicable to such usage also in modern parlance. [NIH]

Otitis: Inflammation of the ear, which may be marked by pain, fever, abnormalities of hearing, hearing loss, tinnitus, and vertigo. [EU]

Otitis Media: Inflammation of the middle ear. [NIH]

Otitis Media with Effusion: Inflammation of the middle ear with a clear pale yellow-colored transudate. [NIH]

Otorrhea: A discharge from the ear, especially a purulent one. [EU]

Outpatient: A patient who is not an inmate of a hospital but receives diagnosis or treatment in a clinic or dispensary connected with the hospital. [NIH]

Overweight: An excess of body weight but not necessarily body fat; a body mass index of 25 to 29.9 kg/m2. [NIH]

Ovum: A female germ cell extruded from the ovary at ovulation. [NIH]

Pacemaker: An object or substance that influences the rate at which a certain phenomenon occurs; often used alone to indicate the natural cardiac pacemaker or an artificial cardiac pacemaker. In biochemistry, a substance whose rate of reaction sets the pace for a series of interrelated reactions. [EU]

Palate: The structure that forms the roof of the mouth. It consists of the anterior hard palate and the posterior soft palate. [NIH]

Palliative: 1. Affording relief, but not cure. 2. An alleviating medicine. [EU]

Pancreas: A mixed exocrine and endocrine gland situated transversely across the posterior abdominal wall in the epigastric and hypochondriac regions. The endocrine portion is comprised of the Islets of Langerhans, while the exocrine portion is a compound acinar gland that secretes digestive enzymes. [NIH]

Parental Leave: The authorized absence from work of either parent prior to and after the birth of their child. It includes also absence because of the illness of a child or at the time of

the adoption of a child. It does not include leave for care of siblings, parents, or other family members: for this family leave is available. [NIH]

Parent-Child Relations: The interactions between parent and child. [NIH]

Parenteral: Not through the alimentary canal but rather by injection through some other route, as subcutaneous, intramuscular, intraorbital, intracapsular, intraspinal, intrasternal, intravenous, etc. [EU]

Parenteral Nutrition: The administering of nutrients for assimilation and utilization by a patient who cannot maintain adequate nutrition by enteral feeding alone. Nutrients are administered by a route other than the alimentary canal (e.g., intravenously, subcutaneously). [NIH]

Pathologic: 1. Indicative of or caused by a morbid condition. 2. Pertaining to pathology (= branch of medicine that treats the essential nature of the disease, especially the structural and functional changes in tissues and organs of the body caused by the disease). [EU]

Patient Education: The teaching or training of patients concerning their own health needs. [NIH]

Pediatrics: A medical specialty concerned with maintaining health and providing medical care to children from birth to adolescence. [NIH]

Perception: The ability quickly and accurately to recognize similarities and differences among presented objects, whether these be pairs of words, pairs of number series, or multiple sets of these or other symbols such as geometric figures. [NIH]

Perinatal: Pertaining to or occurring in the period shortly before and after birth; variously defined as beginning with completion of the twentieth to twenty-eighth week of gestation and ending 7 to 28 days after birth. [EU]

Periodicity: The tendency of a phenomenon to recur at regular intervals; in biological systems, the recurrence of certain activities (including hormonal, cellular, neural) may be annual, seasonal, monthly, daily, or more frequently (ultradian). [NIH]

Permissiveness: The attitude that grants freedom of expression and activity to another individual, but not necessarily with sanction or approval. [NIH]

Peroxidase: A hemeprotein from leukocytes. Deficiency of this enzyme leads to a hereditary disorder coupled with disseminated moniliasis. It catalyzes the conversion of a donor and peroxide to an oxidized donor and water. EC 1.11.1.7. [NIH]

Peroxide: Chemical compound which contains an atom group with two oxygen atoms tied to each other. [NIH]

Personal Satisfaction: The individual's experience of a sense of fulfillment of a need or want and the quality or state of being satisfied. [NIH]

Personality Development: Growth of habitual patterns of behavior in childhood and adolescence. [NIH]

