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Improving the Functionality of Electronic Health Record Systems for Children's Healthcare

Joy Kuhl, S. Trent Rosenbloom, S. Andrew Spooner

Abstract: Given the large proportion of children in the U.S. population and the likelihood that those children will receive care in nonpediatric settings, it is critical to ensure pediatric leadership in initiatives to improve the nation's health information technology offerings on behalf of children. The American Academy of Pediatrics, the American Board of Pediatrics, Child Health Corporation of America, and the National Association of Children's Hospitals and Related Institutions have joined forces as the Alliance for Pediatric Quality to improve quality healthcare in pediatrics and help ensure that health information technology works for children. Aligning the pediatric community to improve the functionality of electronic health record systems for child healthcare is a priority.

Key Words
electronic health records
pediatric healthcare

Children, who represent nearly one third of the U.S. population, receive care through electronic health record (EHR) systems in a variety of settings. Currently, the functionality in EHR systems is largely adult-focused, making it necessary for individual pediatric providers to work with their vendors to customize their EHR systems or build their own solutions to use in caring for children. Those in the pediatric community have an opportunity to work together to ensure that any EHR system used to care for children includes a level of functionality that will meet the basic needs of children. By working together, providers can help improve the quality of care for children and can collectively reduce the EHR system implementation costs that arise from customization efforts.

Through the Alliance for Pediatric Quality (the Alliance; www.kidsquality.org), four organizations—the American Academy of Pediatrics (AAP; www.aap.org), the American Board of Pediatrics (ABP), Child Health Corporation of America (CHCA; www.chca.com), and the National Association of Children's Hospitals and Related Institutions (NACHRI; www.nachri.org)—are aligning the pediatric community behind a common strategy to improve the functionality of EHR systems in child healthcare. The strategy has two primary components: (1) to build consensus on child healthcare data standards for EHR systems and (2) to influence the adoption of these standards.

Building Consensus

The Alliance is actively convening stakeholders from multiple organizations to accelerate the development and adoption of pediatric data standards. The current focus is to ensure that national healthcare data standards include the basic requirements needed for child healthcare. For example, in the area of general functionality, clinicians

- need to know the child's immunization status
- need to be able to plot a growth chart
- need to take into consideration body weight when calculating drug dosage
- must keep pediatric data norms in mind when monitoring lab results, body measurements, and vital signs
- must be able to address the special privacy needs faced by children.

Pediatric healthcare providers are making progress in building consensus about critical pediatric EHR system functions. The Alliance supports the work of the following entities and acts as a liaison between these groups.

- Health Level 7 (HL7) Pediatric Data Standards Special Interest Group (PeDSSIG; www.hl7.org): PeDSSIG is an active volunteer group consisting primarily of child health practitioners, chief medical information officers, and informaticists. PeDSSIG participants work together to identify and agree upon data standards important for child healthcare. PeDSSIG works to ensure that the published HL7 standards include those most

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important in providing general child healthcare.

- Council on Clinical Information Technology (COCIT; www.aapscot.org): COCIT is a volunteer organization made up of members of AAP who have an interest in applying information technology to clinical pediatrics. COCIT educates AAP members on health information technology, contributes to the development of AAP policy on health information technology, and provides guidance to pediatricians seeking to make decisions about the selection and use of clinical information technology in practice.
- Health Information Management Systems Society (HIMSS), Pediatric Health Informatics and Technology Special Interest Group (PHIT SIG; www.himss.org/ASP/sigs_phit.asp): PHIT SIG intends to unify pediatric health informatics and technology professionals who participate in HIMSS to provide pediatric input on challenges facing the health informatics and technology (HIT) industry.

In the past year, significant achievements have accrued because of the Alliance's liaison role in HIT. In January 2007, the Alliance led an effort to combine the functional criteria for EHR systems identified by PeDSSIG and COCIT, as well as vendor certification criteria published by the Certification Commission for Healthcare Information Technology (CCHIT; www.cchit.org), into one master document that was used to identify gaps in the HL7 standards. PHIT SIG participants and representatives from the healthcare vendor community also provided input.

Influencing Adoption

Healthcare data standards are useful only if they are included in vendor software. The Alliance is actively influencing the adoption of child healthcare data standards by supporting and endorsing aligned pediatric interests to decision-making organizations like HL7 and CCHIT. By pulling together staff representatives, member constituents, and resources, the Alliance has created a formidable voice on behalf of pediatric HIT interests. Progress to date includes these achievements:

