CHILD HEALTH NURSING

Partnering with Children and Families

BALL BINDLER COWEN SHAW

Update, Third Edition

Brief Contents

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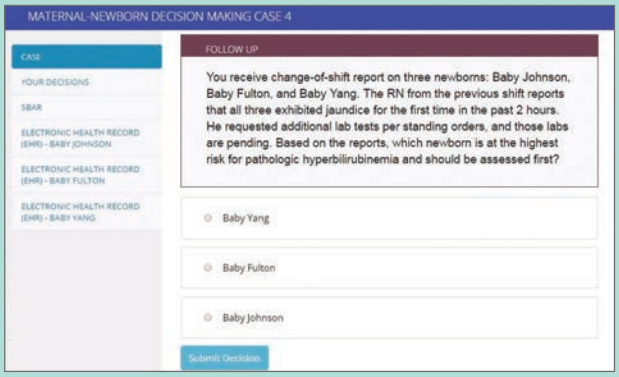

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Child Health Nursing

Partnering with Children & Families

Third Edition Update

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About the Authors

Jane W. Ball

Jane W. Ball graduated from the Johns Hopkins Hospital School of Nursing, and subsequently received a BS from the Johns Hopkins University. She worked in the surgical, emergency, and outpatient units of the Johns Hopkins Children's Center, first as a staff nurse and then as a pediatric nurse practitioner, thus beginning her career as a pediatric nurse and advocate for children's health needs. Jane obtained both a master of public health and a doctor of public health degree from the Johns Hopkins University Bloomberg School of Public Health with a focus on maternal and child health. After graduation she became the chief of child health services for the Commonwealth of Pennsylvania Department of Health. In this capacity she oversaw the state-funded well-child clinics and explored ways to improve education for the state's community health nurses.

After relocating to Texas, she joined the faculty at the University of Texas at Arlington School of Nursing to teach community pediatrics to registered nurses returning to school for a BSN. During this time she became involved in writing her first textbook, *Mosby's Guide to Physical Examination*, which is currently in its eighth edition.

After relocating to the Washington, DC, area, she joined Children's National Medical Center to manage a federal project to teach instructors of emergency medical technicians from all states about the special care children need during an emergency. Exposure to the shortcomings of the emergency medical services system for children in the late 1980s was a career-changing event. With federal funding, she developed educational curricula for emergency medical technicians and emergency nurses to help them provide improved care for children. A textbook entitled *Pediatric Emergencies, A Manual for Prehospital Providers* was developed from these educational ventures.

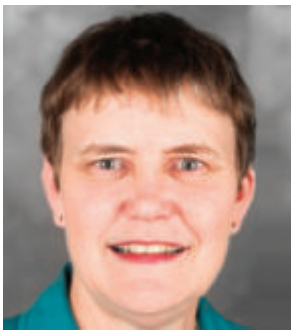
For 15 years she managed the federally funded Emergency Medical Services for Children's National Resource Center. As executive director, Dr. Ball directed the provision of consultation and resource development for state health agencies, health professionals, families, and advocates for successful methods to improve the healthcare system so that children get optimal emergency care in all healthcare settings. Since leaving that position, she continued writing and has been self-employed as a consultant to the American College of Surgeons, supporting state trauma system development, and to various other organizations. In 2010, Dr. Ball received the Distinguished Alumna Award from the Johns Hopkins University.

Ruth C. Bindler

Ruth C. McGillis Bindler received her BSN from Cornell University—New York Hospital School of Nursing. She worked in oncology nursing at Memorial-Sloan Kettering Cancer Center in New York, and then moved to Wisconsin and became a public health nurse in Dane County, Wisconsin. Thus began her commitment to work with children as she visited children and their families at home, and served as a school nurse for several elementary, middle, and high schools. Due to this interest in child healthcare needs, she earned her MS in child development from the University of Wisconsin. A move to Washington State was accompanied by a new job as a faculty member at the Intercollegiate Center for Nursing Education in Spokane. Dr. Bindler has been fortunate to be involved for over 35 years in the growth of this nursing education consortium, which is a combination of public and private universities and colleges and is now the Washington State University (WSU) College of Nursing.

Ruth obtained a PhD in human nutrition at WSU. She has taught theory and clinical courses in child health nursing, cultural diversity and health, graduate research, pharmacology, and assessment, as well as serving as lead faculty for child health nursing and Associate Dean for Graduate Programs. She is now a professor emeritus at Washington State University. Her first professional book, *Pediatric Medications*, was published in 1981, and she has continued to publish articles and books in the areas of pediatric medications and pediatric health. Research efforts are focused in the area of childhood obesity, type 2 diabetes, metabolic syndrome, and cardiometabolic risk factors in children. Ethnic diversity and interprofessional collaboration have been additional themes in her work.

Dr. Bindler believes that her role as a faculty member has enabled her to learn continually, foster the development of students in nursing, lead and mentor junior faculty into the teaching role, and participate fully in the profession of nursing. In addition to teaching, research, publication, and leadership, she enhances her life by professional and community service, and by activities with her family.



Kay J. Cowen

Kay J. Cowen received her BSN from East Carolina University in Greenville, North Carolina, and began her career as a staff nurse on the pediatric unit of North Carolina Baptist Hospital in Winston-Salem. She developed a special interest in the psychosocial needs of hospitalized children and preparing them for hospitalization. This led to the focus of her master's thesis at the University of North Carolina at Greensboro (UNCG) where she received a master of science in nursing education degree with a focus in maternal child nursing.

Mrs. Cowen began her teaching career in 1984 at UNCG where she continues today as clinical professor in the Family and Community Nursing Department. Her primary responsibilities include coordinating the pediatric nursing course and teaching in the classroom and clinical setting. Mrs. Cowen shared her passion for the psychosocial care of children and the needs of their families through her first experience as an author in the chapter "Hospital Care for Children" in Jackson & Saunders' *Child Health Nursing: A Comprehensive Approach to the Care of Children and Their Families* published in 1993.

In the classroom, Mrs. Cowen realized that students learn through a variety of teaching strategies and became especially interested in the strategy of gaming. She led a research study to evaluate the effectiveness of gaming in the classroom and subsequently continues to incorporate gaming in her teaching. In the clinical setting, Mrs. Cowen teaches her students the skills needed to care for patients and the importance of family-centered care, focusing on not only the physical needs of the child but also the psychosocial needs of the child and family.

During her teaching career, Mrs. Cowen has continued to work part time as a staff nurse: first on the pediatric unit of Moses Cone Hospital in Greensboro and then at Brenner Children's Hospital in Winston-Salem. In 2006 she became the part-time pediatric nurse educator in Brenner's Family Resource Center. Through this role she is able to extend her love of teaching to children and families.

Through her role as an author, Mrs. Cowen is able to extend her dedication to pediatric nursing and nursing education.

Mrs. Cowen has been certified as a pediatric nurse by the American Nurses Credentialing Center since 1986. She received certification from the National League for Nursing as a Certified Nurse Educator in 2015 and was inducted as a Fellow in the Academy of Nursing Education in 2017.

Michele R. Shaw

Michele R. Shaw received her BSN from Pacific Lutheran University in Tacoma, Washington. She began her career as a nurse at a long-term care facility and then as a home healthcare nurse in Spokane, Washington. While making home visits, she became interested in the nursing care needs of children and families. She realized the importance of educating the family about their child's condition and including family members while planning and carrying out the nursing care plan. This interest in family nursing led her into the area of maternal-child nursing, where she served as a postpartum nurse for nearly 18 years. Her experience with providing nursing care to families in various settings has highlighted her belief in the need of a family-centered approach in order to provide optimal nursing care.

Dr. Shaw began her teaching career as a teaching assistant in 2001 at the Washington State University (WSU) College of Nursing, where she continues today as an associate professor. It was during those early years as a teaching assistant that she began to realize her passion for educating nursing students. This interest led to her completing a master's degree in nursing with an emphasis on education at WSU. Knowing that she wanted to continue working in nursing academia, Dr. Shaw went on to receive her PhD in nursing from the University of Arizona in Tucson. She has taught theory, seminar, and clinical courses in maternal-child nursing, family health, evidence-based practice, qualitative methodologies, ethical decision making, physical assessment, and professional practice. Dr. Shaw recently assisted in the development of the Bachelor of Science-to-PhD in Nursing program at WSU. This fast-track program will enable students with an earned bachelor's degree to complete a PhD in nursing in four years.

Dr. Shaw enjoys working with undergraduate and graduate students and encourages active participation in research. Her research interests include children with asthma and their families, childbearing women and their families, and substance use among youth and childbearing women. She is particularly interested in children's and families' unique perspectives, and thus much of her research uses qualitative approaches. She continues to publish articles in the areas of pediatric asthma and substance use among childbearing women. Dr. Shaw believes her active role in nursing academia and research allows her to stay current in various pedagogical approaches to enhance nursing students' learning experiences, as well as continuous learning about evidence-based interventions to provide nursing care to children and families.

We dedicate this book to our partners:
~ our families for their unwavering support
~ colleagues who have grown and learned with us, and continue to help expand our thinking
~ families and children with whom we work, for teaching us the essentials of child health nursing
~ students who are our collaborators now and in their future careers as nurses

Thank You

We would like to thank our colleagues who assisted us in this revision by updating chapters to keep **Child Health Nursing: Partnering with Children & Families 3rd Edition Update** at the cutting edge of pediatric nursing textbooks. We are also thankful to Brenda Senger, RN, PhD, for contributing the content on mitochondrial diseases in Chapter 32.

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We would like to express our deep gratitude to our colleagues from schools and hospitals across the country for their time. These individuals assisted us in the revision of this book by contributing and reviewing manuscript chapters and contributing to the supplements that accompany this title. The update of **Child Health Nursing: Partnering with Children & Families 3rd Edition Update** has benefited immeasurably from your efforts, insights, and willingness to share your expertise as teachers and nurses.

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Introduction to Child Health Nursing: Partnering with Children & Families 3rd Edition Update

Healthcare and healthcare delivery systems are rapidly evolving, and pediatric nurses must be prepared to lead and integrate changes into modern practice. The goal of this update is to provide the latest research and evidence-based practice to baccalaureate-level students to assist them in delivering safe, effective, and innovative care today. In this update you will find:

- Hundreds of new references and studies that reflect the most current research available
- More NCLEX questions to prepare students
- Updated NANDA-I 2015–2017 nursing diagnoses used in nursing care plans
- *Professionalism in Practice* boxes that focus on important topics related to contemporary nursing practice issues
- *Safety Alerts* that highlight issues that could place a patient at risk
- A continued focus on critical thinking, clinical reasoning, and collaboration.

Preface

The world children grow up in today is vastly different from the world we experienced in our early years. Our evolving social environment has resulted in diverse family structures and roles. Multiple racial and ethnic groups now commonly share communities, work environments, and recreation. The increased use of technology and their applications are part of children's daily routines. Technology is commonly used to access health-related information. While much of technology is beneficial, some can lead to negative outcomes, such as the use of social media for cyberbullying.

Nutritional patterns have changed due to the complexity of daily lives and food marketing, and the environment is identified as an increasing influence on child and adolescent health. The geospatial design elements of communities, including schools, modes of transportation, and safety in neighborhoods, have altered daily behaviors. Life in complex societies offers new challenges to mental health, and homes provide diverse risk and protective factors in managing the health and illness of child family members. New ways of treating diseases, from applications of genomics to a current generation of medications, influence youth health. Healthcare reform, electronic health records, new approaches to chronic and acute condition management, the use of evidence-based guidelines, and a focus on prevention have contributed to changes in the information that nurses and other healthcare providers need. We draw heavily upon *Healthy People 2020* in this text to guide our suggested interventions and evaluation of goals for health conditions.

In addition to an evolution of influences on child health, some incredible achievements have occurred in nursing education. In 2009, the "Carnegie Report," *Educating Nurses: A Call for Radical Transformation* was published. This long-awaited study emphasized the importance of connecting classroom and clinical learning, focusing on clinical reasoning when working with students, and fostering career ladders and lifelong learning. These recommendations inform our clinical judgment and clinical reasoning features. In 2010, the Institute of Medicine (IOM) released *The Future of Nursing: Leading Change, Advancing Health*. The IOM recommended that nurses function to the full extent of their education and training, achieve higher levels of education, be full partners with physicians and other healthcare professionals in the redesign of healthcare, and work to plan policies that ensure data collection and information infrastructure. In 2017, the Society of Pediatric Nurses published the *Pre-Licensure Core Competencies* for newly licensed nurses caring for children to provide essential pediatric education components for faculty. Competencies addressing assessment, plan of care, critical thinking, communication, ethical practice, professionalism, growth and development, physiological and holistic care, health promotion, quality of life, family-centered care, cultural sensitivity, collaboration, and advocacy were identified. Each of these competencies is addressed in this textbook, and many are themes carried across all chapters.*Child Health Nursing: Partnering with Children & Families* is a contemporary pediatric nursing textbook. Excellence in pediatric nursing care, whether it is in the acute care setting or in the community, is a challenge and the major objective guiding today's pediatric nurse. You, as a student, will be challenged to synthesize previous information with new knowledge, apply evidence-based findings, collaborate with other healthcare professionals and families, and integrate current knowledge to use clinical reasoning skills in planning pediatric nursing care. You will be challenged to lead, examining ways in which you can positively influence the health care of children and their families as strategies for supporting greater access to health care are debated.

The updated third edition of *Child Health Nursing* builds upon the strong foundation and planning of the earlier editions and addresses the need for fresh approaches to child and adolescent healthcare and nursing education in several ways. Themes in this book include:

- Partnering with Children and Their Families
- The Roles and Essential Functions of the Nurse
- Health Promotion and Health Maintenance
- Collaboration with Families and Healthcare Providers
- Evidence-based Practice
- Patient Safety
- Developing Cultural Competence
- Clinical Reasoning

The subtitle, *Partnering with Children & Families,* reflects the core value of our textbook—emphasizing family-centered care, recognition of the family as the central influence in each child's life, and respect for families from all cultures. Families are viewed as case managers, as partners with healthcare providers, and as integral participants in care in all pediatric nursing settings. Partnership and interprofessional collaboration are other key concepts of our textbook. In the past, we introduced the *Bindler-Ball Child Healthcare Model* as a paradigm with which to view health care of children. This model illustrates an important core value—that all children need health promotion and maintenance interventions, no matter where they seek care or what health conditions they may be experiencing. Families may visit offices or other community settings, specifically to obtain health supervision care; or nurses may integrate health promotion and maintenance into the care for children with acute and chronic illness in a variety of inpatient and outpatient settings. The Bindler-Ball Healthcare Model places health promotion and maintenance at the foundation of a pyramid to demonstrate the need to apply these concepts with all children. See Chapter 1 for an introduction to this model.