Pharmacologic: Pertaining to pharmacology or to the properties and reactions of drugs. [EU]

Physical Examination: Systematic and thorough inspection of the patient for physical signs of disease or abnormality. [NIH]

Physiologic: Having to do with the functions of the body. When used in the phrase "physiologic age," it refers to an age assigned by general health, as opposed to calendar age. [NIH]

Physiology: The science that deals with the life processes and functions of organismus, their cells, tissues, and organs. [NIH]

Pitch: The subjective awareness of the frequency or spectral distribution of a sound. [NIH]

Placenta: A highly vascular fetal organ through which the fetus absorbs oxygen and other nutrients and excretes carbon dioxide and other wastes. It begins to form about the eighth day of gestation when the blastocyst adheres to the decidua. [NIH]

Plants: Multicellular, eukaryotic life forms of the kingdom Plantae. They are characterized by a mainly photosynthetic mode of nutrition; essentially unlimited growth at localized regions of cell divisions (meristems); cellulose within cells providing rigidity; the absence of organs of locomotion; absense of nervous and sensory systems; and an alteration of haploid and diploid generations. [NIH]

Plasma: The clear, yellowish, fluid part of the blood that carries the blood cells. The proteins that form blood clots are in plasma. [NIH]

Plasma cells: A type of white blood cell that produces antibodies. [NIH]

Plasticity: In an individual or a population, the capacity for adaptation: a) through gene changes (genetic plasticity) or b) through internal physiological modifications in response to changes of environment (physiological plasticity). [NIH]

Poisoning: A condition or physical state produced by the ingestion, injection or inhalation of, or exposure to a deleterious agent. [NIH]

Polypeptide: A peptide which on hydrolysis yields more than two amino acids; called tripeptides, tetrapeptides, etc. according to the number of amino acids contained. [EU]

Polyunsaturated fat: An unsaturated fat found in greatest amounts in foods derived from plants, including safflower, sunflower, corn, and soybean oils. [NIH]

Post partum: After childbirth, or after delivery. [EU]

Posterior: Situated in back of, or in the back part of, or affecting the back or dorsal surface of the body. In lower animals, it refers to the caudal end of the body. [EU]

Postnatal: Occurring after birth, with reference to the newborn. [EU]

Practice Guidelines: Directions or principles presenting current or future rules of policy for the health care practitioner to assist him in patient care decisions regarding diagnosis, therapy, or related clinical circumstances. The guidelines may be developed by government agencies at any level, institutions, professional societies, governing boards, or by the convening of expert panels. The guidelines form a basis for the evaluation of all aspects of health care and delivery. [NIH]

Precipitating Factors: Factors associated with the definitive onset of a disease, illness, accident, behavioral response, or course of action. Usually one factor is more important or more obviously recognizable than others, if several are involved, and one may often be regarded as "necessary". Examples include exposure to specific disease; amount or level of an infectious organism, drug, or noxious agent, etc. [NIH]

Preconception Care: An organized and comprehensive program of health care that identifies and reduces a woman's reproductive risks before conception through risk assessment, health promotion, and interventions. Preconception care programs may be designed to include the male partner in providing counseling and educational information in preparation for fatherhood, such as genetic counseling and testing, financial and family planning, etc. This concept is different from prenatal care, which occurs during pregnancy. [NIH]

Precursor: Something that precedes. In biological processes, a substance from which another, usually more active or mature substance is formed. In clinical medicine, a sign or symptom that heralds another. [EU]

Pre-Eclampsia: Development of hypertension with proteinuria, edema, or both, due to pregnancy or the influence of a recent pregnancy. It occurs after the 20th week of gestation,

but it may develop before this time in the presence of trophoblastic disease. [NIH]

Pregnancy Outcome: Results of conception and ensuing pregnancy, including live birth, stillbirth, spontaneous abortion, induced abortion. The outcome may follow natural or artificial insemination or any of the various reproduction techniques, such as embryo transfer or fertilization in vitro. [NIH]