- The majority of general child healthcare functional standards identified by PeDSSIG are now HL7 standards (HL7, 2007). Vendors who want to be HL7-compliant must include these functions as part of their EHR systems. The HL7 standards are also referenced by CCHIT in the development of EHR system certification criteria.
- COCIT published a report, "Special Requirements for Electronic Medical Record Systems in Pediatrics," in the journal *Pediatrics* in 2001, with an update in March 2007 (AAP, Task Force on Medical Informatics, 2001; Spooner & AAP Council on Clinical Information Technology, 2007). By providing descriptions of proposed functional standards, these publications assist child healthcare providers in communicating their unique needs to software vendors.
- PeDSSIG registered a Child Health Functional Profile (Child Health-FP) for EHR systems with HL7—a document that defines pediatric-specific functional requirements with respect to pediatric care across all settings of care. PeDSSIG is working to publish the Child Health-FP as an HL7 standard.
- Pediatricians are actively involved in writing scenarios for the Medical Records Institute's Towards the Electronic Patient Record (TEPR) pediatric documentation challenge. The scenarios use standards identified by PeDSSIG and COCIT. Vendors that participate in the challenge are evaluated on the ability of their systems to handle the unique pediatric scenarios.
- Several pediatric EHR system vendors offer pediatric-based consortia, such as the Cerner Pediatric Leadership Council, as a way to influence the adoption of standards within vendor applications.
- In February 2007, CCHIT agreed to a request from the Alliance and the pediatric community to undertake a special project in 2007 to improve its core EHR system certification criteria for the care of children by forming a Child Health Expert Panel. The panel is working to identify general child healthcare certification criteria needs.

Getting Involved

The pediatric community and the HIT vendors that support it have an opportunity to work together to accelerate the improvement of EHR systems for child healthcare. The Alliance is working to encourage the following actions:

- Support strategies for including general child healthcare data standards in EHR systems.
- Participate in and support work groups (e.g., PeDSSIG) that work toward adoption of HIT data standards.
- Participate in opportunities for public comment offered by organizations such as HL7 and CCHIT.
- As a vendor, become HL7 compliant and CCHIT certified. As a provider, purchase EHR systems from HL7-compliant and CCHIT-certified vendors.
- Engage in projects to test how data standards improve healthcare processes or outcomes.
- Provide and support the pediatric perspective in regional health information organizations or health information exchange projects at the local level.
- Offer medical informatics training; as a provider affiliated with an academic medical center, sponsor research opportunities that will further this work.

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For more information on this article, contact Joy Kuhl at joy.kuhl@chca.com.

q&a: Joellen Murphree on North Mississippi Medical Center and the 2006 Baldrige National Quality Award

Michelle Horvath, Interviewer

Joellen Murphree, RN CCM CPHQ, is the director of clinical quality at North Mississippi Medical Center (NMMC)–Tupelo, in Tupelo, MS. NMMC, a regional referral center with 650 beds, is the largest rural hospital in the United States and was the winner of the 2006 Baldrige National Quality Award in healthcare. Murphree is responsible for performance improvement and is also the patient safety officer for North Mississippi Health Services in Tupelo. She holds a bachelor's of science degree in nursing from the University of Tennessee and is certified in both healthcare quality and case management. She began her career with NMMC in 1988 on the oncology unit and later served as nursing performance improvement coordinator and performance improvement coordinator at NMMC. During her time on the oncology unit, Murphree became involved with the pastoral care department and served on the Pastoral Care Advisory Committee for many years. She serves on the North Mississippi Critical Incident Stress Management team and as an advance directives counselor. The Mississippi Nurses Association has awarded her the honor of Mississippi Nurse of the Year (1996) and Administrative Nurse of the Year (1997). Murphree also serves on the board of directors for Sheltered Aid to Families in Emergencies (S.A.F.E., Inc.), a shelter for women and children.

q The Baldrige profile for Northern Mississippi Medical Center (NMMC) poignantly notes that "there was a time when being last or close to it [in meeting national health standards] stopped surprising or even disappointing residents of Mississippi." Was there a defining moment for NMMC that sparked the journey leading to its Baldrige National Quality Award in healthcare, or was the award the natural result of work that had begun some time earlier?

a Our use of the Baldrige criteria was a natural progression for us as we strived to fulfill our mission and vision. Our mission is to continuously improve the health of the people in our region. Formulating this mission so broadly was a pivotal moment for NMMC. Moving from improving care in the acute setting to improving care across the whole continuum of care changed the way we see ourselves. We decided then that our vision was to be the best provider of patient-centered care and services in America. How do you know if you are the best? We chose the Baldrige criteria as our framework for improvement because it provides a proven system for measuring quality.