WHAT'S NEW IN THIS EDITION

- NANDA-I 2015–2017 nursing diagnoses for multiple conditions
- Updated Evidence-Based Practice features emphasize nursing and multidisciplinary research offering a critical thinking element
- Clinical Judgment speed bumps to encourage critical thinking
- Clinical Reasoning section at the end of the chapter to help with application of concepts and synthesis
- Professionalism in Practice boxes discuss an important standard of care and the role nurses have in supporting and implementing the professional standard while promoting child health.

ORGANIZATION

The six units in this textbook have a unifying theme. The first unit, *Nurses, Children, and Families,* lays the foundation for a thorough understanding of pediatric nursing in today's world. It discusses the nurse's roles in caring for children in the hospital, community, and home, as well as the concepts of family-centered care and cultural considerations.

The second unit focuses on *Child Concepts and Application*, melding theory with application so that concepts can be applied to pediatric nursing care in a variety of settings. Genetics and genomics are current concepts that will be increasingly employed in future health care. We describe concepts of growth and development and child/family communication in separate chapters, and examine applications to pediatric nursing. The pediatric assessment chapter provides basic and detailed information that will be applied in all pediatric healthcare settings.

The third unit focuses on *Health Promotion and Maintenance Through Childhood*. The first chapter introduces basic concepts, and each of the remaining five chapters applies health promotion and maintenance concepts with specific approaches for children at each developmental stage from newborn through adolescence. Nurses assess children thoroughly, establish goals in partnership with the family, intervene to promote and maintain health and foster development, and evaluate the outcomes of care. This unique approach minimizes repetition throughout the book, and underscores the need for all children to receive routine health promotion and health maintenance to achieve optimal health.

The fourth unit, *Child Healthcare Settings and Considerations*, explores the various settings in which care occurs. In addition to the hospital, nurses and nursing students are likely to provide care in community settings, such as health centers, schools, and homes, where health promotion and maintenance activities predominate. Special considerations for the care of children during disasters are also discussed. Shorter hospitalizations have become the norm, thereby increasing the need for more comprehensive care in community settings, such as specialty outpatient centers where nurses coordinate care for children with various health conditions. Children need special attention when they have chronic health conditions, when they have life-threatening illnesses or injuries, or when they need end-of-life care.

The fifth unit discusses *Nursing Care for Common Health Conditions*. The unit begins with a chapter on infant, child, and adolescent nutrition, which discusses both nutritional requirements for health and some common nutritional disruptions. A chapter on social and environmental influences addresses topics pertinent to children and their families in today's world, such as violence and substance use. A chapter on pediatric pain assessment and management provides general nursing care concepts that are woven through the remainder of the book. Another chapter focuses on the prevention and treatment of infectious and communicable diseases, a significant role in pediatric nursing care.

The sixth unit consists of 14 chapters that address *Nursing Care of Specific Health Conditions*. Information about health conditions, including both illnesses and injuries, is grouped by body systems, eliminating the need for duplication at various places in the text. This streamlined approach builds on previous concepts rather than repeating them, integrating a developmental approach with pertinent conditions affecting all age groups from newborn to adolescent.

The chapters fully describe diseases and injuries beginning with an anatomic and physiologic overview, pediatric differences, and system-specific assessment guidelines. This is followed by a discussion of the etiology, pathophysiology, clinical manifestations, and **collaborative care**, including diagnostics and clinical therapy sections for each of the major conditions. **Nursing managemen**t of major conditions contains detailed sections on assessment and diagnosis, planning and intervention, and evaluation of care. Sample nursing care plans, with North American Nursing Diagnosis Association (NANDA International) diagnoses used, will assist you in applying developmental, psychosocial, and physiologic concepts to the care of children with specific conditions.

The book is readable and understandable, taking the student from present knowledge level to mastery of new material. The many features further enhance the readability of the material for students coming from various backgrounds and nursing programs and curricula.

Visuals That Teach

The art program of this book continues to use a thoroughly integrated approach, beginning with the cover and carried through the interior of the textbook. The cover of *Child Health Nursing* features hand-painted tiles from Rydal Elementary School in Abington, Pennsylvania. Art is both a method of expression and a healing modality, and the feelings, design, and colors of the tiles integrated throughout this book will help you identify with children and their families, and understand their experiences.


A DAY IN THE LIFE | of the Clinic Nurse

As Shalene weighs this young boy, she takes the opportunity to interact with him to assess language and social skills.

"What I like best about being a clinic nurse is that every day is different. The challenges are exciting and I am constantly learning."

Health promotion and health maintenance begin at birth and are a part of every healthcare visit throughout childhood. The nurse is instrumental in performing thorough assessments, integrating teaching, and performing interventions that help to promote health and to prevent disease or injury. Shalene Wilson is a nurse at a clinic that performs well-child assessments and sees children for minor illnesses and injuries.

Health visits often begin with growth measurement, which provides the opportunity for the nurse to introduce herself to the child in a nonthreatening way and to begin the interaction. When reporting growth patterns to the child and parent, the nurse inserts information about diet intake and seeks additional information about nutrition and physical activity. Assessment and teaching are thus integrated into the nurse's interactions with the family during the clinic visit.

Health visits are adapted for older children and adolescents to meet their developmental needs. The adolescent is often seen alone, and Shalene offers teaching regarding nutrition and safety during the physical and psychosocial assessment. She integrates current knowledge of topics such as immunization recommendations into her practice by assessing immunization records and using the opportunity to catch the teen up with any that have not yet been administered.

Shalene administers a hepatitis B injection to this teen who did not receive the recommended immunization at a younger age. What other immunizations are commonly needed in the early adolescent years?

The clinic nurse is often called upon to participate in community activities. Shalene has attended a bicycle rally to encourage safe riding practices and physical activity. She integrates health promotion activities (such as encouraging vigorous physical activity) with health maintenance activities (safety practices to prevent injury). Shalene has also participated in Head Start screening, food and nutrition events, programs to prepare young children for a new sibling, and other health promotion and health maintenance activities.

Previous experiences at the clinic have been positive for this young girl. She is complaining of an earache, and Shalene performs body measurements because some medications that might be prescribed require an accurate weight for establishment of dose.

A Day in the Life of a Nurse helps identify the roles and focus of nursing care in each of three settings: the hospital, the healthcare center, and the school setting.


PHOTO STORY DEVELOPMENTAL OBSERVATIONS OF A YOUNG CHILD

Two-year-old Irena was adopted from Romania several months ago by U.S. parents Michael and Alyssa. Irena was left at an orphanage by her mother when she was about 7 months old; the mother stated that the pregnancy and delivery were normal. She gave up the child because she had two older children to care for and her husband had left home nearly a year before and had not been heard from since. Irena appears small for her age, but is thriving in her new environment. She is learning a few English words and is responding appropriately to care and interactions. Follow Irena as she goes about her daily activities.

Irena shows fine motor skills as she begins to scribble and color in a circle provided by a parent.

Left. Alyssa reads with Irena and provides positive reinforcement for activities. Right. Cognitive development is enhanced as toddlers manipulate objects. What is Irena learning about color, texture, and spatial relationships?

Physical Growth and Development

Although many international adoptees are small for their age, Irena appears well nourished. (See Chapter 19 for a discussion of nutritional needs during toddlerhood.) Her gross motor skills, including walking up steps, running, and kicking a ball, are well developed. Fine motor skills are evident in her ability to brush teeth and dress with help, scribble on paper, and build a tower of cubes. As her physical abilities continue to develop, her family needs to integrate injury prevention to keep her safe from falls, car crashes, and other injuries.

Cognitive Development

Cognitive development relates to intellectual or thinking processes. It is hard to identify Irena's cognitive stage at this time, as she knows only a few English words and is shy during interactions with strangers. As she adapts to her new home, frequent assessments of her cognitive development will be necessary.

Psychosocial Development

Play

Irena is observed playing with toys and making sounds with her dolls. This is expected behavior, as toddlers often engage in solitary play. Toddlers also begin to enjoy the presence of other children, even though they do not yet play cooperatively with them. Irena's parents can encourage the emergence of parallel play commonly seen in toddlers by arranging to have Irena play with other children. The parents can be available at first so that Irena feels secure; once she shows comfort with other children, her parents can gradually increase their absence during these playtimes.

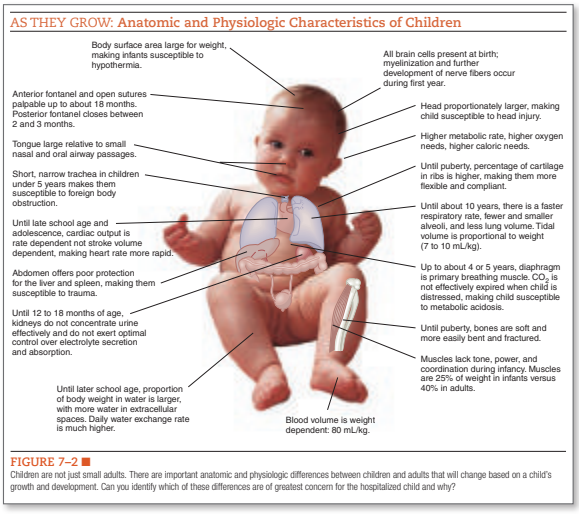
Personality and Temperament

Irena has been demonstrating what experts term an "easy" temperament; that is, she has readily acquired a regular schedule for eating and sleeping, her mood is generally pleasant, and she is easily comforted when upset. These temperamental characteristics will form a critical link to communication with family, teachers, and friends.

Communication

Irena has only learned a few words. This is abnormal for a toddler, as most know several hundred words. However, it is expected that Irena will learn language quickly as she adapts. Michael and Alyssa should speak with Irena often, pointing out names of people and objects. Positive reinforcement for Irena's attempts at speech can involve smiles, phrases such as "that's right," and further elaboration such as "Yes, that is a bus; it's a big, yellow bus." *What else can you suggest to her parents as activities that will enhance speech development?*

Photo Stories help bring information and concepts "alive" to develop a deeper understanding about the effect of a specific condition on the child and family. These stories include photographs of a child or situation to demonstrate the challenges a child and family may face in managing the condition.


AS THEY GROW: Anatomic and Physiologic Characteristics of Children

Body surface area large for weight, making infants susceptible to hypothermia.

All brain cells present at birth; myelinization and further development of nerve fibers occur during first year.

Anterior fontanel and open sutures palpable up to about 18 months. Posterior fontanel closes between 2 and 3 months.

Head proportionately larger, making child susceptible to head injury.

Higher metabolic rate, higher oxygen needs, higher caloric needs.

Tongue large relative to small nasal and oral airway passages.

Short, narrow trachea in children under 5 years makes them susceptible to foreign body obstruction.

Until puberty, percentage of cartilage in ribs is higher, making them more flexible and compliant.

Until about 10 years, there is a faster respiratory rate, fewer and smaller alveoli, and less lung volume. Tidal volume is proportional to weight (7 to 10 mL/kg).

Until late school age and adolescence, cardiac output is rate dependent not stroke volume dependent, making heart rate more rapid.

Abdomen offers poor protection for the liver and spleen, making them susceptible to trauma.

Up to about 4 or 5 years, diaphragm is primary breathing muscle. CO_2 is not effectively expired when child is distressed, making child susceptible to metabolic acidosis.

Until 12 to 18 months of age, kidneys do not concentrate urine effectively and do not exert optimal control over electrolyte secretion and absorption.

Until puberty, bones are soft and more easily bent and fractured.

Muscles lack tone, power, and coordination during infancy. Muscles are 25% of weight in infants versus 40% in adults.

Until later school age, proportion of body weight in water is larger, with more water in extracellular spaces. Daily water exchange rate is much higher.

Blood volume is weight dependent: 80 mL/kg.

FIGURE 7–2 ■
Children are not just small adults. There are important anatomic and physiologic differences between children and adults that will change based on a child's growth and development. Can you identify which of these differences are of greatest concern for the hospitalized child and why?

As They Grow illustrations help you visualize the important anatomic and physiologic differences between a child and an adult. These features illustrate the important ways that a child's development influences healthcare needs and how the child progresses through developmental stages.

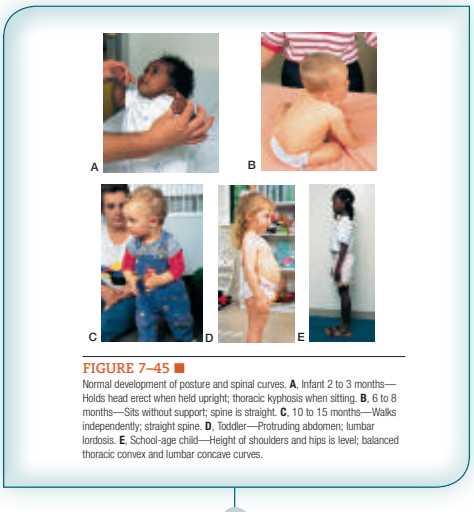


FIGURE 7–45 ■
Normal development of posture and spinal curves. **A**, Infant 2 to 3 months—Holds head erect when held upright; thoracic kyphosis when sitting. **B**, 6 to 8 months—Sits without support; spine is straight. **C**, 10 to 15 months—Walks independently; straight spine. **D**, Toddler—Protruding abdomen; lumbar lordosis. **E**, School-age child—Height of shoulders and hips is level; balanced thoracic convex and lumbar concave curves.

The photographs and drawings throughout the textbook do more than illustrate concepts and examples. You will find critical thinking opportunities among the figure captions that encourage you to apply information and analyze the nursing implications needed to provide care for children and their families, thus adding true learning value to the visuals.