Pregnancy Tests: Tests to determine whether or not an individual is pregnant. [NIH]

Prenatal: Existing or occurring before birth, with reference to the fetus. [EU]

Prenatal Care: Care provided the pregnant woman in order to prevent complications, and decrease the incidence of maternal and prenatal mortality. [NIH]

Preventive Health Services: Services designed for promotion of health and prevention of disease. [NIH]

Problem Solving: A learning situation involving more than one alternative from which a selection is made in order to attain a specific goal. [NIH]

Progression: Increase in the size of a tumor or spread of cancer in the body. [NIH]

Progressive: Advancing; going forward; going from bad to worse; increasing in scope or severity. [EU]

Prospective Payment System: A system wherein reimbursement rates are set, for a given period of time, prior to the circumstances giving rise to actual reimbursement claims. [NIH]

Prospective study: An epidemiologic study in which a group of individuals (a cohort), all free of a particular disease and varying in their exposure to a possible risk factor, is followed over a specific amount of time to determine the incidence rates of the disease in the exposed and unexposed groups. [NIH]

Protein S: The vitamin K-dependent cofactor of activated protein C. Together with protein C, it inhibits the action of factors VIIIa and Va. A deficiency in protein S can lead to recurrent venous and arterial thrombosis. [NIH]

Proteins: Polymers of amino acids linked by peptide bonds. The specific sequence of amino acids determines the shape and function of the protein. [NIH]

Proteinuria: The presence of protein in the urine, indicating that the kidneys are not working properly. [NIH]

Protocol: The detailed plan for a clinical trial that states the trial's rationale, purpose, drug or vaccine dosages, length of study, routes of administration, who may participate, and other aspects of trial design. [NIH]

Protozoa: A subkingdom consisting of unicellular organisms that are the simplest in the animal kingdom. Most are free living. They range in size from submicroscopic to macroscopic. Protozoa are divided into seven phyla: Sarcomastigophora, Labyrinthomorpha, Apicomplexa, Microspora, Ascetospora, Myxozoa, and Ciliophora. [NIH]

Proximal: Nearest; closer to any point of reference; opposed to distal. [EU]

Proxy: A person authorized to decide or act for another person, for example, a person having durable power of attorney. [NIH]

Psychiatric: Pertaining to or within the purview of psychiatry. [EU]

Psychiatry: The medical science that deals with the origin, diagnosis, prevention, and treatment of mental disorders. [NIH]

Psychic: Pertaining to the psyche or to the mind; mental. [EU]

Psychoacoustics: The science pertaining to the interrelationship of psychologic phenomena and the individual's response to the physical properties of sound. [NIH]

Psychoanalytic Theory: Conceptual system developed by Freud and his followers in which unconscious motivations are considered to shape normal and abnormal personality development and behavior. [NIH]

Psycholinguistics: A discipline concerned with relations between messages and the characteristics of individuals who select and interpret them; it deals directly with the processes of encoding (phonetics) and decoding (psychoacoustics) as they relate states of messages to states of communicators. [NIH]

Psychology: The science dealing with the study of mental processes and behavior in man and animals. [NIH]

Psychopathology: The study of significant causes and processes in the development of mental illness. [NIH]

Psychotherapy: A generic term for the treatment of mental illness or emotional disturbances primarily by verbal or nonverbal communication. [NIH]

Puberty: The period during which the secondary sex characteristics begin to develop and the capability of sexual reproduction is attained. [EU]

Public Health: Branch of medicine concerned with the prevention and control of disease and disability, and the promotion of physical and mental health of the population on the international, national, state, or municipal level. [NIH]

Public Policy: A course or method of action selected, usually by a government, from among alternatives to guide and determine present and future decisions. [NIH]

Pulmonary: Relating to the lungs. [NIH]

Pulmonary Artery: The short wide vessel arising from the conus arteriosus of the right ventricle and conveying unaerated blood to the lungs. [NIH]

Pulse: The rhythmical expansion and contraction of an artery produced by waves of pressure caused by the ejection of blood from the left ventricle of the heart as it contracts. [NIH]