Moving from strategy to strategy is ineffective in the long run. The Baldrige criteria include interrelated, time-tested principles that are applicable to all stages of an organization's improvement journey. The criteria are systematically refined and updated. Within this framework, we can choose the tools and techniques that are effective for our environment.

q NMMC describes itself as having a culture based on "evidence, not excuses." Given that availability of key comparative performance data was identified by NMMC as an organizational challenge, what strategies were developed to gather the best benchmarks for healthcare processes and outcomes? In what ways might you imagine healthcare quality professionals disseminating the availability of performance and outcome data?

a All NMMC staff members involved in performance improvement were challenged to find best practices in their areas of expertise and to research benchmarks. One way we gathered benchmarks was by being very transparent about sharing our data, tools, protocols, forms, and processes. Early in our initiative, some organizations

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Baldrige
organizational performance improvement

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were copyrighting their materials and selling them. When we made the decision to share freely, other organizations were more willing to share with us. In this way, everyone gets better faster. Quality professionals must champion the transparency movement, both in the sharing of internal data and in disclosures to legal counsel and administration. More research is needed on this front because for every study that shows decreased litigation with disclosure, hospital lawyers have another study that demonstrates increased litigation. Also, more education of the public regarding medical errors is needed.

q What areas presented the greatest challenge for you, as an organizational healthcare quality leader, in the journey to the Baldrige award, and how did you meet those challenges?

a The discovery that we did not have a process or had a poor process in some areas was a challenge and also a surprise. That is why the Baldrige criteria can be used as a mirror for examining, comparing, and evaluating your organization's quality efforts. Our leaders were responsive to feedback, which provided us with valuable information. We used the feedback to produce a grid of opportunities; then we assigned responsibility and quickly saw significant change.

q NMMC has a 111-acre campus with more than 40 structures, including a women's hospital, a nursing home, and acute care and behavioral health facilities. It serves 24 rural counties. What are the key strategies used to disseminate quality data and secure engagement in organizational quality initiatives?

a Multimedia communication is one of our key strategies and is accomplished through a weekly e-mail update from the chief executive officer (CEO), newsletters and flyers, and messages on our intranet and medical information system sign-in screen. In addition, we have a "knowledge board" in each area that displays information on process improvement, and the CEO holds a quarterly employee communication session. The quarterly session is broadcast to multiple locations so that it can be attended by all employees. This town hall–style meeting includes presentations and time for questions and discussion. Questions can be submitted, and if signed, will get a response. A standard question to the audience is, "What rumors are you hearing?"

Most important, our philosophy is to put *people* first in our critical success factors of people, service, quality, finance, and growth. Putting our employees first leads to better service, which in turn results in better quality, improved finances, and growth. Healthcare leadership's connection with employees is a key employee engagement strategy and is accomplished through rounding. Each leader is required to make rounds, and leadership is visible and verbal. For example, senior leadership will join an employee table at the food court or engage employees in conversation in the parking garage, on the elevator, or on off-shift rounds, and the CEO spends an hour and a half with each group of new employees. The CEO presents our mission, vision, and values, setting forth the culture we value—a culture in which each employee knows that he or she makes a difference. Also, each employee is required to submit at least one "idea for excellence" each year. We hold a yearly Outcomes Fair intended to show each employee how he or she affects patient outcomes.

q What advice would you give to your healthcare quality professional colleagues who might be thinking about championing the Baldrige framework for pursuing excellence in their own organizations? What tools are available to them to assist them on the journey?

a Baldrige is just that—a framework. You must add your unique philosophy and processes to this framework. The Baldrige criteria force you to examine *how* you work and *how* your organization is structured. Holes and poor processes quickly become apparent. One of the best tools is to send a few employees for examiner training beginning at the state level if your state has a quality award. This gives them an understanding of the criteria that they can then bring back to the organization.

The journey embarked on by organizations using the Baldrige framework is not a simple or straightforward one, but the insights yielded make it well worth the effort!

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CONFERENCE BRIEF

World Congress Leadership Summit on Evidence Based Medicine

Mary S. Savitsky

The inaugural World Congress Leadership Summit on Evidence Based Medicine (EBM) drew more than 100 participants to Alexandria, VA, February 11–12, 2008, for presentations by industry executives on best practices in applying guidelines to improve cost and quality of care, as well as on the tools and techniques required to assess the validity of data.

Opening the summit, Margaret O'Kane, president of the National Committee for Quality Assurance, spoke about the gaps in evidence affecting both patients and payers. Problems caused by these gaps include millions of dollars spent on unproven treatment; continued variations in care, where variability is based on opinion rather than science; continued supplier-induced demand; and limited information on comparative effectiveness and appropriateness of treatments. O'Kane cited evidence from multiple clinical areas, including bone marrow transplant or high-dose chemotherapy for breast cancer, wound therapy, prostate cancer treatment, and coronary heart disease. She summarized her presentation with a profound statement from Peter Pronovost of Johns Hopkins University, "The fundamental problem with the quality of American medicine is that we've failed to view delivery of health care as a science" (Gawande, 2007, p. 94).