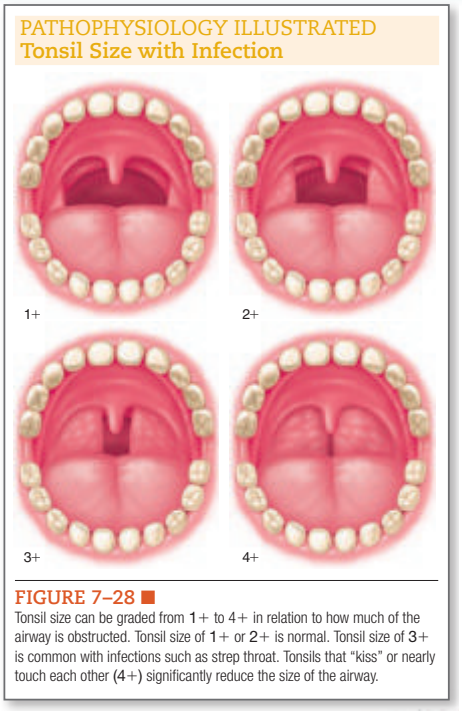


FIGURE 7–28 ■
Tonsil size can be graded from 1+ to 4+ in relation to how much of the airway is obstructed. Tonsil size of 1+ or 2+ is normal. Tonsil size of 3+ is common with infections such as strep throat. Tonsils that "kiss" or nearly touch each other (4+) significantly reduce the size of the airway.

The text explains in-depth pathophysiology of pediatric conditions, and accompanying **Pathophysiology Illustrated** figures allow you to see into the body to visualize the causes and effects of conditions on children. These elaborate drawings illustrate conditions on a cellular or organ level, and may also portray the step-by-step process of a disease. Drawings or photos with artistic overlays relate disease to its anatomic location and action.

Features That Help You Use This Book Successfully

Nursing students face challenges in their education—managing demands on their time, applying research findings, evaluating components of evidence-based practice, and developing their critical thinking skills. Thus instructors and students alike value the in-text learning aids that we include in our textbooks to meet the challenges of pediatric nursing in today's world. We developed a textbook that is easy to learn from and easy to use as a professional reference. The following guide will help you use the features and resources from *Child Health Nursing* to succeed in the classroom, in the clinical setting, on the NCLEX-RN® examination, and in nursing practice.

Assessment Guidelines for the Child tables in each of the system chapters provide an overview of the key aspects of an integrated assessment for conditions within the body system.

TABLE 33–3 Assessment Guidelines for the Child with a Neurologic Condition

ASSESSMENT FOCUS	ASSESSMENT GUIDELINES
Level of consciousness	• Is the infant or child lethargic or difficult to arouse? • Is the infant or child irritable or difficult to calm or console? • The Glasgow Coma Scale provides a numeric score for future comparison. See Table 33–5 ■.
Cranial nerves	• Assess the cranial nerves. See Table 7–18. See Table 33–6 ■ for methods to indirectly assess cranial nerves in the unconscious child.
Fontanels and sutures	• Palpate fontanels for bulging and suture lines for separation on the infant's scalp.
Cognitive function	• Are the child's verbal skills developmentally appropriate for age? • Can the child tell the examiner his or her name and age? • Does the child follow directions and respond appropriately?
Pupils	• Check the pupils for equality in size and reaction to light and accommodation. See Figure 33–4.
Vital signs	• Assess heart rate, respiratory rate, and blood pressure. • Monitor for Cushing's triad, an increased systolic blood pressure, with a widened pulse pressure, bradycardia, and irregular respirations (These are late signs of increased intracranial pressure).
Posture and movement	• Assess newborn reflexes in the infant less than 4 months of age to evaluate posture and movement. See Table 7–19. • Observe the child's play or other spontaneous activity to assess strength as well as symmetry and smoothness of movements. • Are the child's motor skills developmentally appropriate for age? Were motor skills acquired at the appropriate age? Has the child lost a previously acquired skill? • Evaluate muscle strength and tone, comparing side to side. Is any weakness present? • Test the child's coordination for smoothness and symmetry of response. • Assess deep tendon reflexes for smoothness of movement and symmetry of response. See Table 7–20.
Neck stiffness	• Assess for neck stiffness (nuchal rigidity).
Pain	• Assess level of pain when present.
Family history	• Is there a family history of headaches, seizures, neurofibromatosis, or other neurologic condition?

Practice Safety Alert

In the child with moderate head injury, the oxygen saturation should remain at over 95%. For the severely injured child who is intubated, monitor arterial blood gas results. A PaO_2 greater than 60 mmHg and a $PaCO_2$ between 35 and 38 mmHg are recommended (Geyer et al., 2013).

Practice Safety Alerts warn you of important patient safety considerations and precautions for providing safe care.

Clinical Tip

A child who has a decreased level of consciousness shortly after a brain injury may have had a posttraumatic seizure and may still be in the postictal state.

Clinical Tips are "pearls" from clinical nursing experts embedded throughout the textbook.

Clinical Judgment

The infant or toddler often displays signs of autism spectrum disorder at an early age. Because communication abnormalities are red flags, you should know what speech you would normally expect in a 12-month-old, 16-month-old, or 24-month-old.

Clinical Judgment speed bumps appear when an opportunity for critical thinking arises.

Case Scenarios and photos at the beginning of the chapter engage you with a child's real-life experience with a specific health challenge. Additional information about the child and family appears throughout the chapter to illustrate application of nursing care. Use the questions embedded in each scenario to apply pathophysiologic, psychosocial, family, culture, developmental, or nursing process considerations. At the end of the chapter, a detailed **Clinical Reasoning in Action** exercise picks up the opening scenario and asks you to apply what you have read.

"Jasmine is really afraid of all these people. She just started playing with me a couple of days ago after getting to know me. I know she doesn't feel good, because she wouldn't play with me this morning."

—Monique, Jasmine's 6-year-old sister

Jasmine, 27 months old, was recently adopted into the Porter family. She is visiting the health clinic for internationally adopted children with her new mother and sister Monique, who was also adopted, for a comprehensive health assessment. Until 3 weeks ago, Jasmine was living in a center for children eligible for adoption in her native China. She speaks no English and is very fearful of new and different situations. Mrs. Porter is trying to reduce Jasmine's anxiety and assist her adaptation by wearing clothing familiar to her.

Mrs. Porter is anxious to have Jasmine evaluated to identify any health

never had a major illness or injury. Limited information is available about her biological parents and their health.

Mrs. Porter thinks Jasmine seems small for her age, and she is also concerned that she may have an ear infection. Jasmine's appetite has not been good for the past day, and she has been irritable. Mrs. Porter also thinks she has a slight fever.

Do examination techniques need to vary for children of different ages? How does the nurse gain cooperation for the examination from infants and toddlers? This chapter answers these questions and provides an

Clinical Reasoning in Action

INTRODUCTION

Recall the chapter-opening scenario. Colleen has come to the WIC clinic with her 7-month-old daughter Amanda. A nutritional assessment is performed, teaching begins, and an appointment is made for a follow-up visit in 2 months for both Amanda and her 4-year-old sister Melody. The children's grandmother is a support person for Colleen, who is a single mother; however, the grandmother's impaired vision limits her somewhat in interactions with the children.

DESCRIPTION

Upon examination, Amanda appears adequately nourished. Her skin is well hydrated and in good condition. She is alert and shows expected developmental progression. Her hematocrit is 33%, weight is 17 lb 8 oz, and length is 26.5 in. Colleen drives Amanda and Melody to childcare each morning on her way to work; they spend afternoons with their grandmother. Colleen is motivated to provide safe and stimulating care for the children and has a supportive group of neighbors and friends.

DISCUSSION

Colleen clearly has many strengths or protective factors to draw from as she cares for her family. The nurse can address several areas of Amanda's development to enhance the family's strengths.

1. Evaluate Amanda's physical findings. Is the hematocrit within expected norms? What percentiles are her height and weight? What foods are recommended at her age?
2. What questions will you ask and what suggestions will you make to ensure that Amanda is safely transported to childcare each day in Colleen's car? How will you ensure a safe environment for Amanda at the grandmother's home when she provides childcare for the children?
3. Suggest several toys and activities that are appropriate for Amanda at her age. What developmental milestones do you expect to observe in areas of language, fine motor, gross motor, and social interactions?

Tables of **Diagnostic Procedures and Laboratory Tests** pertinent to the specific systems assist you in clinical settings when you need the information.

TABLE 32–3 Diagnostic Procedures and Laboratory Tests for the Endocrine System*

DIAGNOSTIC PROCEDURES	LABORATORY TESTS
ACTH stimulation test	Fasting plasma glucose
Adrenal (ACTH) suppression test	Hemoglobin A_{1c}
Bone age	Hormone levels
Computed tomography (CT)	Insulin-like growth factor (IGF-1) and
Fluid deprivation test	Insulin-like growth factor-binding
Karyotype	protein 3 IGFBP-3
Magnetic resonance imaging (MRI)	Newborn metabolic screening
Thyroid radioactive iodine uptake	Provocative growth hormone testing
(RAIU) scan	Thyroid antibodies

*See Appendixes D and E for information about these diagnostic procedures and for expected laboratory tests values.

Complementary Therapy

Pain Control

A simple explanation of the gate control theory of pain helps explain how the pain impulses to the brain may be inhibited at the level of the dorsal horn of the spine. Stimulation of the larger A-beta fibers by ice or nonpainful touch and pressure such as massage causes the substantia gelatinosa in the dorsal horn of the spinal cord to "close the gate" and decrease the transmission of pain impulses to the brain. Cognitive-behavioral therapies, such as distraction and hypnosis, may inhibit transmission of pain perception between the brain and dorsal horn of the spine (Huether, et al., 2014).

Complementary Therapy boxes present approaches other than traditional medical prescriptions that may be used by children and families to maintain health or treat diseases. These boxes discuss research when it is present to support or refute the efficacy of these modalities. At other times, they alert you about information to gather from the family and to consider when planning care.

Developing Cultural Competence Examine Your Own Experience

Think about your childhood pain experiences and how your family encouraged you to be stoic or to express pain. These types of experiences often contribute to a health professional's attitudes about pain management. For example, some healthcare providers (as well as parents) may believe that being in pain for a little while is not so bad, that pain helps build character. However, all nurses need to acknowledge the child's right to pain management, the current standard of care.

Developing Cultural Competence boxes challenge you to explore differences among racial, ethnic, and social groups, and to plan nursing care that addresses the issues of health disparity.

Legal and Ethical Considerations

Social Security Supplemental Income

A child with a TBI that results in severe functional limitations may qualify for Social Security's Supplemental Security Income (SSI). The child must have a physical or mental condition that seriously limits his or her activities and that is expected to last at least one year or result in death (Social Security Online, 2016). The child may become eligible when the parents' or child's income meets federal poverty guidelines, which may occur if a parent stops working to provide full-time care for the child.

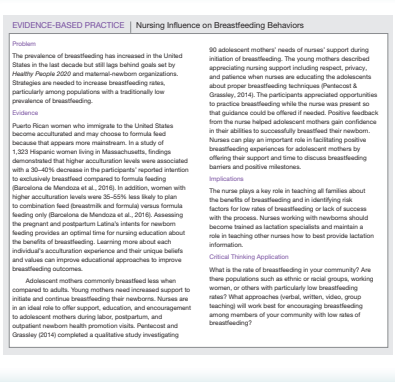
Legal and Ethical Considerations boxes identify laws and ethical issues pertinent to pediatric nursing topics.

Medications Used to Treat Newborns

MEDICATION	PROPHYLACTIC ACTION/IMPLICATION	NURSING MANAGEMENT
Vitamin K (phytonadione)	To prevent vitamin K–dependent hemorrhagic disease of the newborn	1 mg intramuscular (IM) within 6 hours of birth
Sterile ophthalmic ointment containing tetracycline (1%) or erythromycin (0.5%) or one of a variety of topical agents, including ophthalmic solution of povidone-iodine (2.5%)	As prophylaxis against gonococcal ophthalmia neonatorum	1–2 cm ribbon along the conjunctival sac of each eye within 1 hour of birth, taking care that the agent reaches all areas of the conjunctival sac
Hepatitis B virus (HBV) immunoprophylaxis	• All women should be screened for hepatitis B as part of routine prenatal care. Review the mother's record of hepatitis screening so the infant can be treated as recommended. • The first hepatitis B vaccination (HBV) for the newborn is received prior to hospital discharge.	• For babies of HBsAg-negative women, the first dose of HBV vaccine is administered during the newborn period (recommended time) or by age 2 months, second dose 1–2 months later, and third dose by age 6–18 months. (See Chapter 22.) • Babies of HBsAg-positive women must receive HBV within 12 hours of birth AND receive one dose of hepatitis B immune globulin (HBIG) within 12 hours of birth at a second IM site (opposite thigh). Continue HBV series at 1–2 months of age. (See Chapter 22.)

SOURCE: Data from American Academy of Pediatrics. (2016). Healthy Children.Org: Safety and Prevention. Retrieved from https://www.healthychildren.org/english/safety-prevention/Pages/default.aspx

Medications Used to Treat boxes list the actions, indications, and important nursing implications for medications used to treat a condition.


EVIDENCE-BASED PRACTICE | Nursing Influence on Breastfeeding Behaviors

Problem

The prevalence of breastfeeding has increased in the United States in the last decade but still lags behind goals set by *Healthy People 2020* and maternal-newborn organizations. Strategies are needed to increase breastfeeding rates, particularly among populations with a traditionally low prevalence of breastfeeding.

Evidence

Puerto Rican women who immigrate to the United States become acculturated and may choose to formula feed because that appears more mainstream. In a study of 1,323 Hispanic women living in Massachusetts, findings demonstrated that higher acculturation levels were associated with a 30–40% decrease in the participants' reported intention to exclusively breastfeed compared to formula feeding (Barcelona de Mendoza et al., 2016). In addition, women with higher acculturation levels were 35–55% less likely to plan to combination feed (breastmilk and formula) versus formula feeding only (Barcelona de Mendoza et al., 2016). Assessing the pregnant and postpartum Latina's intents for newborn feeding provides an optimal time for nursing education about the benefits of breastfeeding. Learning more about each individual's acculturation experience and their unique beliefs and values can improve educational approaches to improve breastfeeding outcomes.

