EDITION

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Introduction to Maternity and Pediatric Nursing

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Introduction to Maternity and Pediatric Nursing

EIGHTH EDITION

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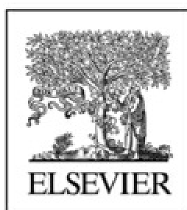

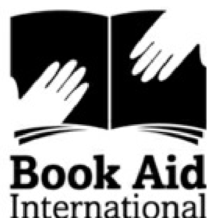

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Dedication

Dedicated to the memory of

Sarah Masseyaw Leifer nurse, humanitarian, and mother

and

Daniel Peretz Hartston pediatrician, husband, and world traveler

To the honor of

Barnet, Michelle, Daniel, Sofia, Tess, and McKenzie

Amos, Gina, Spencer, and Ryan

Heidi, Paul, and Ruby

Eve, Zoe, Elliot, and Ian

who remind me of the excitement and joys of parenthood

and the marvels of grandparenthood.

Acknowledgments

Gloria Leifer Hartston

I am grateful to the educators, clinicians, and students who provided constructive suggestions for earlier editions of *Introduction to Maternity & Pediatric Nursing*, many of whom influenced the revisions of this edition, especially in the decision to further develop the *unfolding case study* which has become a popular technique in "active learning"; a variety of samples of different types of nursing care plans with various central themes that bring live applications to new concepts and the inclusion of more skills that are unique to obstetric and pediatric nursing. It is hoped that the attention to these expressed needs will make this edition even more valuable as a teaching and learning tool.

As a parent, I recognize the value and have experienced the joys of a happy, healthy, loving family. Guiding the growth and development of four tiny children who are now grown and productively contributing to society is a unique experience. I would like to express my gratitude to my children—Heidi, Barnet, Amos, and Eve—for their encouragement and patience. They have taught me firsthand what it means to be an anxious parent, thus in a sense providing some of the "evidence-based" content that may enable students to lessen the anxieties of other parents. In this edition, my grandchildren—Zoe, Elliot, Ian, Ruby, Spencer, Ryan, Daniel, Sofia, Tess and McKenzie — contributed to the text as models and promoted my understanding of the role of the grandparent in the modern day extended family. The experience of integrating a young foster child into the family further increased my sensitivity to child and family adaptation and an understanding of the various experiences that influence growth and development.

My past travels with my husband have made it possible for me to personally investigate and appreciate the importance of the cultural practices and challenges of maternity and pediatric care in developed and undeveloped areas in Africa, the Far East, the Middle East, and Europe, as well as in many parts of the United States, including Alaska. My appreciation is extended to the many members of the medical and nursing professions in these countries for their time, cooperation, and continued close communication.

I would also like to thank the medical and nursing staff of Riverside University Hospital System (RUHS) in Moreno Valley, California, and the Southern California Kaiser Permanente Medical Center in Fontana, California, for their assistance and informal cooperation in providing access to critical current information and practices.

Ilze Rader and Terri Wood, former editors at W.B. Saunders, will always be remembered for believing in my ability, inviting me to join the Saunders/Elsevier family, and nurturing my creativity. My first text was published in 1966, and although I have had many journal articles and textbooks published since then, I am excited to have the opportunity to continue my contributions to the education of nurses at all levels. The project becomes more challenging with each revision because increasing knowledge, new technology, and changing health care delivery systems and goals must be woven into the basic content as it affects nursing practice.

Teri Hines Burnham, former Director of Content Development, welcomed me to the Elsevier family in St. Louis and offered the support and guidance necessary for the success of my multiple publishing projects. Nancy O'Brien, Senior Content Strategist, met with me in person to discuss details of the planned update and revision of this text, offering many helpful suggestions. Alexandra York, Content Development Specialist, monitored the precision of the manuscript with expertise and provided support and responsive communication that made the challenging revision an enjoyable experience for me. Rich Barber, Project Manager, stepped in to manage and coordinate the production phase of the manuscript with calm expertise, and Betsy McCormac managed reference and continuity with a keen eye. This production team inspired confidence as they assisted in the revision and update of a reader friendly text with many original features, including the unfolding case study, special icons for the Skills and many new and updated content threads. I wish to express my appreciation to Trena Rich, RN MSN APRN Bc CIC, who provided ancillary support

to this text by updating the online documents and support publications that enhance both student learning and faculty teaching that are essential to achieving the full goals of this text. I feel blessed to have had the support and encouragement of my clinical nursing peers, Elvie Kelly, Ha Jeong Jeong, Larry Miquelon, Elvira Rillon, Lori Lopez, and Challis Addis, who used their personal time to arrange for pictorial updates that serve as unique and valuable learning tools in this text.

The blending of traditional, current and future concepts necessary for LPN/LVNs as those who "ladder" into the ADN program, to function effectively in a changing health care environment into one text was a challenge that required cooperation and compromise. It was a pleasure to work with this publishing team in which simple exposition was allowed to develop into a hearty feast of knowledge that I hope will serve to educate and stimulate the appetite of the reader for continued education.

Finally, and most important, I would like to thank my nursing students from Fordham School of Nursing in the Bronx, Hunter College of the City University of New York, California State College at Los Angeles, and Riverside City College in California for helping me apply and redefine concepts of teaching and learning.

About the Author

Professor Gloria Leifer embarked on her nursing career in 1955 and soon identified a special interest in teaching and curriculum development. She obtained a Master's degree in the Art of Teaching Maternal-Child Nursing from Columbia University in New York in 1963 (M.A.) and entered Doctoral study at Columbia University specializing in curriculum development in nursing.

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LPN/LVN Threads and Advisory Board

LPN/LVN Threads

The eighth edition of *Introduction to Maternity and Pediatric Nursing* shares some features and design elements with other Elsevier LPN/LVN textbooks. The purpose of these *LPN Threads* is to make it easier for students and instructors to use the variety of books required by the relatively brief and demanding LPN/LVN curriculum. The following features are included in the *LPN Threads*.

- The **full-color design, cover, photos,** and **illustrations** are visually appealing and pedagogically useful.
- **Objectives** (numbered) begin each chapter, provide a framework for content, and are especially important in providing the structure for the TEACH Lesson Plans for the textbook.
- **Key Terms** with phonetic pronunciations and page-number references are listed at the beginning of each chapter. Key terms appear in color in the chapter and are defined briefly, with full definitions in the **Glossary.** The goal is to help the student with limited proficiency in English to develop a greater command of the pronunciation of scientific and nonscientific English terminology.
- A wide variety of **special features** relate to critical thinking, clinical practice, health promotion, safety, patient teaching, complementary and alternative therapies, communication, home health care, and more. Refer to the To the Student section of this introduction on p. xiii for descriptions and examples of these features.
- **Critical Thinking Questions** presented at the ends of chapters and with Nursing Care Plans provide students with opportunities to practice critical thinking and clinical decision-making skills with realistic patient scenarios. Answers are provided in the Student Resources section on the Evolve website.
- **Key Points** at the end of each chapter correlate to the objectives and serve as useful chapter reviews.
- A full suite of **Instructor Resources** is available, including TEACH Lesson Plans and PowerPoint Slides, Test Bank, Image Collection, and Open-Book Quizzes.
- A **reading-level evaluation** is performed on every chapter of the manuscript during the book's development to increase the consistency among chapters and to ensure that the text is easy to understand.
- In addition to consistent content, design, and support resources, these textbooks benefit from the advice and input of the **Elsevier LPN/LVN Advisory Board**.

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To the Instructor

Education of the Nurse

Depth with simplicity continues to be the theme of this text, which is based on current health care practices and the need to adapt to advances in medicine and technology to maintain quality patient care. The role of the nurse is changing at every level and the curriculum of educational programs for nurses must also change to prepare graduates adequately for entry level positions.

The Institute of Medicine (IOM) and various nursing organizations have declared the goal of all nursing education to be the achievement of an RN that includes a BSN or higher degree and that is consistent with the expanding complexities of the nurse's role in healthcare. To that end, more BSN nursing programs are being developed and accredited. Until this goal is fully achieved, there remains a need for nurses at entry level positions, responsible for quality nursing care that possess an LPN/LVN or ADN degree. Currently, these programs are impacted and the nurse with an LPN/LVN degree seeks a seamless progression into an ADN program to achieve the goal of the higher educational degree. This "ladder" of progression toward an ADN degree often does not repeat the specialty classes in Obstetrics or Pediatrics at the ADN level. For that reason, this text is designed to include the most accurate and clinically relevant information with the depth the LVN/LPN student needs to be successful in the ADN program and practice as an RN in the maternal-child specialty. This text discusses the scope of practice of all levels of nurses and is designed to facilitate success in the ADN ladder program in the maternal-child specialty of nursing. The current goal of ADN programs is focused on continuing the seamless progression of their ADN graduates to further their education to the BSN level. This text supports the alternative route to the BSN nurse until the IOM goals are fully achieved. This text is written with *simplicity* but includes the *depth* to enable LVN/LPN achievement and success in the ADN ladder program leading to RN practice in the area of maternal-child nursing.