Viewing the delivery of healthcare as a science was also addressed by other speakers at the summit, including Walter Stewart, associate chief research officer for the Geisinger Center for Health Research in the Geisinger Health System. Stewart maintains that the acute care model is still the dominant model for ambulatory care of chronic disease and that systematic processes are lacking for leading and managing the patient's care. The existing care processes have gaps; specifically, care processes do not meet patients' needs and preferences, and patients are not educated or empowered in their care. The physician, who assumes all responsibility in this inefficient care process, is affected by suboptimal communication methods and may lack expert knowledge of EBM. EBM findings must be available to the physician in a timely way and in a relevant and easily retrievable format. Conversely, the payer is responsible for redundant, unnecessary care, which may be inadequate and which increases costs. The process for reengineering care is fundamentally important, Stewart states, and care must be integrated. Care must make good business sense and must be translatable and exportable. The relevance of the relationship between patient, provider, and payer has increased and has accelerated the application of EBM to actual practice.

Paul Wallace, medical director for Health and Productivity Management Programs and senior advisor for the Kaiser Permanente (KP) Care Management Institute and KP Healthy Solutions, addressed the need to make clinical guidelines more effective by moving from "what to do" to "how to do the 'how,'" personalizing evidence-based medicine for each patient. Wallace emphasized the use of decision-support tools to change the focus of care from the diseases the patient has to the patient who has the diseases. Wallace indicated that his best lesson came from one of his patients who stated, "Don't tell me what to do, doc; help me understand what this information means for me."

Linda Hustus, director of operations and facilities in the department of radiation oncology for the UPENN Health System, addressed the role of electronic medical records (EMRs) in facilitating improvements in quality and adherence to guidelines. The most apparent question involving the benefits and limitations of EMRs was "Who owns the data?" This presentation, along with a presentation by Asel K. Olsen, president of the Pharmaceutical Safety Institute, Inc., might have been more powerful and relevant if the speakers had included information

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on the health information technology (HIT) effort being promulgated by the U.S. government, as well as the role of certifying agencies in HIT for EMRs. (For more information on HIT, visit www.hhs.gov/healthit.)

Vivian H. Coates, vice president of information services and health technology assessments at the Emergency Care Research Institute (ECRI) presented perspectives on the evaluation of reported metrics, key issues regarding the use of metrics and cost, and the selection of metrics by payer organizations to determine policy as a component of the role of health technology assessment (HTA). As defined in 1994 by the Office of Technology Assessment, HTA is a "systematic analysis of the evidence for safety, efficacy, effectiveness, costs, cost effectiveness, and ethical and legal implications of healthcare technologies."

ECRI, an evidence-based practice center since 1997, is currently the contractor to the Agency for Healthcare Research and Quality for the National Guideline Clearinghouse of the National Quality Measures Clearinghouse. ECRI has conducted applied research in health technology assessment and patient safety since 1969 and is a World Health Organization Collaborating Center for Patient Safety, Risk Management, and Healthcare Technology. Coates captured the audience's confidence regarding ECRI's objectivity by delineating its disciplined approach to ensuring no "conflict of interest" for ECRI staff, as well as explaining ECRI's experience in the HTA realm. Coates also explained the conflict between information and advertising for consumers, supporting other speakers' premise regarding the importance of patient education and informed decision making. She closed with a glimpse of ECRI's "technology of tomorrow": robotic neurosurgery, ultrasound tomography, remote-controlled magnetic resonance imaging (MRI) and ultrahigh field MRI, tissue-engineered heart valves, bioabsorbable stents, a mesh cardiac support device for heart failure, and brain shunting for patients with Alzheimer's disease.

Harold C. Sox, editor of *Annals of Internal Medicine* for the American College of Physicians of Internal Medicine, addressed the topic of where EBM has been and where it may be going. Sox summarized the recommendations of the Institute of Medicine (IOM) Roundtable on Evidence-Based Medicine on reviewing evidence to identify highly effective clinical services. The committee, composed of distinguished members from industry, research, journalism, and education, was charged with recommending (1) an approach to identifying highly effective services, (2) a process to evaluate evidence on clinical effectiveness, and (3) an organizational framework for using evidence reports to make recommendations. Sox summarized the problems with historical and current standards reviews (SR) and guidelines (GL):

- SR and GL often lack scientific rigor.
- The body of evidence for many services is often weak or totally lacking.
- The recommendations are difficult for users to connect with the evidence.
- No standard language exists for rating the strength of the evidence or recommendation(s).
- No standard process exists for developing GL.
- No expectations are set for clear explanations.
- Bias and conflict of interest are hidden from view.
- Duplicated effort and conflicting recommendations exist.

To put the committee's recommendations into perspective, Sox presented the audience with the following facts.

Fact 1—The U.S. healthcare system is not a model for anyone. The United States ranks low among developed countries in system function and outcomes and expends, by far, the most money of any country per capita. It has no moral commitment to healthcare as a right; 47 million Americans are uninsured, and healthcare costs are rising rapidly in the United States (a problem shared with other countries).

Fact 2—In the United States, payers are almost equally divided between the U.S. government, which includes Medicare, Medicaid, State Children's Health Insurance Program (SCHIP), and other payers (Veterans Affairs, federal employees), and nongovernmental spending (health insurance, patients paying out of pocket).