Purulent: Consisting of or containing pus; associated with the formation of or caused by pus. [EU]

Race: A population within a species which exhibits general similarities within itself, but is both discontinuous and distinct from other populations of that species, though not sufficiently so as to achieve the status of a taxon. [NIH]

Radioactive: Giving off radiation. [NIH]

Radiography: Examination of any part of the body for diagnostic purposes by means of roentgen rays, recording the image on a sensitized surface (such as photographic film). [NIH]

Random Allocation: A process involving chance used in therapeutic trials or other research endeavor for allocating experimental subjects, human or animal, between treatment and control groups, or among treatment groups. It may also apply to experiments on inanimate objects. [NIH]

Randomization: Also called random allocation. Is allocation of individuals to groups, e.g., for experimental and control regimens, by chance. Within the limits of chance variation, random allocation should make the control and experimental groups similar at the start of an investigation and ensure that personal judgment and prejudices of the investigator do not influence allocation. [NIH]

Randomized: Describes an experiment or clinical trial in which animal or human subjects are assigned by chance to separate groups that compare different treatments. [NIH]

Receptor: A molecule inside or on the surface of a cell that binds to a specific substance and

causes a specific physiologic effect in the cell. [NIH]

Rectum: The last 8 to 10 inches of the large intestine. [NIH]

Refer: To send or direct for treatment, aid, information, de decision. [NIH]

Refraction: A test to determine the best eyeglasses or contact lenses to correct a refractive error (myopia, hyperopia, or astigmatism). [NIH]

Regimen: A treatment plan that specifies the dosage, the schedule, and the duration of treatment. [NIH]

Registries: The systems and processes involved in the establishment, support, management, and operation of registers, e.g., disease registers. [NIH]

Reliability: Used technically, in a statistical sense, of consistency of a test with itself, i. e. the extent to which we can assume that it will yield the same result if repeated a second time. [NIH]

Remission: A decrease in or disappearance of signs and symptoms of cancer. In partial remission, some, but not all, signs and symptoms of cancer have disappeared. In complete remission, all signs and symptoms of cancer have disappeared, although there still may be cancer in the body. [NIH]

Reproduction Techniques: Methods pertaining to the generation of new individuals. [NIH]

Research Design: A plan for collecting and utilizing data so that desired information can be obtained with sufficient precision or so that an hypothesis can be tested properly. [NIH]

Resolving: The ability of the eye or of a lens to make small objects that are close together, separately visible; thus revealing the structure of an object. [NIH]

Respiration: The act of breathing with the lungs, consisting of inspiration, or the taking into the lungs of the ambient air, and of expiration, or the expelling of the modified air which contains more carbon dioxide than the air taken in (Blakiston's Gould Medical Dictionary, 4th ed.). This does not include tissue respiration (= oxygen consumption) or cell respiration (= cell respiration). [NIH]

Respiratory Physiology: Functions and activities of the respiratory tract as a whole or of any of its parts. [NIH]

Retina: The ten-layered nervous tissue membrane of the eye. It is continuous with the optic nerve and receives images of external objects and transmits visual impulses to the brain. Its outer surface is in contact with the choroid and the inner surface with the vitreous body. The outer-most layer is pigmented, whereas the inner nine layers are transparent. [NIH]

Retinoids: Derivatives of vitamin A. Used clinically in the treatment of severe cystic acne, psoriasis, and other disorders of keratinization. Their possible use in the prophylaxis and treatment of cancer is being actively explored. [NIH]

Rhythmicity: Regular periodicity. [NIH]

Ribosome: A granule of protein and RNA, synthesized in the nucleolus and found in the cytoplasm of cells. Ribosomes are the main sites of protein synthesis. Messenger RNA attaches to them and there receives molecules of transfer RNA bearing amino acids. [NIH]

Rickettsiae: One of a group of obligate intracellular parasitic microorganisms, once regarded as intermediate in their properties between bacteria and viruses but now classified as bacteria in the order Rickettsiales, which includes 17 genera and 3 families: Rickettsiace. [NIH]