Adolescent mothers commonly breastfeed less when compared to adults. Young mothers need increased support to initiate and continue breastfeeding their newborns. Nurses are in an ideal role to offer support, education, and encouragement to adolescent mothers during labor, postpartum, and outpatient newborn health promotion visits. Pentecost and Grassley (2014) completed a qualitative study investigating 90 adolescent mothers' needs of nurses' support during initiation of breastfeeding. The young mothers described appreciating nursing support including respect, privacy, and patience when nurses are educating the adolescents about proper breastfeeding techniques (Pentecost & Grassley, 2014). The participants appreciated opportunities to practice breastfeeding while the nurse was present so that guidance could be offered if needed. Positive feedback from the nurse helped adolescent mothers gain confidence in their abilities to successfully breastfeed their newborn. Nurses can play an important role in facilitating positive breastfeeding experiences for adolescent mothers by offering their support and time to discuss breastfeeding barriers and positive milestones.

Implications

The nurse plays a key role in teaching all families about the benefits of breastfeeding and in identifying risk factors for low rates of breastfeeding or lack of success with the process. Nurses working with newborns should become trained as lactation specialists and maintain a role in teaching other nurses how to best provide lactation information.

Critical Thinking Application

What is the rate of breastfeeding in your community? Are there populations such as ethnic or racial groups, working women, or others with particularly low breastfeeding rates? What approaches (verbal, written, video, group teaching) will work best for encouraging breastfeeding among members of your community with low rates of breastfeeding?

Evidence-Based Practice boxes further enhance the approach to research. We describe a particular nursing problem and investigate the evidence from several studies that explore solutions to the problem. We emphasize nursing research, provide an interpretation explaining the implications of the studies, and then invite you to apply critical thinking skills to further identify nursing care approaches.

Partnering with Families boxes help you to apply the concepts of family-centered nursing care by providing approaches and teaching in a format directly applicable when you work with families.

PARTNERING WITH FAMILIES | Developing a Fire Escape Plan

Developing a fire escape plan is important when the family has one or more children with special healthcare needs. Important steps for families to take in developing the plan include the following:

- Have working smoke and carbon monoxide detectors in the home and teach children what the alarm means. Make sure batteries are changed at least twice a year.
- Draw a diagram of your house. Mark all windows and doors. Plan two routes out of every room. Think about an escape plan if the fire starts in the kitchen, bedroom, or basement.
- Figure out the best way to get infants and young children out of the house. Will you carry them? Is there more than one small child, and if so how will you get them out if you are the only adult?
- Teach preschool and school-age children to follow the escape plan by crawling, touching doors, and going to the window if the door is hot. Show children how to cover the nose and mouth to reduce smoke inhalation.
- Prepare an alternative fire escape plan in case you are alone with the child when the fire begins.
- Keep home exits clear of toys and debris.
- Select a safe meeting place outside the home. Teach children not to go back inside the burning home.

Clinical Manifestations boxes link etiology, clinical manifestations, and clinical therapy for specific conditions.

CLINICAL MANIFESTATIONS | Commonly Abused Drugs

DRUG	POTENTIAL FOR DEPENDENCE	CLINICAL MANIFESTATIONS
Depressants Alcohol, barbiturates (amobarbital, pentobarbital, secobarbital)	*Physical and psychologic*: High; varies somewhat among drugs	*Physical*: Decreased muscle tone and coordination, tremors *Psychologic*: Impaired speech, memory, and judgment; confusion; decreased attention span; emotional lability
Stimulants Amphetamines (e.g., Benzedrine), caffeine, cocaine, "bath salts"	*Physical*: Low to moderate *Psychologic*: High; withdrawal from amphetamines and cocaine can lead to severe depression	*Physical*: Dilated pupils, increased pulse and blood pressure, flushing, nausea, loss of appetite, tremors *Psychologic*: Euphoria; increased alertness, agitation, or irritability; hallucinations; insomnia
Opiates Codeine, heroin, meperidine (Demerol), methadone, morphine, opium, oxycodone (Percodan, OxyContin)	*Physical and psychologic*: High; varies somewhat among drugs; withdrawal effects are uncomfortable	*Physical*: Analgesia, depressed respirations and muscle tone, nausea, constricted pupils, overdose may lead to coma or death *Psychologic*: Changes in mood (usually euphoria), drowsiness, impaired attention or memory, sense of tranquility
Hallucinogens Lysergic acid diethylamide (LSD), mescaline, phencyclidine (PCP)	*Physical*: None *Psychologic*: Unknown	*Physical*: Lack of coordination, dilated pupils, hypertension, elevated temperature; severe PCP intoxication can result in seizures, respiratory depression, coma, and death *Psychologic*: Visual illusions and hallucinations, altered perceptions of time and space, emotional lability, psychosis
Volatile Inhalants Glues, typing correction fluid, acrylic paints, spot removers, lighter fluid, gasoline, butane	*Physical and psychologic*: Varies with drug used	*Physical*: Impaired coordination, liver damage (in some cases) *Psychologic*: Impaired judgment, delirium
Marijuana	*Physical*: Low *Psychologic*: Usually low; occasionally moderate to high	*Physical*: Tachycardia, reddened conjunctiva, dry mouth, increased appetite *Psychologic*: Initial anxiety followed by euphoria; giddiness; impaired attention, judgment, and memory

Nursing Care Plans are present in every chapter dealing with health conditions. They illustrate the conceptual approach that nurses need in caring for children, including assessment, NANDA nursing diagnoses, goals, plans, interventions, and evaluation.

NURSING CARE PLAN THE CHILD WITH POSTOPERATIVE PAIN

1. Nursing Diagnosis: Pain, Acute (severe abdominal), related to surgery and injury

GOAL: The child will report pain relief.

INTERVENTION	RATIONALE
• Have the child select a pain scale and rate the amount of pain perceived before and 30–60 minutes after analgesia is given to ensure pain relief.	• The child's pain rating is the best indicator of pain relief. Maintenance of pain control requires less analgesia than treating each acute pain episode.
• Assess pain control each hour to ensure that the child's pain is relieved.	• Frequent monitoring identifies inadequate pain control before it becomes significant.
• Reposition the child every 2 hours to maintain proper body alignment.	• New positions decrease muscle cramping and skin pressure.
• Provide therapeutic touch or massage. Encourage the parents to read a story or play favorite music.	• Complementary therapy reduces stress and enhances the analgesic action.

EXPECTED OUTCOME: Child will report pain relief after administration of analgesia, repositioning, and complementary therapy, as indicated by a lower rating on the pain scale.

2. Nursing Diagnosis: Sleep Pattern, Disturbed, related to inadequate pain control and physical discomfort

GOAL: The child will experience fewer disruptions of sleep caused by pain.

INTERVENTION	RATIONALE
• Give analgesia by continuous infusion or every 3–4 hrs around the clock.	• Pain breakthrough occurs even during sleep and disturbs its healing effects.

EXPECTED OUTCOME: Child will sleep for age-appropriate number of hours per day, undisturbed by pain.

3. Nursing Diagnosis: Health Management, Readiness for Enhanced, related to self-management of pain control and use of nonpharmacologic pain-control measures

GOAL: The child and family will effectively use patient-controlled analgesia (PCA) and complementary therapy pain-control measures.

INTERVENTION	RATIONALE
• Teach the child how the PCA works and when to push the button.	• The child must know that pain can be relieved by pushing the PCA button and how the button works.
• Teach the family and the child how to use age-appropriate imagery, distraction, relaxation techniques, and other complementary therapy pain relief measures.	• Complementary therapies enhance the effect of analgesia, reduce the amount of pain medication needed, and help the child cope with anxiety from the pain episode.

EXPECTED OUTCOME: Child's pain rating will stay low. Child and family will independently use complementary therapies for pain control.

GOAL: The child and family will use appropriate analgesia after discharge.

INTERVENTION	RATIONALE
• Explain why managing pain is helpful for the child's healing.	• The family and child may not know the benefits of relieving pain.
• Discuss appropriate pain control to use at home after discharge.	• The family and child may be anxious about pain management at home.

EXPECTED OUTCOME: Family will understand pain assessment and pain-relief measures and state appropriate dose and frequency for pain medication use at home.

Health Promotion & Maintenance Overview **The Child with Chronic Renal Failure**

Growth And Development Surveillance
- Compare the child's height, weight, and head circumference to age-specific norms to identify growth retardation and to plot progress.
- Assess developmental progress using the Denver II or another screening tool (refer to Chapter 8).
- Educate parents on normal developmental milestones and measures to promote achieving those milestones.
- Assess the adolescent for signs of delayed sexual maturation and amenorrhea in females.

Nutrition
- Review the dietary restrictions with the child and parents.
- Partner with the family to assist the child to make food selections and to restrict fluids and sodium as necessary, taking into account the child's preferences and cultural background. Encourage the child and family to take a list of a few favorite foods to the dietitian to see if they can be integrated into the child's meal plan.
- Make mealtime pleasant and make foods taste more appealing with permitted spices.
- Discuss possible behavioral responses by older children and adolescents to dietary restrictions and limitations imposed by the treatment plan. Involve the child and adolescent in discussions about dietary restrictions. When possible, integrate their recommendations for dietary restrictions and fluid management throughout the day.
- Emphasize to the school-age child that dietary and other restrictions are not punishment.
- Use enteral feeding at night to provide the needed calories for growth.

Physical Activity
- Encourage the child to participate in developmentally appropriate activities as tolerated.
- Partner with the child to establish a routine plan for physical activity as tolerated that will help promote strong bones.

Oral Health
- Promote good dentition and oral hygiene.
- Schedule regular dental visits for examination and cleaning to reduce infections.
- Partner with the family to ensure they understand the need for antibiotic prophylaxis before certain invasive procedures, including dental care.

Mental And Spiritual Health
- Ask children how they feel about the need to follow a special diet, take medications, and undergo dialysis treatments. Ask what might make it easier for them to cope with the treatments, and integrate at least one idea into the care plan.
- Encourage parents to promote their child's participation in age-appropriate activities to minimize the psychologic consequences of coping with a chronic disease.
- If available, encourage adolescents to participate in a peer support group to help them cope with dietary restrictions and ongoing dialysis treatments, as they pose a threat to their independence, evolving sense of self, and need for independence. Without support, noncooperation, depression, and hostility are common responses.
- Assist older adolescents to transition to adult health and vocational services.

Relationships
- Attendance at school and contacts with peers promote normal growth and development.
- Work to promote the child's self-worth and a healthy self-esteem.
- Prepare the child for peer conflict.
- Ensure that parents understand the importance of encouraging normal socialization of their child.

Disease Prevention Strategies
- Partner with the child and family to establish plans to avoid large crowds, people with infections, or other risks that expose the child to infection.
- If possible, provide all immunizations before renal transplantation, as long-term immunosuppressive therapy will then be prescribed.
- Live virus vaccines should not be given to the child taking immunosuppressive agents.
- Encourage the family to maintain scheduled appointments for routine serum and urine diagnostic tests performed to monitor renal function.

Health Promotion & Maintenance Overviews summarize the needs of children with specific chronic conditions, such as asthma or diabetes. These overviews teach you to look at the child who has a chronic illness like any other child, with health maintenance needs for prevention, education, and basic care.

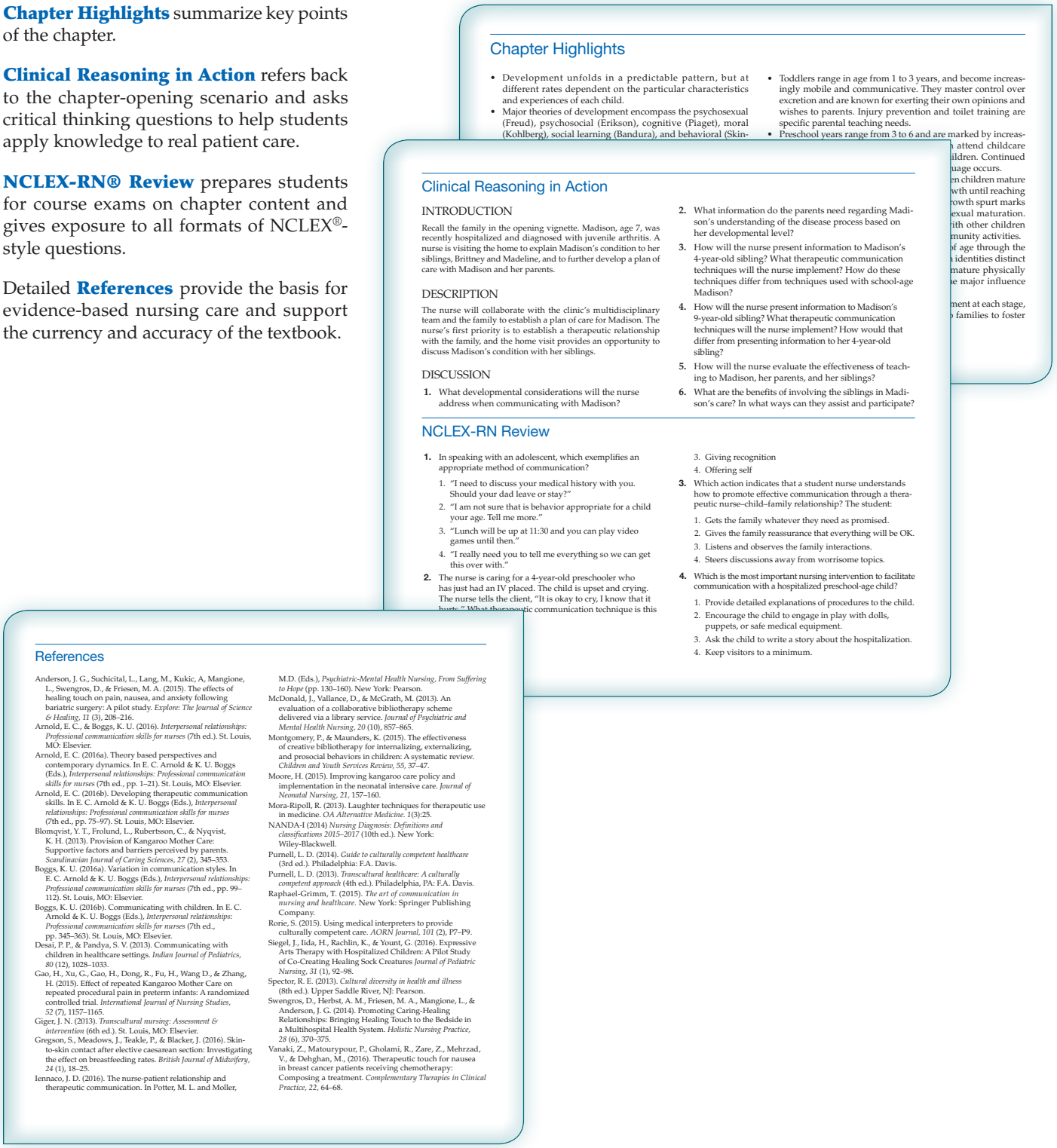
End-of-Chapter Review

Chapter Highlights summarize key points of the chapter.