Fact 3—Health insurance premiums are increasing (up 73% from 2000 to 2005). Employers now pay $4,024 for single-person coverage, and payers are worried about new and effective, but very costly, biotechnologies.

Sox discussed policy development in the United States in relation to comparative clinical effectiveness research, which includes primary investigation and summative research. The committee's recommendations are directed to

the area of summative research, and its high-level recommendations include the following:

- The U.S. Congress should direct the secretary of the Department of Health and Human Services to designate a single entity to produce credible, unbiased information on clinical effectiveness. This entity would
  - set priorities for and fund SR
  - develop a common language and standards for SR and GL
  - provide a forum to address conflicting GL
  - report annually to the U.S. Congress.
- The U.S. Congress should appoint a Clinical Effectiveness Advisory Board to oversee the program.
  - Conflict of interest on the board should be minimized.
  - Diverse public and private representation should be included on the board.
- The program should develop standards to minimize bias due to conflict of interest for
  - priority setting
  - evidence assessment
  - recommendations.
- The program will fund and manage the production of systematic reviews on clinical topics.
- The program should appoint a standing committee (the Priority-Setting Advisory Committee).
- The process of priority setting should be open, transparent, efficient, and timely.
- Priorities should reflect the potential to
  - improve healthcare outcomes
  - reduce the burden of disease and health disparities
  - eliminate undesirable variation
  - reduce the economic burden of disease
  - reduce the economic burden of treatment.
- Members should have a broad range of expertise and interests.
- Committee bias due to conflict of interest should be minimized.

The committee's report can be downloaded from http://books.nap.edu/openbook.php?record_id=11903&page=R1.

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Media Reviews

Eileen Johnson, Media Editor

Understanding Newborn Behavior and Early Relationships: The Newborn Behavioral Observations (NBO) System Handbook

J. Kevin Nugent, Constance H. Keefer, Susan Minear, Lise C. Johnson, Yvette Blanchard, Brookes Publishing, www.brookespublishing.com, 2007, 280 pages, $49.95, ISBN 978-1-55766-883-7

Audience: pediatric healthcare practitioners

Key Words: behavioral care, maternal and child health, pediatric

When a newborn child's behavior does not fall within the norms described in books and Web sites, many parents anxiously look for reassurance from their pediatric healthcare practitioners, and the clinical consequences can range from unnecessary office visits to comprehensive examinations. The purpose of *Understanding Newborn Behavior and Early Relationships: The Newborn Behavioral Observations (NBO) System Handbook* is to equip practitioners with an effective assessment tool and useful interventions designed to prevent unnecessary parental worry and to orient parents to the unique behaviors of their newborn.

Renowned pediatrician T. Berry Brazelton, who provides the foreword, is the inspiration and mentor for this work, which follows more than 30 years of research and clinical practice with the highly regarded Neonatal Behavioral Assessment Scale (NBAS), developed by Brazelton and author J. Kevin Nugent. The Newborn Behavioral Observations (NBO) system grew out of Nugent's and his coauthors' desire to translate the value of the NBAS as an assessment and diagnostic tool into an instrument for use by practitioners to help parents observe, understand, and respond to their newborn's behavior in the first 3 months of life and to facilitate a healthy parent-infant relationship. The book provides a thorough overview of the research and clinical underpinnings of the NBO, discusses significant milestones and challenges of the parent-infant relationship, provides a detailed manual for administration of the NBO, including photographed examples of observed behaviors, and describes the use of its findings with parents and infants, supported by case vignettes. The authors appropriately include chapters on the use of the NBO with preterm and medically fragile infants and in nursery and multicultural environments.

Modern medical and behavioral science enables today's healthcare practitioners, parents, and newborns to benefit from the accumulation of nearly two centuries of experience and knowledge applied in the healthcare setting. The authors' model is the latest important addition to the pediatric compendium and aligns well with this decade's emphasis on improving healthcare quality through consumer-focused, timely, efficient, and effective care.

Reviewed by Jon D. Beaty, Sr., MSW LCSW CPHQ, director of quality improvement and effectiveness at United Behavioral Health, Portland, OR

Optimizing Care for Young Children with Special Health Care Needs: Knowledge and Strategies for Navigating the System

Elisa J. Sobo and Paul S. Kurtin, Brookes Publishing, www.brookespublishing.com, 2007, 328 pages, $39.95, ISBN 13978-1-55766-854-7

Audience: family members of children with special healthcare needs, nurses, physicians, social services staff

Key Words: access to care, case management, policies, primary care programs

Children with special healthcare needs, as defined by the authors, are children who need not only medical services but also related services such as special education, family support, or early intervention. Implied in this description is the coordination of services across multiple sectors within a community and the potential need to develop specific services to support a comprehensive, integrated delivery system. Although written as a forum to open discussion among parents, caretakers, and service providers, *Optimizing*

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Care for Young Children with Special Health Care Needs could serve as a textbook or reference book for many healthcare organizations. It provides readers with an overview of the evolving definitions of children with special healthcare needs, an overview of policy and program development relevant to this population, and a salient discussion of the challenges in financing the services they need.