Risk factor: A habit, trait, condition, or genetic alteration that increases a person's chance of developing a disease. [NIH]

Sagittal: The line of direction passing through the body from back to front, or any vertical

plane parallel to the medial plane of the body and inclusive of that plane; often restricted to the medial plane, the plane of the sagittal suture. [NIH]

Saliva: The clear, viscous fluid secreted by the salivary glands and mucous glands of the mouth. It contains mucins, water, organic salts, and ptylin. [NIH]

Salivary: The duct that convey saliva to the mouth. [NIH]

Salivary glands: Glands in the mouth that produce saliva. [NIH]

Sanitation: The development and establishment of environmental conditions favorable to the health of the public. [NIH]

Screening: Checking for disease when there are no symptoms. [NIH]

Secretion: 1. The process of elaborating a specific product as a result of the activity of a gland; this activity may range from separating a specific substance of the blood to the elaboration of a new chemical substance. 2. Any substance produced by secretion. [EU]

Seizures: Clinical or subclinical disturbances of cortical function due to a sudden, abnormal, excessive, and disorganized discharge of brain cells. Clinical manifestations include abnormal motor, sensory and psychic phenomena. Recurrent seizures are usually referred to as epilepsy or "seizure disorder." [NIH]

Selenium: An element with the atomic symbol Se, atomic number 34, and atomic weight 78.96. It is an essential micronutrient for mammals and other animals but is toxic in large amounts. Selenium protects intracellular structures against oxidative damage. It is an essential component of glutathione peroxidase. [NIH]

Sequencing: The determination of the order of nucleotides in a DNA or RNA chain. [NIH]

Serotonin: A biochemical messenger and regulator, synthesized from the essential amino acid L-tryptophan. In humans it is found primarily in the central nervous system, gastrointestinal tract, and blood platelets. Serotonin mediates several important physiological functions including neurotransmission, gastrointestinal motility, hemostasis, and cardiovascular integrity. Multiple receptor families (receptors, serotonin) explain the broad physiological actions and distribution of this biochemical mediator. [NIH]

Sex Characteristics: Those characteristics that distinguish one sex from the other. The primary sex characteristics are the ovaries and testes and their related hormones. Secondary sex characteristics are those which are masculine or feminine but not directly related to reproduction. [NIH]

Sexually Transmitted Diseases: Diseases due to or propagated by sexual contact. [NIH]

Shock: The general bodily disturbance following a severe injury; an emotional or moral upset occasioned by some disturbing or unexpected experience; disruption of the circulation, which can upset all body functions: sometimes referred to as circulatory shock. [NIH]

Side effect: A consequence other than the one(s) for which an agent or measure is used, as the adverse effects produced by a drug, especially on a tissue or organ system other than the one sought to be benefited by its administration. [EU]

Single Parent: A natural, adoptive, or substitute parent of a dependent child, who lives with only one parent. The single parent may live with or visit the child. The concept includes the never-married, as well as the divorced and widowed. [NIH]

Skeletal: Having to do with the skeleton (boney part of the body). [NIH]

Skeleton: The framework that supports the soft tissues of vertebrate animals and protects many of their internal organs. The skeletons of vertebrates are made of bone and/or cartilage. [NIH]

Skull: The skeleton of the head including the bones of the face and the bones enclosing the brain. [NIH]

Small intestine: The part of the digestive tract that is located between the stomach and the large intestine. [NIH]

Social Behavior: Any behavior caused by or affecting another individual, usually of the same species. [NIH]

Social Class: A stratum of people with similar position and prestige; includes social stratification. Social class is measured by criteria such as education, occupation, and income. [NIH]

Social Environment: The aggregate of social and cultural institutions, forms, patterns, and processes that influence the life of an individual or community. [NIH]

Social Support: Support systems that provide assistance and encouragement to individuals with physical or emotional disabilities in order that they may better cope. Informal social support is usually provided by friends, relatives, or peers, while formal assistance is provided by churches, groups, etc. [NIH]