Clinical Reasoning in Action refers back to the chapter-opening scenario and asks critical thinking questions to help students apply knowledge to real patient care.

NCLEX-RN® Review prepares students for course exams on chapter content and gives exposure to all formats of NCLEX®-style questions.

Detailed **References** provide the basis for evidence-based nursing care and support the currency and accuracy of the textbook.



Chapter Highlights

- Development unfolds in a predictable pattern, but at different rates dependent on the particular characteristics and experiences of each child.
- Major theories of development encompass the psychosexual (Freud), psychosocial (Erikson), cognitive (Piaget), moral (Kohlberg), social learning (Bandura), and behavioral (Skin-
- Toddlers range in age from 1 to 3 years, and become increasingly mobile and communicative. They master control over excretion and are known for exerting their own opinions and wishes to parents. Injury prevention and toilet training are specific parental teaching needs.
- Preschool years range from 3 to 6 and are marked by increas-

attend childcare
ildren. Continued
uage occurs.
en children mature
wth until reaching
rowth spurt marks
exual maturation.
ith other children
munity activities.
f age through the
identities distinct
mature physically
e major influence

ment at each stage,
families to foster

Clinical Reasoning in Action

INTRODUCTION

Recall the family in the opening vignette. Madison, age 7, was recently hospitalized and diagnosed with juvenile arthritis. A nurse is visiting the home to explain Madison's condition to her siblings, Brittney and Madeline, and to further develop a plan of care with Madison and her parents.

DESCRIPTION

The nurse will collaborate with the clinic's multidisciplinary team and the family to establish a plan of care for Madison. The nurse's first priority is to establish a therapeutic relationship with the family, and the home visit provides an opportunity to discuss Madison's condition with her siblings.

DISCUSSION

1. What developmental considerations will the nurse address when communicating with Madison?
2. What information do the parents need regarding Madison's understanding of the disease process based on her developmental level?
3. How will the nurse present information to Madison's 4-year-old sibling? What therapeutic communication techniques will the nurse implement? How do these techniques differ from techniques used with school-age Madison?
4. How will the nurse present information to Madison's 9-year-old sibling? What therapeutic communication techniques will the nurse implement? How would that differ from presenting information to her 4-year-old sibling?
5. How will the nurse evaluate the effectiveness of teaching to Madison, her parents, and her siblings?
6. What are the benefits of involving the siblings in Madison's care? In what ways can they assist and participate?

NCLEX-RN Review

1. In speaking with an adolescent, which exemplifies an appropriate method of communication?
   1. "I need to discuss your medical history with you. Should your dad leave or stay?"
   2. "I am not sure that is behavior appropriate for a child your age. Tell me more."
   3. "Lunch will be up at 11:30 and you can play video games until then."
   4. "I really need you to tell me everything so we can get this over with."
2. The nurse is caring for a 4-year-old preschooler who has just had an IV placed. The child is upset and crying. The nurse tells the client, "It is okay to cry, I know that it hurts." What therapeutic communication technique is this
   3. Giving recognition
   4. Offering self
3. Which action indicates that a student nurse understands how to promote effective communication through a therapeutic nurse–child–family relationship? The student:
   1. Gets the family whatever they need as promised.
   2. Gives the family reassurance that everything will be OK.
   3. Listens and observes the family interactions.
   4. Steers discussions away from worrisome topics.
4. Which is the most important nursing intervention to facilitate communication with a hospitalized preschool-age child?
   1. Provide detailed explanations of procedures to the child.
   2. Encourage the child to engage in play with dolls, puppets, or safe medical equipment.
   3. Ask the child to write a story about the hospitalization.
   4. Keep visitors to a minimum.

References

Anderson, J. G., Suchicital, L., Lang, M., Kukic, A, Mangione, L., Swengros, D., & Friesen, M. A. (2015). The effects of healing touch on pain, nausea, and anxiety following bariatric surgery: A pilot study. *Explore: The Journal of Science & Healing, 11* (3), 208–216.

Arnold, E. C., & Boggs, K. U. (2016). *Interpersonal relationships: Professional communication skills for nurses* (7th ed.). St. Louis, MO: Elsevier.

Arnold, E. C. (2016a). Theory based perspectives and contemporary dynamics. In E. C. Arnold & K. U. Boggs (Eds.), *Interpersonal relationships: Professional communication skills for nurses* (7th ed., pp. 1–21). St. Louis, MO: Elsevier.

Arnold, E. C. (2016b). Developing therapeutic communication skills. In E. C. Arnold & K. U. Boggs (Eds.), *Interpersonal relationships: Professional communication skills for nurses* (7th ed., pp. 75–97). St. Louis, MO: Elsevier.

Blomqvist, Y. T., Frolund, L., Rubertsson, C., & Nyqvist, K. H. (2013). Provision of Kangaroo Mother Care: Supportive factors and barriers perceived by parents. *Scandinavian Journal of Caring Sciences, 27* (2), 345–353.

Boggs, K. U. (2016a). Variation in communication styles. In E. C. Arnold & K. U. Boggs (Eds.), *Interpersonal relationships: Professional communication skills for nurses* (7th ed., pp. 99–112). St. Louis, MO: Elsevier.

Boggs, K. U. (2016b). Communicating with children. In E. C. Arnold & K. U. Boggs (Eds.), *Interpersonal relationships: Professional communication skills for nurses* (7th ed., pp. 345–363). St. Louis, MO: Elsevier.

Desai, P. P., & Pandya, S. V. (2013). Communicating with children in healthcare settings. *Indian Journal of Pediatrics, 80* (12), 1028–1033.

Gao, H., Xu, G., Gao, H., Dong, R., Fu, H., Wang D., & Zhang, H. (2015). Effect of repeated Kangaroo Mother Care on repeated procedural pain in preterm infants: A randomized controlled trial. *International Journal of Nursing Studies, 52* (7), 1157–1165.

Giger, J. N. (2013). *Transcultural nursing: Assessment & intervention* (6th ed.). St. Louis, MO: Elsevier.

Gregson, S., Meadows, J., Teakle, P., & Blacker, J. (2016). Skin-to-skin contact after elective caesarean section: Investigating the effect on breastfeeding rates. *British Journal of Midwifery, 24* (1), 18–25.

Iennaco, J. D. (2016). The nurse-patient relationship and therapeutic communication. In Potter, M. L. and Moller, M.D. (Eds.), *Psychiatric-Mental Health Nursing, From Suffering to Hope* (pp. 130–160). New York: Pearson.

McDonald, J., Vallance, D., & McGrath, M. (2013). An evaluation of a collaborative bibliotherapy scheme delivered via a library service. *Journal of Psychiatric and Mental Health Nursing, 20* (10), 857–865.

Montgomery, P., & Maunders, K. (2015). The effectiveness of creative bibliotherapy for internalizing, externalizing, and prosocial behaviors in children: A systematic review. *Children and Youth Services Review, 55*, 37–47.

Moore, H. (2015). Improving kangaroo care policy and implementation in the neonatal intensive care. *Journal of Neonatal Nursing, 21*, 157–160.

Mora-Ripoll, R. (2013). Laughter techniques for therapeutic use in medicine. *OA Alternative Medicine. 1*(3):25.

NANDA-I (2014) *Nursing Diagnosis: Definitions and classifications 2015–2017* (10th ed.). New York: Wiley-Blackwell.

Purnell, L. D. (2014). *Guide to culturally competent healthcare* (3rd ed.). Philadelphia: F.A. Davis.

Purnell, L. D. (2013). *Transcultural healthcare: A culturally competent approach* (4th ed.). Philadelphia, PA: F.A. Davis.

Raphael-Grimm, T. (2015). *The art of communication in nursing and healthcare*. New York: Springer Publishing Company.

Rorie, S. (2015). Using medical interpreters to provide culturally competent care. *AORN Journal, 101* (2), P7–P9.

Siegel, J., Iida, H., Rachlin, K., & Yount, G. (2016). Expressive Arts Therapy with Hospitalized Children: A Pilot Study of Co-Creating Healing Sock Creatures *Journal of Pediatric Nursing, 31* (1), 92–98.

Spector, R. E. (2013). *Cultural diversity in health and illness* (8th ed.). Upper Saddle River, NJ: Pearson.

Swengros, D., Herbst, A. M., Friesen, M. A., Mangione, L., & Anderson, J. G. (2014). Promoting Caring-Healing Relationships: Bringing Healing Touch to the Bedside in a Multihospital Health System. *Holistic Nursing Practice, 28* (6), 370–375.

Vanaki, Z., Matourypour, P., Gholami, R., Zare, Z., Mehrzad, V., & Dehghan, M., (2016). Therapeutic touch for nausea in breast cancer patients receiving chemotherapy: Composing a treatment. *Complementary Therapies in Clinical Practice, 22*, 64–68.

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It is both challenging and a significant responsibility to write a pediatric textbook. Pediatric nursing is constantly changing due to new knowledge and technologies. It is inspiring to observe this evolution of pediatric nursing practice and to have the opportunity to share with nursing students much of our enthusiasm for working with children and their families. We appreciate the opportunity to contribute to the education of a new generation of nurses.

This updated edition of the textbook used the strong foundation of the earlier editions and integrated some new features. The production of a textbook requires a team that is fully committed to the vision from the beginning of the revision through the final production process. We were fortunate to have a close collaborative relationship with our publishing company, Pearson. Katrin Beacom, our nursing editor, supported new ideas and approaches into the textbook and accompanying learning aids. We are excited about the coming application of simulations as methods of expanding understanding of pediatric nursing for the student. Julie Alexander, vice president and publisher, has once again enthusiastically supported this venture on behalf of Pearson.

Our developmental editor, Kim Wyatt, has worked with us for several books; she is a cheerleader and a friend, and she has an exquisite eye for detail, helping to ensure the quality and timeliness of the present edition. We thank Bianca Sepulveda and Erin Sullivan at Pearson Education and Susan Hannah and Venkat Perla Ramesh, project managers at SPi Global, for their expertise and valuable contributions. Also, our thanks go to Laurie Entringer for the textbook design.

George Dodson took many of the photos in this book. We sincerely thank the children, families, and nurses who allowed us to illustrate development, pediatric healthcare conditions, and nursing care of children in hospital, home, and community settings.

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This book emphasizes partnering with families to provide comprehensive care for children. Our own families are also critically important to our lives. Without them we could not reach our own personal and professional goals, and we depend on them every day for support, love, and caring. We thank them for their enduring partnerships and contributions that made this book a reality.

Jane W. Ball
Ruth C. Bindler
Kay J. Cowen
Michele R. Shaw

Contents

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UNIT I

Nurses, Children, and Families




Pediatric nurses care for children and their families in many different settings, including the hospital, healthcare centers, physicians' offices, specialty care centers, the home, schools, and elsewhere in the community, such as homeless shelters and disaster shelters. Pediatric nurses develop partnerships with children and their families to address the child's acute or chronic health condition, to prevent disease, or to promote the child's health, growth, and development. The partnerships formed enable the pediatric nurse to learn about the family's culture and belief system, potential genetic or hereditary influences, family strengths and resources, and preferences for care. This information provides the foundation for the nursing care plan, developed in collaboration with the child and family. Pediatric nurses implement the nursing care plan by providing direct care and education. In some cases, the pediatric nurse functions as the advocate for the child and family in the healthcare system and serves as a case manager for children with complex health conditions.

Chapter 1

Child Health Nursing: Concepts, Roles, and Issues

Learning Outcomes

1 Describe the continuum of pediatric health care.

2 Compare the roles of nurses in child health settings.

3 Analyze the current societal influences on pediatric health care.

4 Analyze the role of a clinical practice guideline and evidence-based practice in the nursing care of a child with a chronic health condition.

5 Report the most common causes of child morbidity and mortality by age group and identify opportunities for nursing intervention.

6 Plan strategies to improve pediatric patient safety in the healthcare setting.

7 Contrast the policies for obtaining informed consent of minors with policies for adults.

8 Examine unique pediatric legal and ethical issues in pediatric nursing practice.

SOURCE: George Dodson/Pearson Education, Inc.

"Drew's seizure was scary, so I called Mom. He was shaking all over and wouldn't wake up. He even wet his pants, and he has not done that for a long time."

—Kevin, age 8

Drew Santo is a 3-year-old boy who has a seizure disorder that, until a week ago, was fairly well controlled by medication. He and his family receive health care at the center serviced by their health plan. A pediatric nurse and pediatrician collaborate in providing Drew's health care and monitoring his developmental progress.

Drew had a seizure in the last week. His phenytoin blood level, taken the day of the seizure, was slightly lower than the therapeutic range. Because of the recent seizure, an electroencephalogram (EEG) is ordered to identify any change in the electrical pattern in the brain. Other laboratory tests are also ordered, following the guidelines of the health center's clinical pathway for children with seizure disorders.

Over the past 2 years, Drew's family and the pediatric nurse have worked in partnership to ensure that Drew is treated as a healthy child with a chronic condition. The nurse has helped his parents to obtain information about his condition, to understand the action of his medication, and to take appropriate measures when he has a seizure. Drew's parents are upset that he has again had a seizure, especially when they have done everything they could to keep the seizures under control. They have been able to think of him as a healthy boy because he had not had a seizure for a long time. Now they wonder if they will be able to keep treating him that way. In how many different settings could you find nurses providing care to children with this condition? Does the type of nursing care provided to children differ among these settings?