ABOUT THIS TEXT

As in previous editions, this combined maternity and pediatric text highlights the ways in which infants and children differ from adults. Because of the differences in anatomy, physiology and psychology, techniques of caring for the pregnant woman, infant, or child may vary from those used for the adult medical-surgical patient. Principles of physiology and pathophysiology are presented in this text as a review to help students understand and identify normal and abnormal health at various stages of development. New information concerning the influence of the prenatal environment of the fetus on the health of the newborn as an adult, is included. The changing health care delivery system, the current IOM goals and the objectives of *Healthy People 2030* focus on health promotion and risk reduction. In response, this text provides comprehensive discussions on family-centered–care, wellness, health promotion, illness prevention, safety, and the growth and development of the child *and the parent*. An understanding of various cultural practices, the care of the patient in the hospital as well as in the local and global community, *inter-professional nursing responsibilities* and the use of expanding technology are necessary for the nurse to know in order to play an important role in community and global health and these factors are integrated within the chapters.

The normal process of growth and development from conception to adulthood is the core of pediatric knowledge and therefore, it is integrated as an essential feature of this text. The effects of illness and medication in the pregnant woman are influenced by the presence of a fetus; dosages are determined by the age and weight of the developing child; and illness or injury at a specific phase of growth and development has an impact on the achievement of normal developmental tasks. Nothing is *standard* among these populations, and these are some of the unique challenges of maternity and pediatric nursing. The amazing talents of the healthy newborn are well known and the nurse must educate the parents and utilize the state of acute alertness of the newborn in the first hour of life, to aid in long-term bonding between infant and parents during that first hour that cannot be captured to the same extent at a later time. Illnesses specific or common to various age groups are discussed as well as the differences in the responses of each age group to these illnesses or disabilities. The effects of illness, therapy, nutrition, environment, culture, on the growing child and their responses at various stages of growth and development are included when discussing the nurse's role in maternal-child care. All this information centers around the nurse and the application of the nursing process in the hospital, the community and as a participant in improving global health.

This information forms one continuum of knowledge that flows from conception to adulthood and is organized from simple to complex, and from health to illness.

The systems approach is maintained in presenting physiological illness (with the exception of congenital anomalies present at birth and communicable diseases of children).

The organization of this text is designed to facilitate its use in a combined maternity and pediatric course, a maternity course followed by a separate pediatric course, or a medical-surgical course that integrates maternity and pediatric concepts.

This edition encompasses the core aspects of evidence-based maternal-child nursing in health and illness, incorporating updates in clinical care and expanded technology. References to online sources of information that compliments the presented concepts or sources that can be used for patient education are integrated within the text as well at the end of each chapter.

Many parents use complementary or alternative therapies for themselves and their children. Chapter 34 fills the gap between traditional Western therapies and common alternative or complementary therapies for which there is standard scientific evidence, as well as some readily available over-the-counter remedies. All nurses need a working knowledge of the actions, interactions, and safety of these interventions related to the growing fetus and child. An understanding of the trend toward active participation in one's own health care requires the nurse to use "teaching moments" to offer knowledge that can help the patient choose safe self-care practices.

Managed health care gave rise to the clinical pathway, and all nurses must understand their role in the plan of care. The reader is encouraged to approach clinical problems using critical thinking rather than predetermined habit or memorization of fact. The strong base of knowledge provided by this text focuses on abilities (skills) and beginning concepts of critical thinking. Critical thinking is the basis of clinical decision making and an essential part of nursing education at every level. Critical thinking questions are included in all chapters with answer guidelines available to the student on the Evolve website. Also, many different types of care plan styles are presented in this text: (*standard patient care plan; family care plan; pictorial pathway; clinical pathway; QSEN care plan; Couplet care plan and others*) are designed to assist readers in adapting to the style and theme used in the area in which they practice. The unfolding case study is presented in this edition to challenge the student to apply concepts discussed in the text, using critical thinking which is enhanced by the open-ended questions relating to the presenting family in the chapter. Answers to the open-ended questions can be found in the instructor's resource materials provided online. Each chapter also offers credible online resources for students to use to enhance their evidence-based knowledge and critical thinking skills.

Positive communication skills are an essential part of caring nursing interventions and examples of inter-professional communication and the nurse's role in "hand-off" care or end of shift report are discussed. Cultural differences related to various perceptions of health and illness and traditional health practices are presented to enable the student nurse to begin developing cultural competence with the community served.

Clinical rotations, particularly in obstetrics and pediatrics, seem to be shortened each year because sites for hands-on clinical experiences are difficult to find for nursing students. This text is designed to bridge the gap between the classroom and the clinical arena by presenting current facts, concepts, and principles that promote learning through comprehension rather than memorization. Careful consideration of the various nurse practice acts and the NCLEX Test Plans have guided the inclusion of 42 detailed Skills—in addition to many photos and drawings of the specific skill and equipment used—unique to obstetrics and pediatrics and designed to emphasize nursing actions and responsibilities. Each Skill includes several icons that symbolize common steps for *any* skill in *any* area of general medical-surgical nursing—checking the order, introducing yourself, identifying the patient, performing hand hygiene, and so forth (see p. xiv). It is essential for the student to understand the importance of these steps and to know when to perform each. Presented as a continuum of related images, these icons become engrained in the students' minds as steps that must be considered before performing any intervention. However, these icons also are standard and require critical thinking for students to determine the specific supplies and equipment they may need and when it is necessary to don gloves or other protective equipment.

Every effort has been made to provide a readable text in a simplified format with an array of tables, figures and new photographs and illustrations that allow a comprehensive understanding of techniques essential for effective maternity and pediatric nursing care. It is hoped that the information presented in this text will help the student deal with challenging clinical situations that

require the use of a broad knowledge base and the ability to think critically, prioritize, and utilize specific clinical skills. **This book, with its theme of *depth with simplicity,* is designed to prepare the LPN/LVN student for mobility in the profession by entering the ladder program to ADN studies with adequate knowledge in the maternal-child specialty to provide, upon graduation, evidence-based quality maternity and pediatric nursing care to a diverse population in a rapidly changing world.**

New and Updated Content

The 8th edition has been thoroughly revised with the most recent research and information, including guidelines based on the World Health Organization's Baby-Friendly Hospital Initiative (BFHI), complementary and alternative therapies used in maternal-child care, the impact of body piercings and tattoos on diagnostic imaging and surgery, nonpharmacological prevention and treatment of hypertension, updated immunization mandates, emergency preparedness, and preventing medication errors, among others. The use of technology as it affects nursing care; interprofessional nursing; nursing research and sources; and the scope of practice at all levels of nursing, are updated and discussed.

Newborn care has been divided into three transitional phases with nursing responsibilities outlined for each:

- Phase 1: Care in the delivery room (Chapter 6)
- Phase 2: Assessment during the first few hours after birth (Chapter 9)
- Phase 3: Care of the parent(s) before discharge from the hospital (Chapter 12)

The women's health section also has been updated and revised. The intent is that the information provided will improve the understanding of select women's health problems related to maternal-child care and adolescent health, therefore helping the nurse improve the quality of women's lives by increasing knowledge of preventive care.

Hallmark Features

The following are hallmark features of this book:

- Content that spans the **developmental continuum** is organized from **simple to complex** and from **health to illness,** making it easy to locate information.
- Focus is on **family-centered care, health promotion and illness prevention, and growth and development of child and parent.**
- **Obstetric content** includes exercise during pregnancy, routine screening tests done during pregnancy, in-depth complementary and alternative therapy content, nursing interventions and responsibilities for analgesia during childbirth, latest update of Bishop's score, pediatric language milestones and communication problems in pediatric growth and development, therapeutic play, and the understanding that the prenatal fetal environment impacts the health of the newborn as an adult. Therefore, many adult non-communicable diseases can be prevented by good prenatal care!
- **Pictorial story of vaginal and cesarean births** includes photographs through delivery, followed by delivery of placenta.
- Table 4-6 explains in detail the **physiological and psychosocial changes during trimesters** of pregnancy, signs and symptoms, and nursing interventions.
- **Cultural practices** as they relate to pregnancy and delivery, maternal/infant care, and pediatric care are presented in detailed tables.
- **Cultural Assessment Data Collection Tool** (Chapter 4) checklist assists the nurse in developing an individualized plan of care.
- The **Food Guide Pyramid for Young Children, and the Portion Plate for Kids** (shown in Figure 4-7) can help teach children about balanced diets and portion control that will promote healthy growth and development.
- **Bioterrorism** is related to the pregnant woman and children.
- **Loss, death, and grief** and children's responses to death at various ages are presented.

- **Skills** unique to obstetrics and pediatrics (with Performance Checklists for each on Evolve)cover a wide range of maternal and pediatric nursing interventions.
- Over 25 **Nursing Care Plans** of various types and styles, with 7 different themes provide expected outcomes, interventions, and rationales for nursing interventions. Nearly every chapter has at least one type of nursing care plan related to chapter content.
- **Unfolding case study** with open-ended critical thinking questions to assess application of content to practice as students follow one family through the conception and birth process.
- **Nursing Tips** throughout highlight pertinent information applicable in the clinical setting.