Socialization: The training or molding of an individual through various relationships, educational agencies, and social controls, which enables him to become a member of a particular society. [NIH]

Software Design: Specifications and instructions applied to the software. [NIH]

Soma: The body as distinct from the mind; all the body tissue except the germ cells; all the axial body. [NIH]

Somatic: 1. Pertaining to or characteristic of the soma or body. 2. Pertaining to the body wall in contrast to the viscera. [EU]

Soybean Oil: Oil from soybean or soybean plant. [NIH]

Specialist: In medicine, one who concentrates on 1 special branch of medical science. [NIH]

Species: A taxonomic category subordinate to a genus (or subgenus) and superior to a subspecies or variety, composed of individuals possessing common characters distinguishing them from other categories of individuals of the same taxonomic level. In taxonomic nomenclature, species are designated by the genus name followed by a Latin or Latinized adjective or noun. [EU]

Spectrum: A charted band of wavelengths of electromagnetic vibrations obtained by refraction and diffraction. By extension, a measurable range of activity, such as the range of bacteria affected by an antibiotic (antibacterial s.) or the complete range of manifestations of a disease. [EU]

Spinal cord: The main trunk or bundle of nerves running down the spine through holes in the spinal bone (the vertebrae) from the brain to the level of the lower back. [NIH]

Spontaneous Abortion: The non-induced birth of an embryo or of fetus prior to the stage of viability at about 20 weeks of gestation. [NIH]

Sterility: 1. The inability to produce offspring, i.e., the inability to conceive (female s.) or to induce conception (male s.). 2. The state of being aseptic, or free from microorganisms. [EU]

Steroid: A group name for lipids that contain a hydrogenated cyclopentanoperhydrophenanthrene ring system. Some of the substances included in this group are progesterone, adrenocortical hormones, the gonadal hormones, cardiac aglycones, bile acids, sterols (such as cholesterol), toad poisons, saponins, and some of the carcinogenic hydrocarbons. [EU]

Stillbirth: The birth of a dead fetus or baby. [NIH]

Stomach: An organ of digestion situated in the left upper quadrant of the abdomen between the termination of the esophagus and the beginning of the duodenum. [NIH]

Stool: The waste matter discharged in a bowel movement; feces. [NIH]

Stress: Forcibly exerted influence; pressure. Any condition or situation that causes strain or tension. Stress may be either physical or psychologic, or both. [NIH]

Stroke: Sudden loss of function of part of the brain because of loss of blood flow. Stroke may be caused by a clot (thrombosis) or rupture (hemorrhage) of a blood vessel to the brain. [NIH]

Subacute: Somewhat acute; between acute and chronic. [EU]

Subclinical: Without clinical manifestations; said of the early stage(s) of an infection or other disease or abnormality before symptoms and signs become apparent or detectable by clinical examination or laboratory tests, or of a very mild form of an infection or other disease or abnormality. [EU]

Subcutaneous: Beneath the skin. [NIH]

Substrate: A substance upon which an enzyme acts. [EU]

Supplementation: Adding nutrients to the diet. [NIH]

Support group: A group of people with similar disease who meet to discuss how better to cope with their cancer and treatment. [NIH]

Sympathetic Nervous System: The thoracolumbar division of the autonomic nervous system. Sympathetic preganglionic fibers originate in neurons of the intermediolateral column of the spinal cord and project to the paravertebral and prevertebral ganglia, which in turn project to target organs. The sympathetic nervous system mediates the body's response to stressful situations, i.e., the fight or flight reactions. It often acts reciprocally to the parasympathetic system. [NIH]

Sympathomimetic: 1. Mimicking the effects of impulses conveyed by adrenergic postganglionic fibres of the sympathetic nervous system. 2. An agent that produces effects similar to those of impulses conveyed by adrenergic postganglionic fibres of the sympathetic nervous system. Called also adrenergic. [EU]

Synchrony: The normal physiologic sequencing of atrial and ventricular activation and contraction. [NIH]