The book's contributors include a spectrum of physicians, researchers, nurses, medical directors, and educators, and this may explain why the book reads like a textbook. This style lends to the book's value as a reference for less experienced staff in health services organizations, because it provides specifics associated with policies and programs for children with special healthcare needs.

The book is divided into four main sections. Section 1, "Setting the Stage for Change," provides history on policies, programs, and reimbursement challenges for children with special healthcare needs. Section 2, "The Parent Experience," provides reflections and research data to support the variables affecting parental involvement, including the impact on families. Section 3, "The Provider Experience," discusses the concept of the *medical home*, which is similar to a primary care manager model for this special group of patients. Section 4, "Present Strategies, Future Directions," challenges the reader to advocate for policy, funding, or education, and identifies the gaps in research for children with special healthcare needs. These gaps contribute to the current challenges in developing a more cohesive system for this population.

This book is especially useful in helping the reader understand the parental experience of navigating the complexities of the healthcare system, adapting to life with a child with special healthcare needs, and confronting the social biases with which they must contend. It brings to life the complexities of understanding and the search for resources to support care for this population. In essence, it consolidates the challenges faced by patients and their families in obtaining coordinated, integrated care for children with special healthcare needs.

Reviewed by Mary S. Savitsky, MHA RN CPHQ PMP, a project manager, ASM Research, in Vienna, VA, and a member of JHQ*'s review panel*

Emergency Care for Children: Growing Pains

Committee on the Future of Emergency Care in the United States Health System, Institute of Medicine, National Academies Press, www.nap.edu/catalog.php?record_id=11655, 2007, 360 pages, $39.56, downloadable PDF version $34.00, or can be read online for free, ISBN 13978-0-309-10171-4

Audience: emergency care personnel, healthcare quality professionals, politicians, prehospital personnel

Key Words: access to care, case management, policies, programs

Emergency Care for Children: Growing Pains is one of a three-part series developed by the Institute of Medicine (IOM) Committee on the Future of Emergency Care in the United States Health System. This committee was convened in 2003 to examine the state of emergency services in the United States and to make recommendations to improve those services. The committee recognized that the pediatric population is unique both physically and emotionally. As a follow-up to IOM's 1993 report on emergency medical services for children, the current report identifies where improvements have been made and where they are still lacking.

This report is divided into five areas that were examined by the committee: (1) building a 21st-century emergency and trauma care system, (2) arming the emergency care workforce with pediatric knowledge and skills, (3) improving the quality of pediatric emergency care, (4) improving emergency preparedness and response for children involved in disasters, and (5) building the evidence base for pediatric emergency care. Each area is extensively explored, and future visions and recommendations are listed. The recommendations include developing a national categorization system for emergency services, creating evidence-based protocols for emergency treatment of children, developing indicators of performance, appropriating money and assigning accountability for the Emergency Medical Services for Children program, defining competencies for caregivers and requiring maintenance of the competencies, further studying medication use in children, implementing standards to reduce errors

in emergency care for children, integrating family-centered care into pediatric emergency care, developing disaster plans that specifically address needs of the pediatric population, and examining gaps and opportunities in pediatric emergency care research.

One of the most impressive parts of this report is the extensive resource list at the end of each chapter. These resources provide a wealth of information about the particular topics addressed in the chapter. An appendix to the report lists each of the recommendations and the entities that should be held responsible for them.

The material included in this book is far-reaching and broad, but the goals outlined are definitely attainable. This report should be required reading for anyone involved in healthcare policy making or emergency care delivery for the pediatric population. The National Academies Press has made it easy to access this book on its Web site; it can be purchased in hardback or as a PDF or can be read online for free.

Reviewed by Eileen Johnson, MSN RN CPHQ, clinical systems analyst, Cogent Healthcare, Brentwood, TN, and JHQ*'s media editor*

Helping Children Overcome Fear in a Medical Setting: A Practical Guide for Healthcare Professionals

Rob Luka, The Wellness Training Center, 2007, 205 pages, $18.95, ISBN 978-0-9794516-0-7

Target Audience: healthcare professionals caring for children of all ages

Key Words: communication, outcomes, pediatric, professional development

Helping Children Overcome Fear in a Medical Setting: A Practical Guide for Healthcare Professionals was an enjoyable read and brought back many memories of my early professional years working in the emergency department. Luka covers the need for nurses to prepare to care for children, which includes such basic things as facing one's own fears as a child, setting the mood for good outcomes, and proceeding with confidence. The author provides examples from his experience to teach the reader how to handle specific challenges that can be encountered while caring for children. Communication is vital in caring for any patient, but communication in the pediatric setting involves communicating with, and caring for, more than one person, because a parent or guardian will also be involved. Luka covers verbal and nonverbal communication clearly, as well as the need to work with children in their home environment.