Key Terms

OVERVIEW OF PEDIATRIC HEALTH CARE

Nurses provide care to healthy children, as well as to those with illnesses, injuries, and chronic conditions, in a wide variety of settings. Fortunately, most children in the United States are healthy, experiencing only occasional short-term health problems, and nurses have the opportunity to partner with the family and child to prevent disease and promote a healthy lifestyle. However, approximately 20% of children have special healthcare needs that require frequent contact with the healthcare system to achieve and maintain their optimal level of health (U.S. Department of Health and Human Services, Health Resources and Services Administration, Maternal and Child Health Bureau, 2015).

In all cases, nurses working with children have the pleasure of watching children grow, achieve milestones in development, and adapt to and manage their health conditions. Nurses find reward in knowing they made a contribution to the health and welfare of these children. Pediatric health care occurs along a continuum that reflects not only care to the child as he or she ages, but also a continuum of various healthcare settings used by some individual children who have complex health conditions. For example, all children need health promotion and health maintenance services, but some children will need care for chronic conditions, acute illnesses and injuries, and even end-of-life care. See Figure 1–1 ■ for the model of pediatric health care upon which this text is based.

The range of healthcare services provided by nurses specializing in pediatrics leads to many exciting professional opportunities in a wide variety of clinical settings. The array of settings where pediatric nurses work includes the following:

- Hospitals, such as the pediatric unit, intensive care unit, newborn nursery, emergency department, radiology, operating room and perioperative units, and specialty clinics;
- Physicians' offices, clinics, healthcare centers, and ambulatory surgical centers;
- Home of the child;
- Rehabilitation centers and residential treatment centers; and
- Schools, childcare centers, and camps.

Nurses play a significant role in the provision of health care for children, with varied responsibilities in different settings. Regardless of the settings in which nurses work, assessment, nursing care interventions, child and family education, and advocacy are universal roles.

Nurses who choose to specialize in pediatrics need all of the foundational knowledge provided during nursing education such as the nursing process, anatomy and physiology, physical assessment, pathophysiology and healthcare condition recognition and management, communication skills, clinical nursing skills, and critical thinking skills. Building upon the principles, knowledge, and skills already learned, pediatric nurses integrate additional competencies related to the care of children and their families into their practice. The special knowledge and skills that nurses caring for children must acquire and apply are listed in Box 1–1. Several nursing organizations have collaborated to develop standards of practice for pediatric nurses. See Box 1–2.

ROLE OF THE NURSE IN THE CARE OF CHILDREN

Pediatric nursing, using a family-centered care approach, focuses on promoting the health of children of newborn age through young adulthood; protecting them from illness and injury; recognizing the differences in presentation of diseases between children and adults; adapting nursing care to the age, development, social factors, and health status of the child; assisting and educating the family to care for their child's health condition needs; and advocating for the care of children and their families in all healthcare settings and the community. The nursing roles in caring for children and their families include direct care, education, advocacy, and case management. Pediatric nurses collaborate with other health professionals as a team member while performing each of these nursing roles.

Direct Care Provider

The primary role of pediatric nurses is to provide direct nursing care to children and their families in hospitals and various community settings such as health centers, schools, and the home. The nursing process provides the framework for delivery of direct pediatric nursing care. The nurse assesses the child and identifies the nursing diagnoses that describe the responses of the child and family to the health promotion and health maintenance plan and to any illness or injury experienced. The nurse then implements and evaluates nursing care.

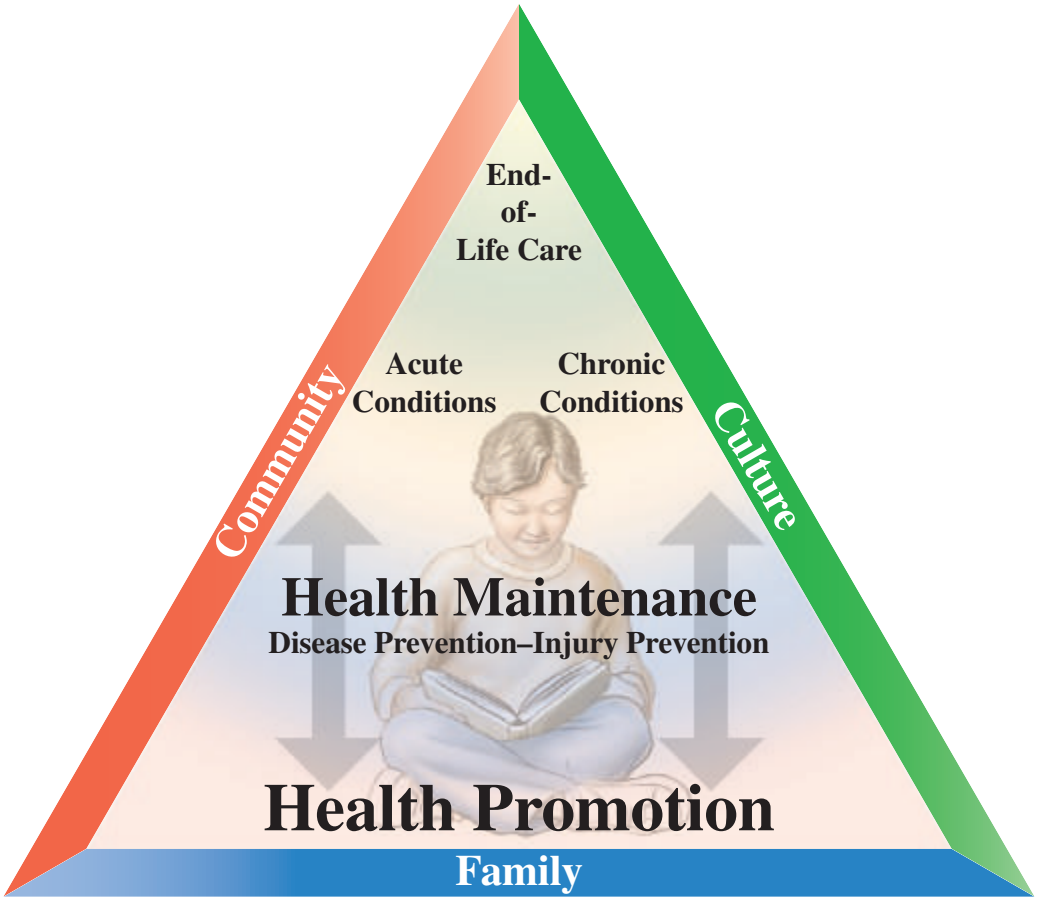

FIGURE 1–1 ■

The Bindler-Ball Continuum of Pediatric Health Care for Children and Their Families

The outer bars represent the family, cultural, and community influences on the care that the child receives, either through the services sought by the family or the services provided in the community. Cultural influences include the family's decision to seek health care and follow recommendations, as well as the healthcare provider's cultural competence in caring for a child and family. The inner categories represent the different types of health care needed by children. All children need health promotion and health maintenance services, represented by the base of the triangle. Notice the arrows representing the upward and downward movement between the levels of care as the child's condition changes.

Children may be healthy with episodic acute illnesses and injuries. Some children develop a chronic condition for which specialized health care is needed. A child's chronic condition may be well controlled, but acute episodes (such as with asthma) or other illnesses and injuries may occur, and the child also needs health promotion and health maintenance services to continue. Some children develop a life-threatening illness and ultimately need end-of-life care. A healthy child can also experience a catastrophic injury that causes death, and the family needs supportive end-of-life care (Bindler & Ball, 2007).

Pediatric nursing care is designed to meet the child's physical and emotional needs. It is offered in a manner sensitive to and compatible with the child's and family's cultural beliefs (see Chapter 3). It is tailored to the child's developmental stage, giving the child additional responsibility for self-care with increasing age, and ultimately assisting the adolescent with transition to adult health care. This care is also provided in partnership with the family, embracing the principles of family-centered care (see Chapter 2).

Nurses play an important role in minimizing the psychological and physical distress experienced by children and their families. Providing support to children and their families is one important aspect of direct nursing care. This often involves listening to the concerns of children and parents, being present during stressful or emotional experiences, and implementing strategies to help children and family members cope. Nurses can help families by suggesting ways to support their children in the hospital, in out-of-hospital settings, and in the home. Nurses can also support families with informational resources, support groups, referrals for healthcare services, and, in some cases, respite care.

As a member of the child's healthcare team, the nurse is responsible for collaborating with other health professionals and ensuring that the nursing care is coordinated with them. Experienced pediatric nurses or those with graduate-level education often assume a leadership role in coordinating the collaboration of an interprofessional (interdisciplinary) team of healthcare providers. In some cases, the nurse recognizes that the child and family need care that is outside the nurse's scope of practice or specific skill level, so a referral must be initiated. In other cases, an interprofessional team will meet to jointly develop a care plan

Box 1–1

Expected Knowledge and Skills of the Pediatric Nurse

- Recognition and understanding of the unique anatomical, physiological, and developmental differences between children in each age group, including newborns, infants, children, and adolescents;
- Partnership with families for the provision of the child's care;
- Understanding and application of pediatric health promotion practices;
- Awareness of cultural, social, and economic considerations that must be integrated when addressing the family's functioning and the child's healthcare needs;
- Communication skills to effectively assess and educate children and families;
- Interprofessional communication skills to activelvy participate in healthcare management of the child and family;
- Recognition of the exceptional needs of children with episodic injuries and illnesses;
- Ability to assess the unique growth and development needs of children with special healthcare needs;
- Advocacy for, and application of, patient safety practices to reduce medical errors and injuries to children;
- Accurate calculation of medication dosages and volume for administration;
- Recognition of ethical, moral, and legal dilemmas involving children, families, and healthcare professionals; and
- Acquisition of knowledge about new evidence that leads to nursing practice changes.

SOURCE: Data from American Nurses Association, National Association of Pediatric Nurse Practitioners, and Society of Pediatric Nurses. (2015). *Pediatric nursing: Scope and standards of practice*. Silver Spring, MD: Nursesbooks.org; Gallegos, G., & Sortedahl, C. (2015). An exploration of professional values held by nurses at a large freestanding pediatric hospital. *Pediatric Nursing, 41*(4), 187–195; Theisen, J. L., & Sandau, K. E. (2013). Competency of new graduate nurses: A review of their weaknesses and strategies for success. *Journal of Continuing Education in Nursing*, 44(9), 406–414.

for a child with a chronic condition. See the case management information later in the chapter.

Nurses continually expand the range of direct care they provide. After developing experience and a comfort level in the care of children typically seen in one setting, the pediatric nurse is often ready to move to a different setting or specialty area or to accept a leadership position. In some cases the experienced nurse may be given supervisory responsibility for nursing care provided by other members of the nursing care team.

Other nursing professionals you will find in pediatric settings include advanced practice nurses (e.g., clinical nurse specialists and pediatric nurse practitioners) who have a graduate-level nursing education and are prepared to practice in a specialty area or at a higher level of responsibility.

- Clinical nurse specialists serve as educators and role models, members of the clinical research team, consultants to the healthcare team, and change agents within the healthcare system. They often have a nursing practice with a specialty focus such as respiratory, cardiovascular, or oncology.
- Pediatric nurse practitioners, in collaboration with physicians and other healthcare team members, perform assessment, diagnosis, and management of health promotion and health conditions in a large variety of settings, including offices, schools, and hospitals. Nurse practitioners are now assuming a larger role within hospital settings in the acute care management of children with serious illnesses, injuries, and the exacerbation of chronic health problems.

Experienced pediatric nurses and advanced practice nurses who enjoy teaching may choose to become nurse educators. Experienced pediatric nurses can be mentors to new nurses, serving as role models, supporting their professional development, and promoting their clinical skills development. Advanced practice nurses may join a school of nursing faculty to teach pediatrics or support the nursing education programs provided within clinical health settings.

Patient Educator

The education of children and their families or caregivers improves treatment results. For example, education can be direct teaching to the child and family members about the medications needed to treat a specific health condition and other needed therapies once the child is discharged from the acute care setting. In pediatric nursing, patient education is especially challenging, because nurses must be prepared to work with children at various levels of cognitive development. More than providing simple facts, the goal of the education is to help the child and family make informed choices about health and healthy behavior. Depending on the needs of the child and family at any particular time, education can focus on health promotion, health maintenance, self-care, and management of a health condition.

Box 1–2

Professionalism in Practice: Standards for Pediatric Nursing Practice

Pediatric Nursing: Scope and Standards of Practice was jointly developed by the American Nurses Association, the National Association of Pediatric Nurse Practitioners, and the Society of Pediatric Nurses (2015). These standards describe the expectations for professional performance during care to children and their families. Practicing nurses have an obligation to maintain competence, update their knowledge of new research and practice changes, and practice in an ethical manner when assessing, planning, and evaluating the care provided to children and their families. Collaboration with the family and other health professionals, as well as advocating for the child and family are additional expectations when providing nursing care.

FIGURE 1–2 ■
Explaining procedures can reduce the patient's and family's fears and anxieties about what to expect and how to cooperate during the procedure.

Developing Cultural Competence Adapting the Reading Level of Patient Education Materials

Health literacy, understanding written information and oral explanations in patient care instructions, education materials, and even prescription labels is important to promote **adherence** (the extent to which a patient or parent follows recommended care for the health problem). Among U.S. adults, 20% read at a fifth-grade level or below; however, this rate varies by cultural group with higher rates of poor English-language literacy among Latinos, Blacks, and Asians (Pontius, 2013). This means that many parents have difficulty using and understanding health information.

Provide healthcare materials needed in the appropriate language and at the appropriate reading level, for example, sixth grade reading level for low literacy individuals (Pontius, 2014). Printed materials to educate children and families about a health condition might be readily available, but they may be written at a reading level that is too high. Even though printed material may be available in the primary language of the patient and family, do not assume that the family has reading skills in that language.

When developing patient education materials with a lower reading level:

- Put the most important information first.
- Use short, familiar words with one or two syllables in short sentences.
- Substitute simple language that defines a medical term rather than using the term.
- Use pictures or graphics to give directions when possible.
- Use active voice rather than passive voice.
- Use "must" to express a requirement.
- Divide the content into small sections and use headers.
- Use lists and tables to simplify content.
- Use a computer program to evaluate the reading level of the materials you develop.