Synergistic: Acting together; enhancing the effect of another force or agent. [EU]

Systemic: Affecting the entire body. [NIH]

Systolic: Indicating the maximum arterial pressure during contraction of the left ventricle of the heart. [EU]

Taurine: 2-Aminoethanesulfonic acid. A conditionally essential nutrient, important during mammalian development. It is present in milk but is isolated mostly from ox bile and strongly conjugates bile acids. [NIH]

Temperament: Predisposition to react to one's environment in a certain way; usually refers to mood changes. [NIH]

Thalassemia: A group of hereditary hemolytic anemias in which there is decreased synthesis of one or more hemoglobin polypeptide chains. There are several genetic types with clinical pictures ranging from barely detectable hematologic abnormality to severe and fatal anemia. [NIH]

Therapeutics: The branch of medicine which is concerned with the treatment of diseases, palliative or curative. [NIH]

Threshold: For a specified sensory modality (e. g. light, sound, vibration), the lowest level

(absolute threshold) or smallest difference (difference threshold, difference limen) or intensity of the stimulus discernible in prescribed conditions of stimulation. [NIH]

Thrombosis: The formation or presence of a blood clot inside a blood vessel. [NIH]

Thymus: An organ that is part of the lymphatic system, in which T lymphocytes grow and multiply. The thymus is in the chest behind the breastbone. [NIH]

Thyroid: A gland located near the windpipe (trachea) that produces thyroid hormone, which helps regulate growth and metabolism. [NIH]

Thyrotropin: A peptide hormone secreted by the anterior pituitary. It promotes the growth of the thyroid gland and stimulates the synthesis of thyroid hormones and the release of thyroxine by the thyroid gland. [NIH]

Tinnitus: Sounds that are perceived in the absence of any external noise source which may take the form of buzzing, ringing, clicking, pulsations, and other noises. Objective tinnitus refers to noises generated from within the ear or adjacent structures that can be heard by other individuals. The term subjective tinnitus is used when the sound is audible only to the affected individual. Tinnitus may occur as a manifestation of cochlear diseases; vestibulocochlear nerve diseases; intracranial hypertension; craniocerebral trauma; and other conditions. [NIH]

Tissue: A group or layer of cells that are alike in type and work together to perform a specific function. [NIH]

Tocolysis: Any drug treatment modality designed to inhibit uterine contractions in pregnant women at risk for preterm labor. [NIH]

Toilet Training: Conditioning to defecate and urinate in culturally acceptable places. [NIH]

Tolerance: 1. The ability to endure unusually large doses of a drug or toxin. 2. Acquired drug tolerance; a decreasing response to repeated constant doses of a drug or the need for increasing doses to maintain a constant response. [EU]

Tooth Preparation: Procedures carried out with regard to the teeth or tooth structures preparatory to specified dental therapeutic and surgical measures. [NIH]

Topical: On the surface of the body. [NIH]

Toxic: Having to do with poison or something harmful to the body. Toxic substances usually cause unwanted side effects. [NIH]

Toxicity: The quality of being poisonous, especially the degree of virulence of a toxic microbe or of a poison. [EU]

Toxicology: The science concerned with the detection, chemical composition, and pharmacologic action of toxic substances or poisons and the treatment and prevention of toxic manifestations. [NIH]

Toxins: Specific, characterizable, poisonous chemicals, often proteins, with specific biological properties, including immunogenicity, produced by microbes, higher plants, or animals. [NIH]

Trachea: The cartilaginous and membranous tube descending from the larynx and branching into the right and left main bronchi. [NIH]

Transfection: The uptake of naked or purified DNA into cells, usually eukaryotic. It is analogous to bacterial transformation. [NIH]

Transfer Factor: Factor derived from leukocyte lysates of immune donors which can transfer both local and systemic cellular immunity to nonimmune recipients. [NIH]

Translation: The process whereby the genetic information present in the linear sequence of ribonucleotides in mRNA is converted into a corresponding sequence of amino acids in a

protein. It occurs on the ribosome and is unidirectional. [NIH]