Although healthcare professionals have a job to do, they also must be certain to include patients and family members in the process and help them make decisions regarding care. Fear lies in the unknown, and once rapport is built with the patient and his or her parents, trust will grow, and everyone will benefit. Luka covers this topic nicely and also stresses the importance of loving what you do.

The helpful tips regarding performing procedures on children—ways to engage the parents, methods of distraction, and diagrams on how to administer different types of injections—will likely be most useful to the bedside nurse. This is a good read and a good reference book.

Reviewed by Suzy Pace, BSN RN CPHQ, quality coordinator, Bon Secours Memorial Regional Medical Center, Mechanicsville, VA

Dictionary of Health Information Technology and Security

David Edward Marcinko and Hope Rachel Hetico, editors, Springer Publishing, 2007, 448 pages, $38.95, ISBN 13978-0-8261-4995-4

Audience: individuals who must read technical and security-related material, users of health information technology

Key Words: computerization, computers, information systems

Dictionary of Health Information Technology and Security offers more than 5,000 technical definitions, 3,000 abbreviations and acronyms, 2,000 illustrations, resources, and standards, and extensive bibliographic references. It reflects state-of-the-art information technology, including products that are trademarked or copyright protected by companies. This technology makes it easier for the user to find information about specific products that are commonly used. The writer searched several terms, Health Insurance Portability and Accountability Act regulations, and proprietary products associated with a specific

worksite. Coverage of the items was easy to find, and the descriptions were succinct.

Computer technology and online security are changing so rapidly that a resource is needed to define, explain, and clarify many of these new terms, products, and functions. Although every specialty has its own language, computers have become so integral to every business that understanding the lingo and various regulations is essential to operations. The definitions in this book are geared toward those who are familiar with computers, so it is helpful if readers have a basic knowledge of information technology and computers.

This dictionary will be useful to those who need good reference materials to support computer operations and training. Although the terms are more likely to remain stable, the products, vendors, and state initiatives are more changeable, so as a reference text this book will have a shorter shelf life than other books. Because it is geared to computing in healthcare, users of health information will find it more helpful than will quality professionals.

Reviewed by Susan V. White, PhD RN CPHQ CNAA-BC FNAHQ, chief, quality management, Orlando VA Medical Center, Orlando, FL, and JHQ*'s interviews editor.*

Eileen Johnson, MSN RN CPHQ, is a clinical systems analyst at Cogent Healthcare in Brentwood, TN. Her e-mail address is jem97@comcast.net.

Quality NETwork

Susan C. Boisvert, Daniel H. van Leeuwen, Quality NETwork Editors

“Quality NETwork” offers reviews of selected Web sites relevant to healthcare quality professionals. The editors welcome comments and feedback on the column as well as suggestions for future reviews. To read previous reviews that have appeared in the journal, visit www.nahqplus.org, the exclusive Web site for NAHQ members.

Pediatric Radiology

www.pediatricradiology.org

Key Words: education, outcomes, patient safety, pediatric radiology, practice guidelines, technology

Pediatric Radiology is designed as a location for centralized links to pediatric radiology Web sites. The site is sponsored through the cooperation of multiple organizations: Radiology Search, Radiology Teacher, PubMed Reader, Annotate, Cancer Staging Info, and PedRad Info. It is easy to use and loads fast, and almost all of the links work. The links are categorized by area of specialty (e.g., pediatric radiology textbooks, pediatric radiology journals, and pediatric radiology teaching files). Other Web sites are listed in relation to the radiology process they cover. The site saves time for anyone searching for specific Web links, articles, and journal literature related to pediatric radiology. The links are comprehensive and international and cover a wide variety of topics in pediatric radiology from well-respected sources. Recent news articles and their sources are included on the home page. The site is free and does not require a membership. Articles from linked sites may require registration or purchase to access. The site is current. There is a polite request on the home page for feedback, as well as a request for notification of inactive links.

Reviewed by Bonnie L. Smith, MFA BSN RN, director of care coordination, Maine Medical Center, Portland, ME

General Pediatrics

www.generalpediatrics.com

Key Words: education for healthcare professionals and patients, knowledge management, medication safety, patient safety, physicians

According to site author Donna D’Alessandro, the General Pediatrics Web site provides a point of entry for general pediatricians. Focusing on enlightenment and education, GeneralPediatrics.com identifies high-quality general pediatrics Web sites that can teach, illuminate, and inspire. The links on this Web site are excellent, and the topics listed are comprehensive. Links are given not only to specific journals and research-based Web sites but also to BioMed Central, MEDLINEplus, PubMed, and PubMed Central. Links to policy statements, clinical practice guidelines, and professional societies also are included. Internet directories, search engines, and handheld computer resources are listed, as well as links for most common pediatric problems. This site could be beneficial for both healthcare workers and parents.