Teaching and Learning Package

For the Instructor

The comprehensive **Evolve Resources with TEACH Instructor Resource** include the following:

- Test Bank with approximately 1025 multiple-choice and alternate-format questions with topic, step of the nursing process, objective, cognitive level, NCLEX® category of client needs, correct answer, rationale, and text page reference
- TEACH Instructor Resource with Lesson Plans and PowerPoint slides that correlate each text and ancillary component
- Image Collection that contains all the illustrations and photographs in the textbook
- Study Guide Answer Key is available on the Instructor Evolve site

For the Student

The Evolve **Student Resources** include the following assets and more:

- Animations depicting anatomy and physiology
- Answers and Rationales for Review Questions for the NCLEX® Examination
- Answer Guidelines for Critical Thinking Questions
- Audio Glossary with pronunciations in English and Spanish
- Calculators for determining body mass index (BMI), body surface area, fluid deficit, Glasgow coma score, IV dosages, and conversion of units
- Fluids and Electrolytes Tutorial
- Interactive Review Questions for the NCLEX® Examination with immediate feedback, including answers, rationales, and page references
- Patient Teaching Plans in English and Spanish
- Skills Performance Checklists for each Skill in the textbook

To the Student

Reading and Review Tools

- **Objectives** introduce the chapter topics.
- **Key Terms** are listed with page numbers. Difficult medical, nursing, or scientific terms are accompanied by simple phonetic pronunciations. Key Terms are considered essential to understanding chapter content and are in color the first time they appear. Key Terms are briefly defined in the text, with complete definitions in the Glossary.
- Each chapter ends with a ***Get Ready for the NCLEX® Examination!*** **section** that includes: (1) **Key Points** that reiterate the chapter objectives and serve as a useful review of concepts; (2) a list of **Additional Resources** including the Study Guide, Evolve Resources, and Online Resources; (3) an extensive set of **Review Questions for the NCLEX® Examination** with answers located on Evolve; and (4) **Critical Thinking Questions** for many chapters with answer guidelines located on Evolve.
- A complete **Bibliography and Reader References** in the back of the text cite evidence-based information and provide resources for enhancing knowledge.

Chapter Features

Skills are presented in a logical format with defined *purpose,* relevant *illustrations,* and detailed and numbered nursing *steps.* Each Skill includes icons that serve as reminders to perform the basic steps applicable to *all* nursing interventions:

Check orders.

Gather necessary equipment and supplies.

Introduce yourself.

Check patient's identification.

Provide privacy.

Explain the procedure/intervention.

Perform hand hygiene.

Don gloves (if applicable).

Not listing the exact supplies or equipment needed encourages you to think critically about what you might need to do or to gather according to hospital protocol before performing the specific Skill.

Nursing Care Plans, developed around specific case studies, include nursing diagnoses with an emphasis on patient goals and outcomes and questions to promote *critical thinking* and valuable sound *clinical decision-making skills*. An **Unfolding Case Study** uses open-ended questions to stimulate critical thinking in applying concepts discussed in the chapter that may relate to a specific family as they experience the various stages of pregnancy and birth.

Nursing Tips highlight pertinent information applicable in the clinical setting.

Safety Alerts and **Medication Safety Alerts** emphasize the importance of protecting patients, family, health care providers, and the public from accidents, medication errors, and the spread of disease.

Health Promotion boxes emphasize a healthy lifestyle, preventive behaviors, and screening tests to assist in the prevention of accidents and illness.

Medication tables provide quick access to information about commonly used medications related to maternity or pediatric nursing care.

Cultural Considerations boxes explore select cultural preferences and how to address the needs of a culturally diverse patient and family when planning care.

Nutrition Considerations provide important nutrition information for the pregnant woman, infant, and growing child.

Patient Teaching boxes appear frequently in the text to help develop awareness of the vital role of patient/family teaching in health care today.

Communication boxes focus on communication strategies with real-life examples of nurse–patient dialogue.

Legal & Ethical Considerations present pertinent information about the legal issues and ethical dilemmas that may face the practicing nurse.

Home Care Considerations boxes discuss the issues facing patients and caregivers in the home setting.

Memory Joggers provide easy-to-remember mnemonics and acronyms for remembering specific information.

UNIT I

An Overview of Maternity and Pediatric Nursing

The Past, Present, and Future

OBJECTIVES

1. Recall the contributions of persons in history to the fields of maternity and pediatric care.
2. List the organizations concerned with setting standards for the nursing care of maternity and pediatric patients.
3. State the influence of the federal government on maternity and pediatric care.
4. Understand the legal responsibilities of the nurse to report certain diseases or conditions to the public health authorities.
5. Contrast present-day concepts of maternity and child care with concepts of the past.
6. Discuss how culture affects childbirth and child care.
7. List the five steps of the nursing process.
8. Define critical thinking.
9. Discuss why statistics are important and the common terms used in expressing statistical data.
10. Compare and contrast a nursing care plan with a clinical pathway.
11. Discuss the role of critical thinking in the nursing process and in clinical judgment.
12. Examine the importance of documentation as a nursing responsibility.
13. Discuss the objectives of *Healthy People 2030* as it relates to maternity and pediatric care.
14. Describe the role of the community health nurse as a health care provider.

KEY TERMS

American Health Care Act (p. 4)

clinical pathways (p. 12)

critical thinking (p. 14)

cultural awareness (p. 6)

cultural competence (p. 6)

cultural sensitivity (p. 6)

culture (p. 6)

documentation (p. 15)

evidence-based practice (p. 14)

family care plan (p. 19)

global nursing (p. 19)

Health Information Portability and Accountability Act (HIPAA) (p. 3)

Healthy People 2030 (p. 16)

nursing care plan (p. 11)

nursing process (p. 11)

QSEN (p. 16)

SBAR (or S-BAR) (ĚS-băr, p. 16)

http://evolve.elsevier.com/Leifer

The word **obstetrics** is derived from the Latin term *obstetrix,* which means “stand by.” It is the branch of medicine that pertains to the care of women during pregnancy, childbirth, and the postpartum period **(puerperium).** Maternity nursing is the care given by the nurse to the expectant family before, during, and following birth.

A physician specializing in the care of women during pregnancy, labor, birth, and the postpartum period is an **obstetrician.** These physicians perform cesarean deliveries and treat women with known or suspected obstetric problems as well as attending normal deliveries. Many family physicians and certified nurse-midwives also deliver babies.

Pediatrics is defined as the branch of medicine that deals with the child’s development and care and the diseases of childhood and their treatment. The word is derived from the Greek *pais, paidos,* meaning “child,” and *iatreia,* meaning “cure.”

Family-centered care recognizes the strength and integrity of the family and places it at the core of planning and implementing health care. The family members as caregivers and decision makers are an integral part of both obstetric and pediatric nursing. The philosophy, goals, culture, and ethnic practices of the family contribute to their ability to accept and maintain *control* over the health care of family members. This control is called **empowerment.** The nurse’s role in maternity and pediatric family-centered care is to enter into a contract or partnership with the family to achieve the goals of health for its members.

The past

Obstetrics

The skill and knowledge related to obstetrics have evolved over centuries. The earliest records concerning childbirth are in the Egyptian papyruses (circa 1550 BC). Soranus, a Greek physician who practiced in Rome in the 2nd century and who is known as the father of obstetrics, made later advances. He instituted the practice of podalic version, a procedure used to rotate a fetus to a breech, or feet-first, position. Podalic version is important in the vaginal delivery of the second infant in a set of twins. In this procedure, the physician reaches into the uterus and grasps one or both of the infant's feet to facilitate delivery. Planned cesarean birth is used today, as it is safer than podalic version.

With the decline of the Roman Empire and the ensuing Dark Ages, scientific exploration and associated medical improvements came to a halt. During the 19th century, however, Karl Credé (1819–1892) and Ignaz Semmelweis (1818–1865) made contributions that improved the safety and the health of mother and child during and after childbirth. In 1884 Credé recommended instilling 2% silver nitrate into the eyes of newborns to prevent blindness caused by gonorrhea. Credé's innovation has saved the eyesight of incalculable numbers of babies.

Semmelweis' story is a classic in the history of maternity care. In the 1840s, he worked as an assistant professor in the maternity ward of the Vienna general hospital. There he discovered a relationship between the incidence of puerperal fever (or "childbed fever"), which caused many deaths among women in lying-in wards, and the examination of new mothers by student doctors who had just returned from dissecting cadavers. Semmelweis deduced that puerperal fever was septic, contagious, and transmitted by the *unwashed hands* of physicians and medical students. Semmelweis' outstanding work, written in 1861, is titled *The Causes, Understanding, and Prevention of Childbed Fever.* Tragically, his teaching was not finally accepted until 1890.

Louis Pasteur (1822–1895), a French chemist, confirmed that puerperal fever was caused by bacteria and could be spread by improper hand washing and contact with contaminated objects. The simple, but highly effective, procedure of hand washing continues to be one of the most important means of preventing the spread of infection in the hospital and the home today.

Joseph Lister (1827–1912), a British surgeon influenced by Pasteur, experimented with chemical means of preventing infection. He revolutionized surgical practice by introducing antiseptic surgery.

Pediatrics

Methods of child care have varied throughout history. The culture of a society has a strong influence on standards of child care. Many primitive tribes were nomads. Strong children survived, whereas the weak were left to die. This practice of infanticide (French and Latin *infans,* "infant," and *caedere,* "to kill") helped to ensure the safety of the group. As tribes became settled, more attention was given to children, but they were still frequently valued only for their productivity. Certain peoples, such as the Egyptians and the Greeks, were advanced in their attitudes. The Greek physician Hippocrates (460–370 BC) wrote about illnesses peculiar to children.

In the Middle Ages, the concept of childhood did not exist. Infancy lasted until about age 7 years, at which time the child was assimilated into the adult world. The art of that time depicts children wearing adult clothes and wigs. Christianity had a considerable impact on child care. In the early 17th century, Saint Vincent de Paul founded several children's asylums. Many of these eventually became hospitals, although their original concern was for abandoned children. The first children's hospital was founded in Paris in 1802. In the United States, the Children's Aid Society, founded in New York City in 1853, cared for numerous homeless children. In 1855, the first pediatric hospital in the United States, Children's Hospital of Philadelphia, was founded.