As patient educators, nurses help children adapt to the hospital setting and prepare them for procedures (Figure 1–2 ■). Most hospitals encourage a parent to stay with the child and to provide much of the direct and supportive care. Nurses teach parents to watch for important signs and responses to therapies, to increase the child's comfort, and even to provide advanced care. Taking an active role prepares and empowers the parent to assume total responsibility for care after the child leaves the hospital.

Planning and preparation, as well as an understanding of the child's developmental level, are needed to effectively educate children and parents. The nurse needs to become fully informed about the condition and information to be taught, and then think about strategies and resources that will help the child and family learn to manage the health condition. An assessment of the child's and family's knowledge about the condition or health practices, their past experiences, their attitudes and beliefs, economic resources, and health literacy is a starting point for education. An understanding of the child's developmental capabilities is also important. See Developing Cultural Competence: Adapting the Reading Level of Patient Education Materials.

Establishing rapport with the child and family makes it easier for the nurse to provide education. Family members and the child will be more comfortable asking questions. During educational sessions, the nurse can also provide support for the emotional needs of the child and family. Children and families should be encouraged to express their feelings and thoughts about the impact of the health condition, which may result in the exploration of potential strategies that could improve the psychologic aspects of living with the condition. Outcomes of education can be evaluated during future visits, particularly for children receiving ongoing health promotion and health maintenance care and for those with a chronic condition that requires home management.

Advanced practice nurses and experienced pediatric nurses often have responsibility for providing education and counseling that is directed toward helping the child or family solve a problem or deal with an acute crisis.

Patient Advocacy

Advocacy—acting to safeguard and advance the interests of another—is directed at enabling the child and family to adjust to the changes in the child's health in their own way. To be an effective advocate, the nurse must be aware of the child's and the family's needs, the family's resources, and the healthcare services available in the hospital and the community. The nurse can then assist the family and the child to make informed choices about these services and to act in the child's best interests. For example, a nurse works to make sure the family member and child (to his or her level of understanding) have adequate information about treatment options to make an informed decision. The nurse must also protect the child and family by taking appropriate actions related to any potential or actual incidents of incompetent, unethical, or illegal practices by any member of the healthcare team.

As advocates, nurses also work to ensure that the policies and resources of healthcare agencies meet the psychosocial needs of children and their families. This often requires nurses to become active participants on committees that develop policies or guidelines for nursing and medical care or modernizing the healthcare facility design. In each case, the knowledge that the pediatric nurse contributes about the developmental and psychosocial needs of children is important in ensuring that the needs of children are appropriately addressed in their healthcare facility.

According to the United Nations Convention on the Rights of the Child, every child has a right to enjoy the highest attainable standard of health and access to healthcare facilities, and governments should take appropriate measures to help children achieve these rights (United Nations, 2016). Pediatric nurses should become active at the community level, advocating for legislative and regulatory changes which improve the health of children. Nurses also advocate for improved health through community education about important health measures, such as increased accessibility to health payment coverage for children or immunizations. Some pediatric nurses choose to obtain advanced education to specialize in ethics or public policy, or to become an attorney. In these roles, the nurse then takes a leadership position to promote and implement ethical practices and policy changes that benefit children and their families.

Case Manager

When a child has a significant health problem or disabling condition, physicians, nurses, social workers, physical and occupational therapists, and other specialists come together to create an interdisciplinary plan to address the child's medical, nursing, developmental, educational, and psychosocial needs. Because nurses spend large amounts of time providing nursing care for the child and family, they often know more than other healthcare professionals about the family's wishes and resources. As a member of the interprofessional (interdisciplinary) care plan team, one important role for the nurse as the family's advocate is to ensure that the care plan considers the family's wishes and contains appropriate services. An experienced pediatric nurse or advanced practice nurse often becomes the child's case manager, coordinating the implementation of the plan of care. Sometimes the parent or a social worker becomes the case manager.

Case management is the process of coordinating the delivery of healthcare services for children with complex health conditions in which a nurse performs long-term coordination to help a child to receive timely access to needed health services in a safe, high-quality, and cost-effective manner. (Chouinard, Hudon, Dubois, et al., 2013). This is often a collaborative practice with other healthcare providers that helps optimize the patient's self-care abilities, promotes **continuity of care** (an interprofessional process facilitating a patient's transition between and among settings based on changing needs and available resources), and encourages effective utilization of healthcare resources. The family is included in the planning and decision-making process, adhering to the family-centered care philosophy described in Chapter 2. This approach involves regular interaction between the case manager and the child and family to develop an individualized care plan in collaboration with the healthcare team. The case manager is also responsible for communication with all health team members for care coordination and advocating for the child and family.

The nurse case manager often has a role in carefully matching healthcare resources appropriate for the patient's condition and links the child and family to these services. These may include community medical resources, home care agencies qualified to care for children, healthcare services offered in the school setting, educational interventions, and services reimbursed by the child's health plan. The goal is to help the child and family have the best healthcare outcome and decrease fragmentation of care, while controlling the cost of healthcare services. Case management may be used for care of the patient when hospitalized as well as for long-term care of chronic conditions.

Discharge planning is a form of case management. Good discharge planning promotes a smooth, rapid, and safe transition into the community and improves the results of treatment begun in the hospital. To be a discharge planner, the nurse must have obtained information from the family about their capabilities and resources for caring for the child after an emergency department visit or hospitalization. The nurse then analyzes the care needs and begins to educate the family about care to provide at home, signs of a deteriorating or worsening condition, and who and when to call for assistance. Appropriate Internet sites and community resources may be recommended. In some cases, healthcare providers use telehealth to connect the family to some services.

Research

Research is conducted on pediatric healthcare issues to advance the science associated with effectiveness of new treatments for health conditions and to increase the integration of an evidence-based nursing practice (Bowrey & Thompson, 2014). Research can focus on evaluating innovations in nursing care to determine if nursing practice or patient outcomes are improved.

Pediatric nurses need to become consumers of new pediatric research, reading and analyzing the research findings and applying those findings to practice. Such findings may potentially improve healthcare outcomes, improve comfort, or even reduce the cost of care. This research is also used in developing specific healthcare facility evidence-based practice guidelines. For example, pediatric nurses may identify issues in patient care processes that involve clinical practice, education, ethical issues, and specific needs of particular populations of children. In collaboration with advanced practice nurse researchers or other health professionals, pediatric nurses can help identify research questions, assist with the design of research studies, and collect data. With advanced education the pediatric nurse can become a nurse researcher. See the section later in the chapter for issues related to patient consent and assent.

HISTORY OF CHILD HEALTH CARE

By examining the roots of pediatric nursing and how certain nursing roles have evolved, we may better understand the historical context of current child health issues and pediatric nursing practice.

The Beginnings of Child Health Nursing

During the 18th and 19th centuries, and much of the 20th century, infectious disease caused the majority of deaths in children, along with falls, burns, and poisoning. In the early 1900s, the infant mortality rate was 100 per 1,000 live births, and nearly a third of infant deaths were caused by diarrhea (Brosco, 2012). Poverty and unsanitary conditions were significant contributors to infant deaths.

Efforts to improve the infant mortality rate were initiated in the late 1880s through public health strategies. Efforts were made to improve the quality of milk for children when mothers did not breastfeed. Health departments tested milk for bacterial content and set standards. Milk stations were established in poor communities with free or low-cost milk. Milk pasteurization was regulated and required by 1920 in most cities (Brosco, 2012).

Social welfare reformers began addressing principles of hygiene, plumbing, housing, and social reform. In 1895, Lillian Wald, the pioneer of home visiting nursing, recognized the need for health promotion and disease prevention among New York City's poor immigrant population, and she and other nurse colleagues organized nursing services to children and their families at the Henry Street Settlement (Henry Street Settlement, 2016). Although the nurses in these settings could not help their patients overcome poverty, they did actively seek improvements in social conditions affecting their health. The nurses made home visits, taught parents about nutrition and hygiene, and made arrangements for sick children to see a physician at a dispensary or hospital (Figure 1–3 ■). In the early 1900s, some hospitals had pediatric dedicated wards.

School nursing began in 1902, after Lillian Wald assigned nurse Lina Rogers to a school for a 1-month experimental project at the request of the New York City Board of Education and the city's health commissioner. The project was so successful in reducing absenteeism from schools that more school nurses were hired (National Association of School Nurses, 2011). School nursing was thus initiated in New York City, and the model soon spread to other cities in the United States and Canada. Children and their parents were educated about personal hygiene and disease prevention in these school health programs, and school nurses also visited homes during the summer to meet and educate new mothers. See Figure 1–4 ■.

Efforts by physicians, nurses, and other social activists during the first decade of the 20th century increased the awareness of child health and welfare issues at the federal level. The first White House Conference on Children was held in 1909, and it addressed the care of dependent children and working conditions of children. In 1912, the Children's Bureau, the first U.S. agency devoted to the condition and welfare of children, was formed (Brosco, 2012).

FIGURE 1–3 ■

A well-baby clinic for recently immigrated mothers and their babies, circa 1912.

SOURCE: Photo courtesy of the National Archives, photo no. 90-G-5-1.

FIGURE 1–4 ■

A community health nurse visits children who are not attending school due to a communicable disease outbreak.

SOURCE: Photo courtesy of the Visiting Nurses Association of Boston.

Historic Legislation

The first U.S. program supporting health services to mothers and infants was the Sheppard-Towner Child Welfare Act, enacted in 1920. A major objective was to reduce the infant mortality rate. One rationale was that this effort would improve the health status of future soldiers after those recruited for World War I were found in poor health (Brosco, 2012). Despite a significant reduction in the infant mortality rate, Congress did not reauthorize the program in 1929. See Box 1–3 for a timeline of other significant federal legislation that has benefited children.

In 1935, as part of the Social Security Act, child welfare was addressed through the establishment of the Aid to Families with Dependent Children program to support needy children without fathers. Title V of the Social Security Act focused on promoting and improving the health of mothers and children nationwide. The Title V program has supported many landmark projects over the past 80 years to improve the health of pregnant women and children (Health Resources and Services Administration, Maternal and Child Health Bureau, 2016):

- Through maternal and child health grants to states and territories, states established agencies to address the needs of pregnant women and children.
- Over the next seven decades, special programs were developed to address emerging issues such as infant mortality, children with intellectual disabilities, and newborn hearing screening.
- National guidelines were developed for child health supervision from newborns through adolescence, and safety standards for out-of-home childcare facilities were developed.

- Nutrition care during pregnancy and lactation has been enhanced through the Women, Infants, and Children's (WIC) supplemental nutrition program.
- Successful strategies for childhood injury prevention were identified.

Other Advances in Child Health Care

Other significant advances in society have had a major impact on the health of children:

- The development of antibiotics and vaccines beginning in the 1940s and 1950s has saved innumerable children who would have died of infectious diseases.
- Technologic advances have enabled new treatments for children with conditions that would have proven fatal, such as the heart-lung machine in the 1950s that made possible new surgical treatments for children with congenital heart defects.
- The National Aeronautics and Space Administration (NASA) engineered miniaturized equipment that could be carried into space to monitor the astronauts. That equipment was then modified for use in health care. Much of the portable equipment used for pediatric health care is based on this research and engineering.
- Access to health information by computers (publications, patient data, and scientific studies) has enabled health professionals to collect, contrast, and analyze information about the care of children with specific conditions in different settings. Significant advances in the treatment and outcomes of children with many conditions are constantly being made.

Nurses have been instrumental in the development of pediatric health care and the specialty of pediatric nursing. They continue to help the specialty develop and to make sure that the needs of children are addressed in all settings. Exciting contributions are being made by pediatric nurses today, including:

- Conducting research to improve the care of children in areas such as self-management of health conditions, palliative care, and end-of-life care;
- Identifying strategies to provide health services to homeless children;
- Promoting healthy behaviors and lifestyles for children to address obesity and reduce their risk of chronic diseases as adults;
- Developing strategies to reduce medication errors and improve patient safety; and
- Improving emergency medical systems to ensure access to appropriate and high-quality care.

NURSING PROCESS IN PEDIATRIC CARE

Clinical Reasoning

The systematic framework for practice, the nursing process, involves clinical reasoning and critical thinking when planning nursing care for infants, children, and adolescents. **Clinical reasoning** is the analytical process used when assessing patient cues and information, synthesizing that information and applying it to understand a child's or family's problem or concern, and then making judgments about important actions needed to

Box 1–3

Significant Federal Legislation Affecting Child Health

- 1920—The Sheppard-Towner Act supported services to mothers and infants.
- 1935—The Social Security Act included two important programs for children: Aid to Families with Dependent Children (AFDC), now called Temporary Assistance to Needy Families (TANF), and Title V of this act, which initiated programs to improve the health of mothers and children.
- 1946—The National School Lunch Act created the modern school lunch program.
- 1965—Medicaid, under Title XIX of the Social Security Act, enabled indigent pregnant women and children to have access to health care.
- 1966—The Child Nutrition Act initiated the school breakfast program.
- 1970—The Poisoning Prevention Packaging Act required that dangerous medications were to have childproof caps.
- 1972—The Women, Infants, and Children (WIC) program began providing supplemental food for low-income pregnant women, infants, and children.
- 1973—The Rehabilitation Act required that accommodations be made for children with disabilities to have access to schools and other public programs.
- 1974—The Child Abuse Prevention and Treatment Act provided funding for recognition of child abuse and development of child protection teams. This law also specified that every baby, even those with disabilities, should receive nutrition, hydration, and medication.
- 1975—The Education for All Handicapped Children Act mandated that children with disabilities receive a free and appropriate education in the least restrictive environment. This act was reauthorized as the Individuals with Disabilities Education Act (IDEA) in 1997 and 2004, and children with disabilities were provided with educational opportunities and benefits equivalent to their peers without disabilities.
- 1984—The Emergency Medical Services for Children program was created to improve the quality of, and access to, emergency care for children with acute illnesses and injuries.
- 1997—State Children's Health Insurance Program (CHIP) legislation expanded health coverage to children through 19 years of age in families with an income too high to qualify for Medicaid.
- 2010—Affordable Care Act (ACA) legislation expanded Medicaid coverage to millions of low-income Americans and made improvements to the Children's Health Insurance Program (CHIP).

initiate or modify a nursing care plan. **Critical thinking** is an individualized, creative thinking or reasoning process nurses use to solve problems. Both reasoning skills are essential for nurses. For example, the child's condition can change during a hospitalization, requiring nurses to recognize subtle cues that need attention to prevent the child's deterioration.