Transmitter: A chemical substance which effects the passage of nerve impulses from one cell to the other at the synapse. [NIH]

Transplantation: Transference of a tissue or organ, alive or dead, within an individual, between individuals of the same species, or between individuals of different species. [NIH]

Trauma: Any injury, wound, or shock, must frequently physical or structural shock, producing a disturbance. [NIH]

Tricyclic: Containing three fused rings or closed chains in the molecular structure. [EU]

Tuberculosis: Any of the infectious diseases of man and other animals caused by species of Mycobacterium. [NIH]

Ultrasonography: The visualization of deep structures of the body by recording the reflections of echoes of pulses of ultrasonic waves directed into the tissues. Use of ultrasound for imaging or diagnostic purposes employs frequencies ranging from 1.6 to 10 megahertz. [NIH]

Unconscious: Experience which was once conscious, but was subsequently rejected, as the "personal unconscious". [NIH]

Urinary: Having to do with urine or the organs of the body that produce and get rid of urine. [NIH]

Urinate: To release urine from the bladder to the outside. [NIH]

Urine: Fluid containing water and waste products. Urine is made by the kidneys, stored in the bladder, and leaves the body through the urethra. [NIH]

Uterine Contraction: Contraction of the uterine muscle. [NIH]

Vaccine: A substance or group of substances meant to cause the immune system to respond to a tumor or to microorganisms, such as bacteria or viruses. [NIH]

Vascular: Pertaining to blood vessels or indicative of a copious blood supply. [EU]

Vein: Vessel-carrying blood from various parts of the body to the heart. [NIH]

Venous: Of or pertaining to the veins. [EU]

Ventilation: 1. In respiratory physiology, the process of exchange of air between the lungs and the ambient air. Pulmonary ventilation (usually measured in litres per minute) refers to the total exchange, whereas alveolar ventilation refers to the effective ventilation of the alveoli, in which gas exchange with the blood takes place. 2. In psychiatry, verbalization of one's emotional problems. [EU]

Ventricular: Pertaining to a ventricle. [EU]

Vertigo: An illusion of movement; a sensation as if the external world were revolving around the patient (objective vertigo) or as if he himself were revolving in space (subjective vertigo). The term is sometimes erroneously used to mean any form of dizziness. [EU]

Veterinary Medicine: The medical science concerned with the prevention, diagnosis, and treatment of diseases in animals. [NIH]

Virulence: The degree of pathogenicity within a group or species of microorganisms or viruses as indicated by case fatality rates and/or the ability of the organism to invade the tissues of the host. [NIH]

Viruses: Minute infectious agents whose genomes are composed of DNA or RNA, but not both. They are characterized by a lack of independent metabolism and the inability to replicate outside living host cells. [NIH]

Viscera: Any of the large interior organs in any one of the three great cavities of the body,

especially in the abdomen. [NIH]

Vital Statistics: Used for general articles concerning statistics of births, deaths, marriages, etc. [NIH]

Vitamin A: A substance used in cancer prevention; it belongs to the family of drugs called retinoids. [NIH]

Vitreous Body: The transparent, semigelatinous substance that fills the cavity behind the crystalline lens of the eye and in front of the retina. It is contained in a thin hyoid membrane and forms about four fifths of the optic globe. [NIH]

Voice Quality: Voice quality is that component of speech which gives the primary distinction to a given speaker's voice when pitch and loudness are excluded. It involves both phonatory and resonatory characteristics. Some of the descriptions of voice quality are harshness, breathiness and nasality. [NIH]

Volition: Voluntary activity without external compulsion. [NIH]

Wakefulness: A state in which there is an enhanced potential for sensitivity and an efficient responsiveness to external stimuli. [NIH]

Windpipe: A rigid tube, 10 cm long, extending from the cricoid cartilage to the upper border of the fifth thoracic vertebra. [NIH]

X-ray: High-energy radiation used in low doses to diagnose diseases and in high doses to treat cancer. [NIH]

INDEX


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