Abraham Jacobi (1830–1919) is known as the father of pediatrics because of his many contributions to the field. The establishment of pediatric nursing as a specialty paralleled the establishment of departments of pediatrics in medical schools, the founding of children's hospitals, and the development of separate units for children in foundling homes and general hospitals. By the 1960s separate pediatric units were also common in hospitals. Parents were restricted by rigid visiting hours that allowed parent–infant contact for only a few hours each day; when medically

indicated, nursing mothers were allowed to enter the pediatric unit for 1 hour at a time to breastfeed their infants.

Obstetric and pediatric care in the united states

The immigrants who reached the shores of North America brought with them a wide variety of practices and beliefs about the birth process. Many practices were also contributed by the Native American nations. A midwife or relative attended to most deliveries in the early United States. Samuel Bard, a physician who was educated outside the United States, is credited with writing the first American textbook for midwives in 1807.

As a young Harvard physician, Oliver Wendell Holmes (1809–1894) wrote a paper detailing the contagious nature of puerperal fever, but he, similar to Semmelweis, was widely criticized by his colleagues. Eventually the "germ theory" became accepted, and more mothers and babies began to survive childbirth in the hospital.

Before the 1900s most babies were born at home. Only very ill patients were cared for in lying-in hospitals. Maternal and child **morbidity** and **mortality** were high in such institutions because of crowded conditions and unskilled nursing care. Hospitals began to develop training programs for nurses. As the medical profession grew, physicians developed a closer relationship with hospitals. This, along with the advent of obstetric instruments and anesthesia, caused a shift to hospital care during childbirth. By the 1950s hospital practice in obstetrics was well established. By 1960 more than 90% of births in the United States occurred in hospitals.

However, hospital care during that time did not embrace the family-centered approach. Often the father waited in a separate room during the labor and birth of his child. The mother was often sedated with "twilight sleep" and participated little during labor and delivery. After birth, the infant was not reunited with the parents for several hours, which resulted in a delay of parent–infant bonding.

Organizations concerned with setting standards for maternity and pediatric nursing were developed. These included the American College of Nurse-Midwives (ACNM); the Association of Women's Health, Obstetric, and Neonatal Nurses (AWHONN), which was formerly the Nurses Association of the American College of Obstetricians and Gynecologists (NAACOG); and the Division of Maternal Nursing within the American Nurses Association (ANA). The American Academy of Pediatrics (AAP), made up of pediatricians from across the nation, has established a position of leadership in setting health standards for children.

Legal and Ethical Considerations

The American Nurses Association develops standards of practice that serve as a guide to meet some current challenges. These standards are used when policies and procedures are established. Also, each state has a nurse practice act that determines the scope of practice for registered nurses, practical or vocational nurses, and certified nurse assistants. Because these descriptions vary from state to state, nurses must stay informed about the laws in the state where they are employed.

Government Influences in Maternity and Pediatric Care

Legislation

The high mortality of mothers and infants motivated action by the federal government to improve care. The following is a chronological list of some important milestones in US history related to maternity and pediatric care and safety:

- The Sheppard-Towner Act of 1921 provided funds for state-managed programs for maternity care (1921).
- Title V of the Social Security Act provided funds for maternity care (1935).
- The Fair Labor Standards Act established a general minimum working age of 16 years and

a minimum working age of 18 years for jobs considered hazardous. More importantly, this act paved the way for the establishment of national minimum standards for child labor and provided a means of enforcement (1938).

- The National Institutes of Health (NIH) established support for maternity research and education (1962).
- Head Start programs were established to increase educational exposure for preschool children (1966).
- The Women, Infants, and Children (WIC) Program was established to provide supplemental food and education for families in need of assistance (1966).
- The National Center for Family Planning was established to provide contraceptive information (1970).
- The government passed the Child Abuse Prevention and Treatment Act (CAPTA) (1974).
- The Education for All Handicapped Children Act provided for support and public education of handicapped children (1975).
- The Title V amendment of the Public Health Services Act established maternal–infant care centers in public clinics (1981).
- In 1982, the Community Mental Health Center was funded, and the Missing Children's Act was passed, providing a nationwide clearinghouse for missing children (1982).
- The Family and Medical Leave Act of 1993 (FMLA) enabled employees to take 12 weeks of unpaid leave to care for newborns or ill family members without losing benefits or pay status in their jobs (1993).
- Title XIX of the Medicaid program increased access to care by indigent women (1993).
- The **Health Information Portability and Accountability Act (HIPAA)** set standards to protect patients' health information. Patients are allowed access to their medical records and control over how their personal information is disclosed (2003).
- The Health Information Technology for Economic and Clinical Health Act (HITECH) was enacted to extend HIPAA regulations by protecting electronic health records (2009).
- The Patient Protection and Affordable Care Act, also known as the Affordable Care Act (ACA) and commonly referred to as "Obama Care," expanded health care coverage to millions of Americans who were previously uninsured (2010).

Legal and Ethical Considerations

HIPAA and HITECH

Health care personnel are expected to maintain strict confidentiality concerning all patient information. HIPAA regulations mandate that the names and personal information of patients be kept in a secure and private place. Nurses and other health care personnel must maintain strict confidentiality concerning all patient information. The HITECH addition to HIPAA, enacted in July 2009, includes confidentiality requirements involving the monitoring and management of access to electronic health records. HITECH also requires electronic tracking of who accessed the health record, when it was accessed, and what was reviewed.

In 2010 President Obama signed into law the Patient Protection and Affordable Care Act that focused on preventive health care. In 2012, the Supreme Court upheld the constitutionality of the Affordable Care Act (ACA), which increased accessibility to health care in the United States and went into effect in 2014. In 2017, President Trump signed an executive order to repeal and replace the ACA with the **American Health Care Act** (AHCA). Efforts to redesign the health care program continue and affect family planning and maternal–child care.

Laws requiring the licensing of physicians and pharmacists indirectly affect the health of children and the general public. Protection is also afforded by the Pure Food and Drug Act, which has allowed for governmental control over medicines, poisons, and the purity of foods. Programs for disaster relief, care and rehabilitation of handicapped children, foster child care, family counseling, family day care, protective services for abused or neglected children, and education of the public

are maintained and supported by governmental and private agencies. State licensing bureaus control the regulation of motor vehicles. Car seats for infants and children are currently mandatory. Protection of the public by law enforcement agencies is important because automobile accidents rank among the leading causes of injury and death in children.

The Children's Bureau

Lillian Wald, a nurse who was interested in the welfare of children, is credited with suggesting the establishment of a federal children's bureau. After the Children's Bureau was established in 1912, it focused attention on the problem of infant mortality. A program that dealt with maternal mortality followed this program. These programs eventually led to birth registration in all states. In the 1930s the Children's Bureau investigations led to the development of hot lunch programs in many schools. Today the Children's Bureau is administered under the auspices of the Department of Health and Human Services.

Nursing Tip

Community programs such as foster grandparents' programs, home health or parent aides, and telephone hotlines for children who are home alone after school are of particular value to dysfunctional or isolated families.

White House Conferences

President Theodore Roosevelt called for the First White House Conference on Children and Youth in 1909. This conference was designed to be held every 10 years under the President's leadership. At the White House Conference on Child Health and Protection of 1930 during President Hoover's presidency, the Children's Charter was written (Box 1.1). The charter lists 17 statements related to the needs of children in the areas of education, health, welfare, and protection, and it is considered one of the most important documents in child care history. This declaration has been widely distributed throughout the world.

Box 1.1

The Children's Charter of 1930

I. For every child spiritual and moral training to help him or her to stand firm under the pressure of life.
II. For every child understanding and the guarding of personality as a most precious right.
III. For every child a home and that love and security which a home provides; and for those children who must receive foster care, the nearest substitute for their own home.
IV. For every child full preparation for the birth; the mother receiving prenatal, natal, and postnatal care; and the establishment of such protective measures as will make childbearing safer.
V. For every child protection from birth through adolescence, including periodic health examinations and, where needed, care of specialists and hospital treatment; regular dental examinations and care of the teeth; protective and preventive measures against communicable diseases; the ensuring of pure food, pure milk, and pure water.
VI. For every child from birth through adolescence, promotion of health, including health instruction and health programs, wholesome physical and mental recreation, with teachers and leaders adequately trained.
VII. For every child a dwelling place safe, sanitary, and wholesome, with reasonable provisions for privacy; free from conditions which tend to thwart development; and a home environment harmonious and enriching.
VIII. For every child a school which is safe from hazards, sanitary, properly equipped, lighted,

and ventilated. For younger children nursery schools and kindergartens to supplement home care.

IX. For every child a community which recognizes and plans for needs; protects against physical dangers, moral hazards, and disease; provides safe and wholesome places for play and recreation; and makes provision for cultural and social needs.

X. For every child an education, which, through the discovery and development of individual abilities, prepares the child for life and through training and vocational guidance prepares for a living, which will yield the maximum of satisfaction.

XI. For every child such teaching and training as will prepare him or her for successful parenthood, homemaking, and the rights of citizenship and, for parents, supplementary training to fit them to deal wisely with the problems of parenthood.

XII. For every child education for safety and protection against accidents to which modern conditions subject the child—those to which the child is directly exposed and those which, through loss or maiming of the parents, affect the child directly.

XIII. For every child who is blind, deaf, crippled, or otherwise physically handicapped and for the child who is mentally handicapped, such measures as will early discover and diagnose his handicap, provide care and treatment, and so train the child that the child may become an asset to society rather than a liability. Expenses of these services should be borne publicly where they cannot be privately met.