Clinical reasoning skills involve the following processes:

- Analyzing data from the history, physical examination, and laboratory tests;
- Discriminating between signs, therapies, or appropriate nursing actions;
- Seeking additional information or evidence regarding appropriate care to provide;
- Using logical reasoning when developing a plan of care;
- Identifying expected outcomes associated with the plan of care; and
- Evaluating the family's and child's outcomes to determine the need for modifying the nursing care plan.

Clinical reasoning and critical thinking skills are essential for nurses because nursing and health care are dynamic. The patient's condition can change dramatically during a hospitalization, requiring the recognition of subtle cues that need attention to prevent the patient's deterioration. Research and new knowledge change the manner in which nursing care is provided. The healthcare system is under great pressure to improve the quality of care within an environment of fiscal constraints.

Consider the application of clinical reasoning and critical thinking in each step of the nursing process as it relates to children:

- ***Assessment*** involves collecting patient and family data and performing physical examinations during community-based health services, at admission, periodically during the child's hospitalization, and when home care services are provided. The nurse analyzes and synthesizes data to make a judgment about the patient's problems.
- ***Nursing diagnoses*** describe the health promotion and health patterns that nurses observe in the child and family and for which specific nursing actions can be planned, implemented, and evaluated. The North American Nursing Diagnosis Association (NANDA) has responsibility for endorsing the standard language for these nursing diagnoses to describe the health promotion and health patterns that nurses can independently manage.
- ***Nursing care plans*** are based on goals that will improve the child's or family's health and health conditions. Specific expected outcomes should be realistic. Nursing care plans often have nursing interventions classifications (NICs) and nursing outcomes classifications (NOCs). NICs provide a standard language for general nursing actions that are specific for a nursing diagnosis. NOCs provide a standard language for patient states or behaviors that should be monitored in children and families with a specific nursing diagnosis.

  In some settings, standard care plans for specific diagnoses may be used in the pediatric unit of the hospital and by home health agencies. The nurse is responsible for individualizing the standard care plan based on data collected from the child's assessment, the cultural values of the child and family, and evaluation of the child's response to care. The family (and the child, when old enough) and the nurse should collaborate in the planning and agree upon the care plan goals. Individualized nursing action plans provide directions for nursing care.
- ***Implementation*** is performing the interventions outlined in the nursing care plan. Interventions may be modified, depending on outcomes and the child's responses.
- ***Evaluation*** is the use of specific objective and subjective measures (often called outcome measures or criteria) to assess the progress of the child and family in reaching the goals defined in the nursing care plan. Following the evaluation of their progress toward the goals, the nursing care plan may be modified. For example, as the child's condition improves and goals are attained, new goals and nursing action plans should be defined.

It can be challenging to use evidence, analyze information, and make sound decisions that result in safe, effective care for the child. Scenarios provide a realistic way of enabling students to apply concepts. The Clinical Reasoning in Action feature found at the end of each chapter presents a scenario and asks clinical reasoning questions to help students formulate their responses to the issues and apply concepts learned. Additionally, in several chapters throughout this textbook, specific examples of nursing care plans are provided for health promotion activities and for the management of a child with a specific condition.

Evidence-Based Practice

Evidence-based practice is a problem-solving approach that combines the best evidence synthesized from well-designed studies with an individual's clinical expertise. As partners in the healthcare process, the preferences of the child and family also must be considered in any care provided (Ritt, 2013). Evidence-based practice provides a bridge between research and practice by using a systematic search for the most relevant evidence related to a clinical question or problem, followed by a critical review of that evidence to answer a clinical question. This is one strategy to keep nursing practice current and to promote positive healthcare outcomes for children and their families. Use of the evidence-based practice process requires the nurse to become a lifelong learner. It has also become an important strategy used by healthcare facilities to improve patient safety and quality of care.

To integrate the best research evidence, the health professional must analyze and evaluate all clinical studies related to a specific health condition or clinical problem. However, clinical judgment is needed to determine if the research findings fit the population of care served by the health professional or by the healthcare setting. The process of evidence-based practice involves several steps (Lockwood, Aromataris, & Munn, 2014):

1. Clearly identify the specific clinical question to be investigated.
2. Collect the most relevant and best evidence from well-designed studies.
3. Critically review, synthesize, and analyze the evidence for quality and application to the clinical question and population served.
4. Integrate the evidence with your clinical experience and the patient preferences and values, often providing a revised guideline for nursing practice.
5. Evaluate the nursing practice change resulting from the evidence-based practice process for its impact on quality of care.
6. Disseminate the results of the evidence-based practice process.

The PICOT acronym describes a method for refining the clinical question for an evidence search and identifying the terms to use for a literature search (Elias, Polancich, Jones, et al, 2015):

- **P**—defining the patient *population* (e.g., by age, gender, ethnicity, or health problem)
- **I**—*identifying* the health condition or current nursing actions of interest
- **C**—identifying the *comparison* intervention or patient population
- **O**—identifying the effectiveness of the intervention on the patient population's clinical *outcomes*
- **T**—defining a *time* interval for the question

The new evidence may result in a proposed change in the process of care, such as a revised clinical practice guideline or procedure, if the analysis reveals that the children have a better outcome or the cost of care is reduced with a new procedure or treatment. In some cases, the care change is implemented in a nursing unit or healthcare setting as a pilot project. Data are collected to evaluate the changed practice to see if the outcomes occur as predicted by the evidence. If the changed practice does result in improved outcomes, then the new practice is adopted more broadly. It is the responsibility of the nurses involved in the project to publish the results so that findings are more widely disseminated.

In some cases, multiple disciplines collaborate in an evidence-based practice process to answer a clinical question that leads to the development of a clinical practice guideline. For example, the international Cochrane Collaboration conducts systematic reviews of health care and health policy research and publishes evidence-based healthcare recommendations in the *Cochrane Reviews* (Cochrane, 2016).

A **clinical practice guideline** (sometimes called a clinical pathway) is a consensus of evidence-based and expert opinion statements about the health care for a specific diagnosis used to assist healthcare providers to make decisions about the appropriate care of a child with that condition (Keiffer, 2015). These clinical practice guidelines are often developed by a national professional organization, government agency, or expert panel for a specific condition. The experts evaluate and grade the evidence and then make recommendations for appropriate care interventions for a specific diagnosis and population. They serve as an interface between research and practice, encouraging practice changes that improve quality and are more cost effective.

Practice guidelines help promote **collaborative practice**, a comprehensive model of health care that uses an interprofessional team of health professionals to provide high-quality, cost-effective care. Other examples of practice guidelines include the care of a child with type 1 diabetes and traumatic brain injury. Practice guidelines promote uniformity in care so that patient outcomes and health professional performance can be measured for evaluation.

Assessing Quality of Health Care

High-quality health care is expected to lead to a greater likelihood of desired outcomes and improved safety for the child receiving care. To determine if the care provided is of high quality, it must be measured. For this reason, efforts to identify measurable healthcare indicators (also known as performance indicators) to assess the appropriateness of healthcare decisions, services, and outcomes are the focus of several organizations and federal agencies. Indicators can focus on the structure or environment within which care is delivered, the process of care, or patient outcomes. In most cases, each performance indicator needs a **benchmark** (indicator outcome measurement goal which indicates quality of care) to evaluate a clinical practice guideline or adherence to that guideline within a clinical setting.

Electronic patient records make it possible to evaluate the quality of care provided to all children with the specific health status or health condition of interest. When the child's record of care reveals an indication of an unexpected outcome, it is then possible to fully investigate the circumstances of the care to identify opportunities for improvements. When a pattern of variations from the expected process of care is found, education can be provided to all healthcare providers to improve compliance with the process of care. Nurses have a role in assessing the quality of care by participating on performance improvement committees. Quality indicators will become increasingly more important in healthcare settings as the Centers for Medicare and Medicaid Services plan to use quality measures to guide incentive reimbursement (Centers for Medicare and Medicaid Services, 2013).

CONTEMPORARY CLIMATE FOR PEDIATRIC NURSING CARE

As of 2014, an estimated 73.5 million children and youth under 18 years of age lived in the United States, and they account for approximately 23.1% of the population. (See Figure 1–5 ■ for a distribution of the population by age group.) The percentage of children and youth within the U.S. population continues to decline. The median age of the population has increased from 35.3 years in 2000 to 37.7 years in 2014 as older adults are living longer (U.S. Census Bureau, 2015).

Partnering with Families: Family-Centered Care

To develop a trusting partnership with families, healthcare providers must recognize that the family is a constant influence and support in the child's life. A **partnership** is a relationship in which participants join together to ensure health care is

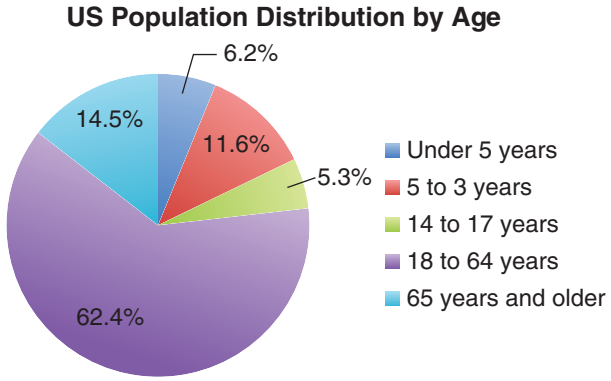

FIGURE 1–5 ■

United States Population by Age Group, 2014

In 2014, children from birth to 17 years of age accounted for approximately 23.1% of the total population in the United States.

SOURCE: U.S. Census Bureau, Population Division. (2015). *Annual estimates of the resident population for selected age groups by sex for the United States, States, Counties, and Puerto Rico Commonwealth and Municipios: April 1, 2010 to July 1, 2014, Retrieved from* http://factfindercensus.gov

delivered in a way that recognizes the critical roles and contributions of each partner in promoting health, preventing illness, and managing healthcare conditions. The family is the principal caregiver and center of strength and support for the child (Figure 1–6 ■). Partnerships with families are important in all healthcare settings because of the vital role that families play in meeting the emotional, social, and developmental needs of their children and in ensuring their health and well-being. **Family-centered care** is a dynamic, deliberate approach to building collaborative relationships between health professionals and families that is respectful of their diversity and beliefs about the nature of the child's condition and ways to manage it. See Chapter 2 for methods of implementing family-centered care and building partnerships with families.

All children need a **medical home** or **healthcare home**—a continuous, comprehensive, family-centered, and compassionate source of health care provided throughout the child's developmental years. Criteria for a medical or healthcare home include the following: being well-known by a physician or nurse who provides the usual source of sick care, having access to specialty care and other services or therapies, spending adequate time communicating clearly with the family, providing help with care coordination when needed, respecting the family's values and partnering with the family in the child's care, and providing interpreters when necessary. An estimated 54.4% of children have a healthcare home that meets these criteria (U.S. Department of Health and Human Services, Health Resources and Services Administration, Maternal and Child Health Bureau, 2015, p. 93). See Chapter 8 for additional information about the healthcare home.

When a family has an established relationship with a care provider, a partnership between the parent and healthcare provider enables the child to receive health services based on the family's risks and protective factors. See Chapters 8 and 14 for more information about the role of nurses in the medical or healthcare home model of care.

FIGURE 1–6 ■

Many facilities encourage sibling visitation for children with health problems that require long-term hospitalization. Extended family visits enable parents to learn about the child's care, and provide siblings with opportunities to interact with the hospitalized child.

SOURCE: George Dodson/Pearson Education, Inc.

Culturally Competent Care

The U.S. population has a varied mix of cultural groups, with ever-increasing diversity. Approximately 46% of all children less than 18 years of age are from families of minority populations (Federal Interagency Forum on Child and Family Statistics, 2015). Consider the current issues:

- In 2014, 21% of children, native born in the United States, lived with at least one parent who was foreign born.
- In 2013, 22% of school-age children in the United States spoke another language other than English at home, and 5% had difficulty speaking English.

The 2014 U.S. population illustrates the diversity of children under 18 years of age: 51.9% of U.S. children were non-Hispanic White, 24.4% Hispanic, 13.8% Black, 4.8% Asian, and 5.1% all other races. The racial and ethnic diversity is expected to increase significantly over the next few decades when 39% of U.S. children are projected to be non-Hispanic White and 32% are projected to be Hispanic by 2050 (Federal Interagency Forum on Child and Family Statistics, 2015). It is also important to recognize the diversity among the non-Hispanic White population as they represent many cultural groups, such as immigrants from former Soviet bloc countries in Eastern Europe.

Culture involves the knowledge, beliefs, and behaviors that define an individual's personal identification, language, thoughts, communications, actions, customs, and values (U.S. Department of Health and Human Services, National Institutes of Health, 2015). It develops from socially learned beliefs, lifestyles, values, and integrated patterns of behavior that are characteristic of the family, religious faith, ethnic or racial group, and

Developing Cultural Competence
Integrating Tradition

Conflicts can occur within a family when traditional rituals and practices of the family's elders do not conform to current healthcare practices. Nurses need to be sensitive to the potential implications for the child's health care, especially when the child is being cared for in the home. Specific cultural groups often practice complementary and alternative therapies. Information about these practices needs to be obtained during the history. Although some complementary therapies are beneficial or cause no harm, other therapies may interact with prescribed medications and cause harm. See Chapter 3 for more information about complementary and alternative therapies.

When cultural values are not included as part of the nursing care plan, parents may be forced to decide whether the family's beliefs and values should take priority over the healthcare professional's guidance. Make an effort to understand traditional health practices and to integrate them into the care plan. When the family's cultural values are incorporated into the care plan, the family is more likely to accept and adhere to the needed care, especially in the home care setting. Avoid imposing your personal cultural values on the children and families in your care. By learning about the values of the different ethnic groups in the community—religious beliefs that have an impact on healthcare practices, beliefs about common illnesses, and their specific healing practices—you can develop an individualized nursing care plan for each child and family. See Chapter 3 for guidelines in developing a culturally competent practice in pediatric nursing.