The Web site does not require membership, registration, or purchase. The only cost is what may be required for access to some archived articles on linked sites. The site offers a comment section on the home page with a request for feedback. I added this site to my favorites list because it has pertinent information related to pediatrics that is organized in an easy-to-use format.

Reviewed by Bonnie L. Smith, MFA BSN RN, director of care coordination, Maine Medical Center, Portland, ME

Pediatric Education

www.pediatriceducation.org

Key Words: education for pediatric healthcare workers, intervention, knowledge management, medication safety, physicians, practice guidelines

PediatricEducation.org is described by sponsors Donna and Michael D’Alessandro as

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"a Pediatric Digital Library and Learning Collaboratory intended to serve as a source of continuing pediatric education." It is clear from the content that the intended audience is healthcare workers specializing in pediatrics. Parents may also use this site; however, the narratives and presentations might be difficult for parents not associated with the medical field to understand. The site is very easy to access and navigate through. Although the layout is not fancy, the links are clearly labeled and grouped into categories. The site is effective and efficient and contains a great deal of information and related links. The main page presents five cases on varied topics with links and learning points clearly marked. Pertinent related links are listed for each topic, and age-related links are included. The case studies are well written and contain education points as well as approaches to assessment of the patient.

The Web site is free and does not require a membership. Access to articles or archives on linked sites may require registration or purchase. The site contains a polite request for feedback on the main page.

Reviewed by Bonnie L. Smith, MFA BSN RN, director of care coordination, Maine Medical Center, Portland, ME

Agency for Healthcare Research and Quality: Child and Adolescent Health

www.ahrq.gov/child

Key Words: consumer advocacy, evidence-based medicine, knowledge management, patient safety

The Agency for Healthcare Research and Quality (AHRQ) Web site offers a section on children's issues titled "About Child Health." Under this heading, the site offers a variety of information related to child health issues including research findings, health information technology, strategic planning, conferences, funding opportunities, and training. The "Children's Health Highlights" subsection is particularly interesting because it includes a discussion of current research and the highlights of research findings for completed studies. The "Healthy Kids" subsection includes a pocket guide to healthy children, with screening recommendations and information on safety, prevention of medication errors, and prevention of obesity in children. The intent of the site is to make children a top priority through improvement of healthcare quality and effectiveness specific to children. The site is very useful to the healthcare quality professional, especially in regard to the latest research and care plans for childhood diagnoses.

Pages load quickly, and the site is easy to navigate and provides the capability for receiving e-mail updates. You can also contact AHRQ with any concerns. In addition, in the question section, readers are able to ask a question, search for an answer, or send an inquiry.

Reviewed by Susan Nowak-Small, MBA BSN RN CPHQ CCM, consultant to quality improvement and utilization management providers, Chicago, IL

American Academy of Pediatrics

www.aap.org

Key Words: evidence-based medicine, patient safety, primary care, quality improvement and management

Quality professionals will find current resources including patient education on the American Academy of Pediatrics (AAP) site. AAP is dedicated to the health and well-being of all children. The site is well organized, covers current topics, and contains updated information. The research link includes AAP's latest clinical practice guidelines, and the health topics section contains consumer materials on topics ranging from attention deficit hyperactivity disorder to community health. Most of the site is accessible to nonmembers, excluding the member center and certain fee-based programs. The practice management center contains articles and information on events on quality topics such as evidence-based medicine and patient safety. Visitors to the site can listen to recordings from AAP's 2007 Quality Improvement Innovation Network Program.

The professional education and resources section contains access to both free and fee-based resources, including tool kits, policy statements on current child health issues, and issues of AAP's refereed journal, *Pediatrics,* that are more than 1 year old. The site offers pediatricians the opportunity to enroll in a Web-based application, Education in Quality Improvement for Pediatric Practice (eQIPP), focused on quality improvement. This program

offers downloadable tools designed to assist pediatricians in improving the care they provide to their patients.

Reviewed by Suzanne Conroy, MS CPHQ, director of quality management, ValueOptions, Empire Service Center, Troy, NY

Help Identify and Review Sites

The *JHQ* team invites you to help identify and review Web sites. A review consists of the name of the Web site or sponsoring organization, a URL reference, key words, the intent of the Web site, and comments about ease of navigation, value, pertinence to the healthcare quality professional, timeliness, and cost, if any.

Please forward—via e-mail—questions, names of Web sites for review, or, better yet, names of Web sites with reviews, to Quality NETwork coeditors Susan C. Boisvert at sboisvert@parkviewamc.org and Daniel H. van Leeuwen at Daniel.VanLeeuwen@childrens.harvard.edu.

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