XIV. For every child who is in conflict with society the right to be dealt with intelligently as society's charge, not society's outcast; with the home, the school, the church, the court, and the institution when needed, shaped to return the child whenever possible to the normal stream of life.

XV. For every child the right to grow up in a family with an adequate standard of living and the security of a stable income as the surest safeguard against social handicaps.

XVI. For every child protection against labor that stunts growth, either physical or mental, that limits education that deprives children of the right of comradeship, of play, and of joy.

XVII. For every rural child as satisfactory schooling and health services as for the city child, and an extension to rural families of social, recreational, and cultural facilities.

From National White House Conference: *White House Conference on Child Health and Protection, 1930,* College Park, MD, 1930, U.S. Children's Bureau Files, National Archives.

In 1971 during President Nixon's presidency the White House Conference was held in Colorado. It was split in two; one conference focused on children, and one conference focused on health and social issues affecting teens. During President Carter's presidency, an informal conference event was held. President Reagan distributed money to individual state-based events during his presidency. Congress authorized a conference to be held in 1993 during President Clinton's presidency, but it was not funded. During the presidencies of President Clinton and President George W. Bush, small conferences focused on early childhood development, missing and exploited children, and school safety. In 2010 during President Obama's presidency, a bill was introduced to continue White House Conferences on Children, and content focused on issues of the decade (e.g., child welfare) and inspired a national conversation (Michael and Goldstein, 2017).

International Year of the Child

The year 1979 was designated as the International Year of the Child. The purpose was to focus attention on the critical needs of the world's 1.5 billion children and to inspire nations, organizations, and individuals throughout the world to consider how well they provide for children (US Department of Health and Human Services, 1980). The United Nations reaffirmed the Declaration of the Rights of the Child (Box 1.2). Two international organizations concerned with children are the United Nations International Children's Fund (UNICEF) and the World Health Organization (WHO).

Box 1.2

The United Nations Declaration of the Rights of the Child

The General Assembly proclaims that the child is entitled to a happy childhood and that all should recognize these rights and strive for their observance by legislative and other means:

1. All children without exception shall be entitled to these rights regardless of race, color, sex, language, religion, politics, national or social origin, property, birth, or other status.
2. The child should be protected so that he or she may develop physically, mentally, morally, spiritually, and socially in freedom and dignity.
3. The child is entitled at birth to a name and nationality.
4. The child is entitled to healthy development, which includes adequate food, housing, recreation, and medical attention. He or she shall receive the benefits of social security.
5. The child who is handicapped physically, mentally, or emotionally shall receive treatment, education, and care according to his or her need.
6. The child is entitled to love and a harmonious atmosphere, preferably in the environment of his or her parents. Particular love, care, and concern need to be extended to children without families and to the poor.
7. The child is entitled to a free education and opportunities for play and recreation and to develop his or her talents.
8. The child shall be the first one protected in times of adversity.
9. The child shall be protected against all forms of neglect, cruelty, and exploitation. He or she should not be employed in hazardous occupations or before the minimum age.
10. The child shall not be subjected to racial or religious discrimination. The environment should be peaceful and friendly.

Modified from U.N. General Assembly Resolution 1386 (XIV), November 20, 1959.

Department of Public Health

The Department of Public Health bears a great deal of responsibility for the prevention of disease and death during childhood. Preventive efforts are made on national, state, and local levels. This department inspects the water, milk, and food supplies of communities and enforces the maintenance of proper sewage and garbage disposal. Epidemics are investigated, and, when necessary, persons capable of transmitting diseases are isolated. The Department of Public Health is also concerned with the inspection of housing and offers services to mothers and infants through programs such as WIC.

Legal and Ethical Considerations

Reportable Situations

The nurse has a legal responsibility to report certain diseases or conditions to the local public health authorities. A reportable disease is an illness that poses a health hazard to the public, such as a foodborne infection, tuberculosis, sexually transmitted infection, or other communicable condition (see Chapter 32). Suspected child abuse or suicidal behavior must be reported immediately to protect the child from further harm. Required reporting forms are available from the nurse’s employer or the public health department. The nurse must have a basic understanding of legal and ethical responsibilities and the role of the health care team to be able to use critical thinking skills and provide meaningful support to the family.

The present

Family-centered care

In family-centered childbearing, the family is recognized as a unique system. Every family member is affected by the birth of a child; therefore family involvement during pregnancy and birth is seen as constructive and necessary for bonding and support. To accommodate family needs, alternative birth centers, birthing rooms, rooming-in units, and mother–infant coupling have been developed. These arrangements are alternatives to the previous standard of separate areas for labor and delivery, which made it necessary to transport a mother from one area to another and fragmented her care.

The three separate sections of the maternity unit—labor/delivery, postpartum, and newborn nursery—have merged. The whole sequence of events may take place in one suite of **labor, delivery, and recovery (LDR) rooms.** The patient is not moved from one area to another, but receives care during labor and delivery in one room and then remains in the same room to recover and care for her new infant. These rooms are often decorated to look homelike.

Freestanding **birthing centers** outside the traditional hospital setting are popular with low-risk maternity patients. These birthing centers provide comprehensive care including antepartum, labor/delivery, postpartum, mothers' classes, lactation classes, and follow-up family planning. Home birth using midwives is not currently a widespread practice because malpractice insurance is expensive and emergency equipment for unexpected complications is not available.

Financial considerations

Cost containment is the efficient and effective use of resources. It includes monitoring and regulating expenditures of funds and involves the institution's budget. At first, cost containment influenced maternity care by requiring the discharge of the mother and newborn in 24 hours or less after delivery. As a result of problems that occurred, current legislation allows a 48-hour hospital stay for vaginal deliveries and a 4-day hospital stay for a cesarean section.

Changing perceptions of childbearing

Current maternity practice focuses on a high-quality family experience. *Childbearing is seen as a normal and healthy event.* Parents are prepared for the changes that take place during pregnancy, labor, and delivery. They are also prepared for changes in family dynamics after the birth. Treating each family according to the family's individual needs is considered paramount.

During the 1950s the hospital stay for labor and delivery was 1 week. The current average stay in uncomplicated cases is 1 to 2 days. Routine follow-up of the newborn takes place within 2 weeks. A nurse visits the homes of infants and mothers who appear to be at high risk.

Midwives

Throughout history, women have played an important role as birth attendants or **midwives.** The first school of nurse-midwifery opened in New York City in 1932. There are many accredited programs in the United States, all located in or affiliated with institutions of higher learning. A certified nurse-midwife (CNM) is a registered nurse (RN) who has graduated from an accredited midwife program and is nationally certified by the American College of Nurse-Midwives. A CNM provides comprehensive prenatal and postnatal care and attends uncomplicated deliveries. The CNM ensures that each patient has a backup physician who will assume her care should a problem occur.

Role of the consumer

Consumerism has played an important part in family-centered childbirth. In the early 1960s the natural childbirth movement awakened expectant parents to the need for education and involvement. Prepared childbirth, La Leche League (breastfeeding advocates), and Lamaze classes gradually became accepted. Parents began to question the routine use of anesthesia and the

exclusion of fathers from the delivery experience.

Today a father's attendance at birth is common. Visiting hours are liberal, and extended contact with the newborn is encouraged. The consumer continues to be an important instigator of change. Consumer groups, with the growing support of professionals, have helped to revise restrictive policies previously thought necessary for safety. It has been demonstrated that informed parents can make wise decisions about their own care during this period if they are adequately educated and given professional support.

Cultural considerations

Culture is a body of socially inherited characteristics that one generation hands down to the next. Culture consists of values, beliefs, and practices shared by members of the group. Culture becomes a patterned expression of thoughts and actions (called traditions) and affects the way patients respond to health care.

The United States is a culturally diverse nation, and nurses must develop **cultural awareness** and **cultural sensitivity** to practices and values that differ from their own. Only in this way can nurses develop the **cultural competence** that will enable them to adapt health care practices to meet the needs of patients from various cultures. Cultural awareness, sensitivity, and competence are important in global health nursing.

The cultural background of the expectant family strongly influences its adaptation to the birth experience. Nursing Care Plan 1.1 lists nursing interventions for selected diagnoses that pertain to cultural diversity. One way in which the nurse gains important information about an individual's culture is to ask the pregnant woman what she considers normal practice. Data collection questions might include the following:

- How does the woman view her pregnancy (as an illness, a vulnerable time, or a healthy time)?
- Does she view the birth process as dangerous? Why?
- Is birth a public or private experience for her?
- In what position does she expect to deliver (i.e., squatting, lithotomy, or some other position)?
- What type of help does she need before and after delivery?
- What role does her immediate or extended family play in relation to the pregnancy and birth?

Nursing Care Plan 1.1

Care of Childbearing Families Related to Potential or Actual Stress Caused by Cultural Diversity

Patient data

A 22-year-old woman, para 0, gravida 1, is admitted to the labor room in active early labor. Her partner is with her, and they do not speak English.

Selected Nursing Diagnosis:

Difficulty in verbal communication resulting from language barriers

Goals	Nursing Interventions	Rationales
The woman will have an opportunity to understand communication in her own language.	Arrange for a family or staff member interpreter as needed.	Interpreter can provide support for the woman and help to lessen her anxieties. Poor communication can result in time delays, errors, and misinterpretation of intent.
	Clearly define instructions in the woman's language of origin.	A common language is necessary for communication to take place.
	Provide written instructions in the woman's language whenever possible.	Written instructions can be reviewed at a less stressful time by the patient. In some cases it is necessary to determine if the patient can read.

	Explain the use and purpose of all instruments and equipment, along with the effects or possible effects on the mother and fetus.	Education of the family lessens anxiety and provides family members with a sense of control.
	Provide opportunities for clarification and questions.	Learning takes time; repetition of important material promotes learning. The nurse can determine the woman's understanding of information and clarify misconceptions.

Selected Nursing Diagnosis:
Difficulty in family adaptation resulting from isolation, different customs, attitudes, or beliefs

Goals	Nursing Interventions	Rationales
Family members will state that they feel welcome and safe in the environment provided.	Encourage orientation visit to the maternity unit before delivery.	Families who have clear, accurate information can better participate in labor and delivery. Viewing the delivery setting before using it decreases anxiety about the unknown.
	Inform families about routines, visiting hours, significant persons who can assist in labor and delivery, and location of newborn after delivery.	Families have different expectations of the health care system. They may hesitate to ask questions because of shyness or fear of "losing face."
	Determine and respect practices and values of family and incorporate them into nursing care plans as much as possible.	Clarification of culturally specific values and practices will prevent misunderstanding and conflict with the nurse's value system. Nursing care plans promote organization of care and communication among staff members.

Critical Thinking Questions

1. The extended family of a patient in the labor room requests permission to stay with the patient and the husband throughout labor. What should the nurse's response be?
2. A patient admitted to the labor room refuses to let a male physician perform a vaginal examination. What should the nursing role be?

Such information helps to promote understanding and individualizes patient care. It also increases the satisfaction of the patient and the nurse regarding the quality of care provided. Cultural influences on nursing care are discussed in Chapter 6. Complementary and alternative care practices in maternity and pediatric nursing care are discussed in Chapter 34.

Technology and specialty expertise

Technological advances have enabled many infants to survive who might otherwise have died (Fig. 1.1). High-risk prenatal clinics and the neonatal intensive care unit offer a 1-lb premature newborn an opportunity to survive. Research is under way concerning techniques of enabling a developing fetus to survive and thrive outside the womb before 20 weeks gestation. A pediatric cardiologist treats children with heart problems. Pediatric surgeons perform complex surgery needed by newborns with congenital defects. Pediatric psychiatrists manage emotional problems. Many hospital laboratories are well equipped to test pediatric specimens. Chromosomal studies and biochemical screening have made identification of risks and family counseling more significant than ever. The field of perinatal biology has advanced to the forefront of pediatric medicine.

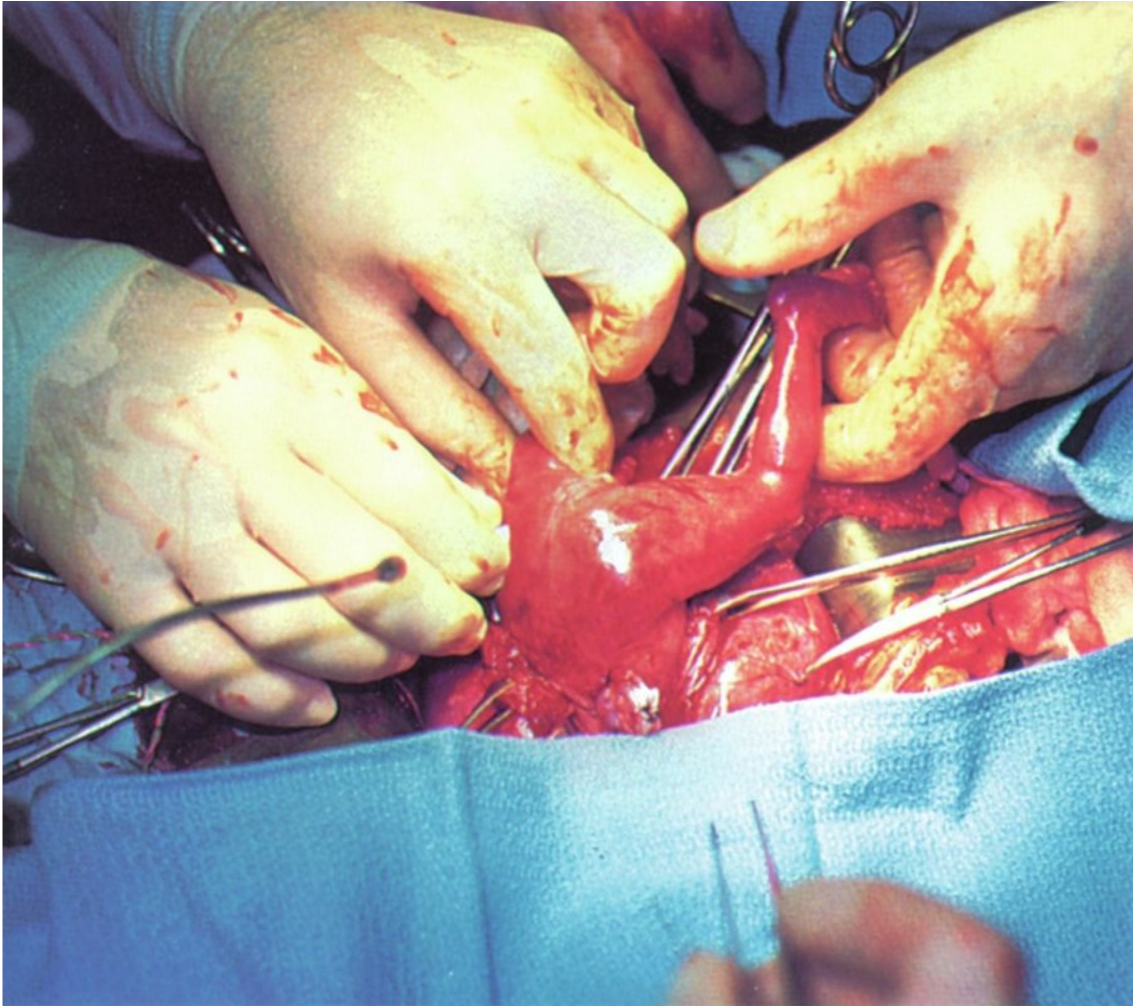

FIG. 1.1 Fetal surgery can be performed to repair a congenital defect before birth. (From Harrison MR, Globus MS, Filly RA, eds: *The unborn patient: prenatal diagnosis and treatment*, ed 2, Philadelphia, 1991, Saunders.)

The medical profession and allied health agencies work as a team to ensure the total well-being of the patient. Children with defects previously thought to be incompatible with life are taken to special diagnostic and treatment centers where they receive expert attention and care. After discharge, many of these children are cared for in their homes. The number of children with chronic disabilities is growing. Some are dependent on sophisticated hospital equipment such as ventilators and home monitors. The required nursing care at home may call for the suctioning of a tracheostomy, central line care, and other highly technical skills. Parents must be carefully educated and continually supported. Although this type of care is cost-effective and psychologically sound for the child, respite care is extremely important because 24-hour-a-day care is extremely taxing for the family both physically and psychologically.

Genomics

Genomics is the study of the functions of all the genes in the human body, with a focus on their interactions with each other and with the environment. The *Human Genome Project* has identified all genetic material present in the human body. Medical researchers have identified genes responsible for specific congenital disorders and can develop gene therapy to replace missing genes or alter defective genes (Fig. 1.2). This knowledge, combined with technological advances, can result in earlier diagnosis, earlier intervention, and an integration of genomic knowledge in patient education as well as therapy.

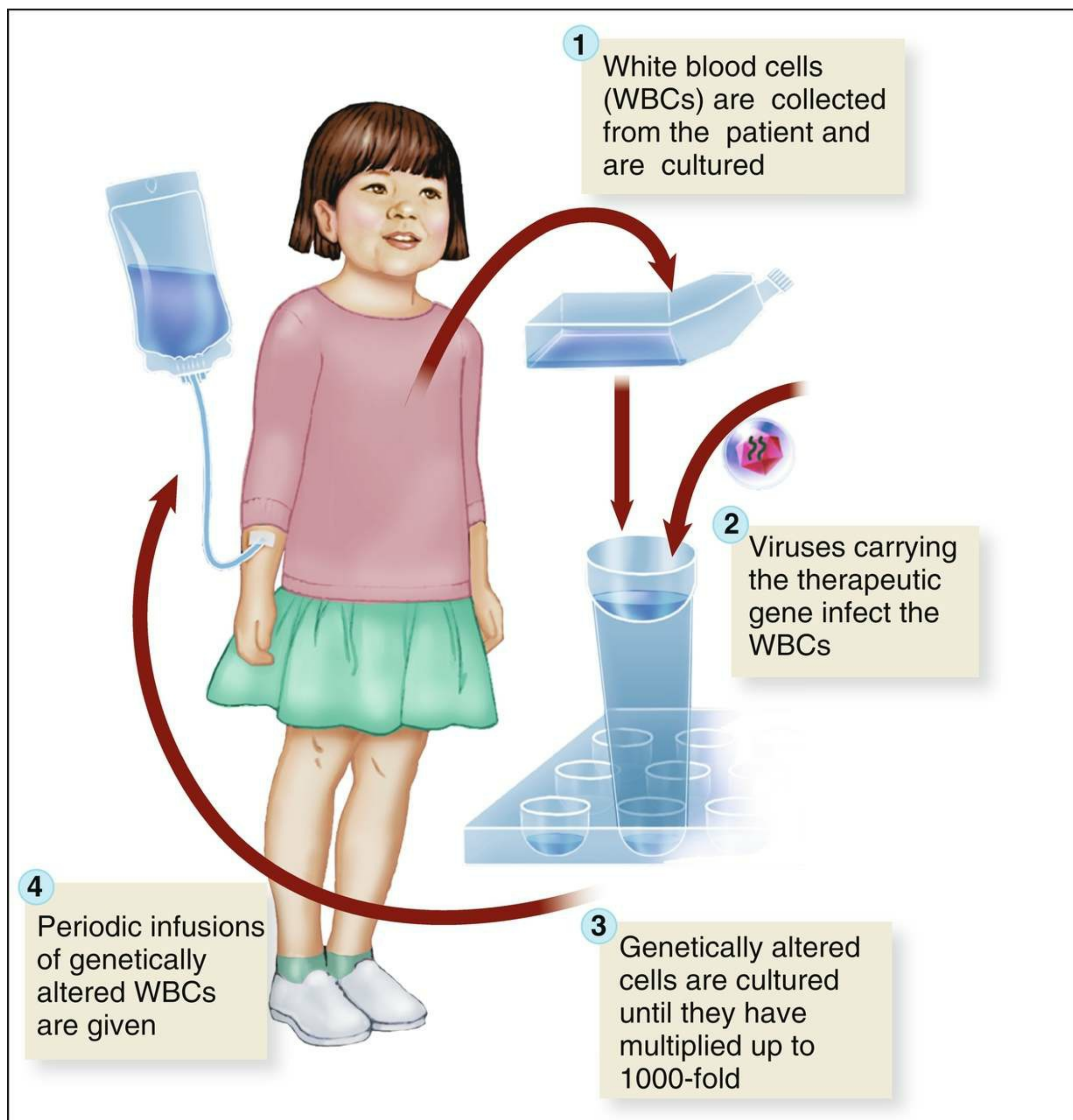

FIG. 1.2 Gene therapy. One goal of gene replacement therapy is to alter the existing body cells to eliminate the cause of a genetic disease. The therapeutic or missing gene can be combined with a virus that can enter the infant's system. This is called gene augmentation. In gene replacement therapy, new therapeutic genes are combined with viruses that can enter the human genome. (From Patton KT, Thibodeau GA: *Anatomy & physiology,* ed 9, St. Louis, 2016, Mosby.)

Health care delivery systems

Cost containment is a major motivating factor in current health care, especially when health care costs increase without decreases in morbidity and mortality. Insurance reimbursement has become an important consideration in health care. The federal government has revised its Medicare and Medicaid programs. Among other changes, it instituted **diagnosis-related groups (DRGs).** These refer to a Medicare system that determines payment for a hospital stay based on the patient's diagnosis. This mandate has had a tremendous impact on health care delivery. Patients are being discharged earlier from the hospital, and more care is being given in skilled nursing facilities and in the home. Some insurance companies are employing nurses in the role of case managers. Nurses working in institutions also may be required to assume the role of case managers and to become more flexible through cross-training. Nurses are expected to be concerned with keeping hospital costs down while maintaining the quality of care. Many suggest that the future of nursing may depend on how well nurses can demonstrate their value and cost-effectiveness.

Health maintenance organizations (HMOs) and **preferred provider organizations (PPOs)** have emerged as alternative medical care delivery systems. Insurers and providers of care have united to hold costs down while remaining competitive. Historically a two-tiered system evolved: one tier (private insurance, HMOs, and PPOs) served people with greater financial resources, and the other tier (Medicare and Medicaid) served people with fewer resources. With recent federal legislative changes, a large percentage of people who were uninsured now have access to health care via the ACA of 2010. It is unknown at this time what effect the AHCA of 2017 will have on health care in the United States. Box 1.3 defines managed care systems.

Box 1.3

Health Care Delivery Systems

managed care: Integrates financing with health care for members; for a monthly "capitation" fee, contracts with physicians and hospitals to provide health care with strict utilization review for cost containment

health maintenance organization (HMO): Offers health services for a fixed premium

preferred provider organization (PPO): Contracts with providers for services on a discounted fee-for-service basis for members

utilization review: Reviews appropriateness of health care services and guidelines for physicians for treatment of illness, controlling management of care to achieve cost containment

Coordination of care

The trend toward short hospital stays has resulted in discharge of patients to the home or community who still require support, assistance, education, and follow-up care. As a member of the health care team, the nurse helps coordinate the care of the patient among the various providers of care to improve the quality of care, facilitate transition from a pediatric care provider to adult care provider, help the family to access financial and local resources in the community to meet their identified needs, and avoid duplication of efforts. Care coordination is a vital aspect of a large health care team to decrease the risk of fragmentation of care and ensure established goals are met. The nurse in the community may work with the local school system and family to meet the health care and educational needs of the child. The nurse can work with the family to provide positive parenting behaviors, understand the needs of the ill family member, use cultural awareness to assist in meeting these needs, and call on available resources within the community. Comprehensive care of the patient includes hospital care as well as follow-up care within the community.

Technology and Teaching

Mobile applications (apps) for electronic devices have been developed to inform consumers about diet, exercise, and various general health issues. Mobile apps aid in the teaching of new parents the details of infant care and are popular with consumers. Health care technologists and health care professionals are involved in the development of accurate information related to maternal–child care at the reading level of the consumer to supplement individual patient teaching. For effective use, the nurse must be aware of the accuracy of the information provided in the app, the sources of the information, and the appropriateness to the individual patient or family. Research is ongoing, and nurses play a key role in the development of these apps for electronic devices that can result in an educated consumer with positive health behaviors. These mobile apps can influence improvements of maternal–child care globally (Logsdon, 2017).

Interprofessional nursing care

Adherence to standard precautions during labor and delivery (see Appendix A), during umbilical cord care, and in the nursery is an essential responsibility of the nurse. More emphasis on electronic data entry and retrieval makes it much easier to see the entries of other members of the health care team. This method of documentation also requires nurses to be computer literate.

Sociologically, families have become smaller, the number of single parents is increasing, child and spouse abuse is rampant, and more mothers work outside the home to help support the family. These developments present special challenges to maternal and child health nurses. Careful assessment and documentation to detect abuse are necessary, and nurses must be familiar with community support services for women and children in need. Nurses must also be flexible and promote policies that make health care more available for working parents. Teaching must be integrated into care plans and individually tailored to the family's needs and cultural and ethnic background. The nurse is an important member of the interprofessional health care team.

Cultural Considerations

Perception of Health and Illness

Cultural beliefs today, as in the past, affect how a family perceives health and illness. Holistic nursing includes being alert for cultural diversity and incorporating this information into the plan for nursing care.

Pediatric Nurses as Advocates

An **advocate** is a person who intercedes or pleads on behalf of another. Pediatric nurses are increasingly assuming the role of child advocate. Advocacy may be required for the child's physical and emotional health and may include other family members. Hospitalized children frequently cannot determine or express their needs. When nurses believe that the child's best interests are not being met, they must seek assistance. This usually involves taking the problem to the multidisciplinary team, which requires interprofessional interaction. Nurses must document their efforts to seek instruction and direction from the head nurse, supervisors, or the physician.

Nursing Tip

It is a nursing responsibility to collect data; it is vital for the nurse to initiate interventions for abnormal findings or refer for follow-up care and document findings and the follow-up provided.

Health Promotion

Health promotion continues to assume increased importance, and it is the basis of the ACA of 2010 implemented by President Obama. Preventing illness or disability is cost-effective; more important, it saves the family from stress, disruptions, and financial burden. Healthy children spend fewer days in the hospital. Many conditions are treated in same-day surgery centers, ambulatory settings, or emergency departments. Rather than being distinct, hospital and home care have become interdependent.

Many children with chronic illnesses are living into adulthood, creating the need for more support services. Medically fragile children and children with technology-dependent conditions may change the typical profile of chronically ill children. The nurse is often the initiator of support services to these patients through education and referral. Ideally these services will assist the child to become as independent as possible, lead a productive life, and be integrated into society. In the past the term **mainstream** was used to describe the process of integrating a physically or mentally challenged child into society. The term **full inclusion,** signifying an expansion of the mainstream policy, is being used more frequently today. Early infant intervention programs for children with developmental disabilities attempt to reduce or minimize the effects of the disability. These services may be provided in a clinic or in the home. The need for in-home, family-centered pediatric care will continue to grow with the number of children with chronic illnesses who survive.

Quality of life is particularly relevant. Organ transplants have saved some children; however, the

complications, limited availability, and expense of these transplants create moral and ethical dilemmas. Older children with life-threatening conditions must be included in planning modified advance directives with their families and the medical team.

These developments, along with the explosion of information, an emphasis on individual nurses' accountability, new technology, and the use of computers in health care, make it especially imperative for nurses to maintain their knowledge and skills at the level necessary to provide safe care. Employers often offer continuing education classes for their employees. All states require proof of continuing education for the renewal of nursing licenses.

Nursing Tip

Expanded nursing roles include clinical nurse specialist, pediatric nurse practitioner, school nurse practitioner, family nurse practitioner, and certified nurse-midwife.

Advanced Practice Nurses

In keeping with the current practice of focusing on prevention of illness and maintenance of health rather than the treatment of illness, the specialty of **pediatric nurse practitioner (PNP)** was born. The PNP provides ambulatory and primary care for patients. The school nurse or child life specialist expands the accessibility of preventive health care to the well child.

Health Promotion

Healthy People 2030: Specific Contributions of School Nurses

The expanding role of the school nurse will include these interventions:

1. Reviewing participation in and effectiveness of physical education programs for normal and disabled students
2. Providing nutritional education and guidance
3. Supervising school nutrition programs
4. Participating in maintaining a drug- and tobacco-free environment for students
5. Providing education in the prevention of sexually transmitted infections
6. Providing guidance to students and staff concerning prevention of injuries
7. Providing oral health education
8. Providing age-appropriate human immunodeficiency virus (HIV) education
9. Reviewing immunization laws and records
10. Assessing the community needs in relation to the child population and reassessing or revising roles in relation to prevention, screening, monitoring, teaching, and follow-up of health needs or problems

Modified from US Department of Health and Human Services: Healthy People 2030: Secretary's Advisory Committee on National Health Promotion and Disease Prevention Objectives for 2030. Washington, DC, 2016, Author.

The **clinical nurse specialist (CNS)** provides care in the hospital or community to patients requiring specialized care, such as cardiac, neurological, or oncological care. CNSs conduct primary research and facilitate necessary changes in health care management of their patients. Often PNPs and CNSs are called **advanced practice nurses,** and they have an RN license as well as an advanced degree. Advanced practice nurses can specialize in obstetrics, pediatrics, or neonatal care. Box 1.4 lists some specialties that have developed in maternal–child care.

Box 1.4

Advanced Practice Nursing Specialties

OGNP: Obstetric-gynecology nurse practitioner
WHNP: Women's health care nurse practitioner
NNP: Neonatal nurse practitioner
FPNP: Family planning nurse practitioner
IBCLC: International board-certified lactation consultant
CDDN: Certified developmental disabilities nurse
CNM: Certified nurse-midwife
CPN: Certified pediatric nurse
CPON: Certified pediatric oncology nurse
CRNA: Certified registered nurse anesthetist

From Hamric A, Spross J, Hanson C: *Advanced practice nursing: an integrative approach,* ed 5, Philadelphia, 2013, Elsevier; Rodgers C: What's in a name? *AJN* 105(12):16, 2005; and Cherry B, Jacob S: *Contemporary nursing: issues, trends and management,* St. Louis, 2011, Mosby.

Nursing Tip

An important role of the nurse is patient advocate.

Nursing Tools

The nursing process

The **nursing process** was developed in 1963. This term referred to a series of steps describing the systematic problem-solving approach nurses used to identify, prevent, or treat actual or potential health problems. In 1973, the ANA developed standards relating to the nursing process that have been nationally accepted and include the following:

1. *Assessment:* Collection of patient data, both subjective and objective
2. *Diagnosis:* Examination of data in terms of nursing needs of the individual patient or family that can be managed by nursing knowledge, skills, and actions or interventions
3. *Planning:* Preparation of a plan of nursing care designed to achieve stated outcomes
4. *Outcomes identification:* Identification of individualized expected patient outcomes
5. *Implementation:* Carrying out of nursing interventions identified in the plan of care
6. *Evaluation:* Evaluation of outcome progress and redesigning of the plan if necessary

The nursing process is a framework of action designed to meet the individual needs of patients. It is problem-oriented and goal-directed and involves the use of critical thinking, problem solving, and decision making. The nursing process is expressed in an individualized nursing care plan. Table 1.1 differentiates between medical and nursing diagnoses.

Table 1.1

Comparison of Medical and Nursing Diagnoses

Medical diagnosis	Nursing diagnosis
AIDS	Nutrition is less than body requirements as evidenced by weight loss and anorexia
GDM	Lack of knowledge about GDM and its effects on pregnant woman and fetus; manifested by crying, anxiety
Cystic fibrosis	Difficulty in clearing the airway resulting from mucus accumulation; manifested by rales, fatigue

AIDS, Acquired immunodeficiency syndrome; *GDM*, gestational diabetes mellitus.

Nursing care plans

The **nursing care plan** is developed as a result of the nursing process. It is a written communication among staff members that focuses on individualized patient care. See Nursing Care Plan 1.1 for an example of a care plan. Other sample care plans of various types for maternity and pediatric nursing are provided throughout this text. Common terms used in care plans that are important for the nurse to understand are defined in Box 1.5.

Box 1.5

Common Terms Used in Nursing Care Plans

patient: An individual, group, family, or community that is the focus of a nursing intervention

nursing activity: A nursing action that implements an intervention to assist the patient toward a desired outcome (a series of activities may be needed to implement an intervention)

nursing diagnosis: An actual or potential health problem of the patient or family that can be identified by the nurse and be managed by nursing knowledge, skills, or actions.

nursing intervention: Any nursing skill or action that a nurse performs to achieve a specific outcome for the patient or family; includes direct or indirect patient care or community or public health activities

scope of practice: The range of specific activities related to health care or health promotion that a health care provider has legal authority to perform. Performance of these activities requires substantial knowledge or technical skill. Specific activities are listed by the state nurse practice act, and nurses must practice within the limitations of the nurse practice act of their state. For example, a licensed practical nurse/licensed vocational nurse (LPN/LVN) cannot perform surgery; that activity is within the scope of a medical doctor.

standards of practice: Established minimum criteria for competent nursing care approved by nursing practice organizations such as the state board of nursing, The Joint Commission (TJC), and the American Nurses Association (ANA)

A nursing care plan is a "picture" of a typical clinical situation that may be encountered by the nurse. Specific data concerning the patient are obtained. These data can be used as clues to solve the mystery or problem concerning the patient (this phase is called *collection*). These clues help the nurse identify the problems of the patient. By organizing all the clues and identifying several problems, the nurse then prioritizes the problems identified. This phase of care planning is called *nursing diagnosis*. When the priority problem is identified, the nurse can use knowledge, skills, and resources such as textbooks, journals, or the Internet to decide on a plan of action to solve the identified problem. This phase is called *planning.* The actual nursing activities necessary to solve the problem are called *nursing interventions*. The nursing interventions are planned with specific outcomes or goals in mind. An outcome or goal is the positive resolution of the patient's problem. The nursing interventions are the basis of the nursing or bedside care provided to the patient. After the nursing care is provided, the nurse reevaluates the original problem to determine whether the goal was met or the outcome achieved. If goals have not been met, the nurse suggests revision of interventions.

Clinical pathways

Clinical pathways, also known as *critical pathways, care maps,* or *multidisciplinary action plans,* are collaborative guidelines that define multidisciplinary care in terms of outcomes within a timeline. Fundamentally, the pathway identifies expected progress within a set timeline and benchmarks by which to recognize this progress. This expected progress of the patient becomes a standard of care; therefore clinical pathways are based on research rather than on tradition. By setting specific recovery goals that the patient is expected to reach each day, deviations are readily identified. These deviations are called *variances.* If the patient's progress is slower than expected, the outcome (goal)

is not achieved within the timeline and a negative variance occurs, and discharge from the hospital may be delayed. The use of clinical pathways improves the quality of care and reduces unnecessary hospitalization time. It is an essential component of managed care and promotes coordination of the entire health care team. Sample clinical pathways and multidisciplinary care plans are presented throughout this text.

Statistics

Statistics refers to the process of gathering and analyzing numerical data. Statistics concerning birth, illness *(morbidity)*, and death *(mortality)* provide valuable information for determining or projecting the needs of a population or subgroup and for predicting trends. In the United States, vital statistics are compiled for the country as a whole by the National Center for Health Statistics and are published in the Centers for Disease Control and Prevention (CDC) annual report, *Vital Statistics of the United States*, and in the pamphlet *Morbidity and Mortality Weekly Report (MMWR)*. Each state's bureau of vital statistics issues statistics as well. Other independent agencies also supply statistics regarding various specialties.

A maternity nurse may use statistical data to observe reproductive trends, determine populations at risk, evaluate the quality of prenatal care, or compare relevant information from state to state and country to country. Box 1.6 lists some frequently used terms in vital statistics.

Box 1.6

Common Vital Statistics Terms

birth rate: Number of live births per 1000 population in 1 year
fertility rate: Number of births per 1000 women ages 15 to 44 years in a given population
fetal mortality rate: Number of fetal deaths (fetuses weighing 500 g or more) per 1000 live births per year
infant mortality rate: Number of deaths of infants younger than 1 year of age per 1000 live births per year
maternal mortality rate: Number of maternal deaths per 100,000 live births that occur as a direct result of pregnancy (including 42-day postpartum period)
neonatal mortality rate: Number of deaths of infants less than 28 days of age per 1000 live births per year
perinatal mortality rate: Includes both fetal and neonatal deaths per 1000 live births per year

Statistics show, for example, that sudden infant death syndrome (SIDS) was the leading cause of death in infants younger than 1 year of age in 2015 but was the third leading cause of death in 2014. Respiratory distress syndrome was the third leading cause of death in infants younger than 1 year of age in 1980 and the eighth leading cause of death in 2007 through 2014 (CDC, 2016). *Go to the Evolve website for more detailed information on infant deaths in the United States.* Research, education, and nursing care account for many of the positive changes in these statistical reports.

Table 1.2 compares the national birth rates per 1000 women between the ages of 15 and 44 for 2016, and the percentage that were preterm births (less than 37 completed weeks gestation) and the percentage born by cesarean section. One of the goals of *Healthy People 2030* is to reduce the number of cesarean section births and reduce the number of preterm births by the year 2030. The percentage of preterm births decreased from 11.32% to 9.85% between 2014 and 2016, and the number of late preterm births (34 to 37 weeks gestation) has decreased from 7.93% to 7.09%. See Chapter 13 for details concerning the health problems related to premature and preterm infants.

Table 1.2

Birth Statistics in the United States, 2016