
CONTEMPORARY
MATERNAL-NEWBORN
NURSING CARE
8TH ED
LADEWIG LONDON DAVIDSON

Brief Contents

Contemporary Maternal–Newborn Nursing Care

Eighth Edition

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Dedication

We dedicate this book to parents—

Who love, cherish, and protect their children

Who guide, nurture, and shape them

So that they grow to be compassionate, loving, responsible adults.

Such parents know that the reward comes when

The children they love become adults they also like and enjoy as people!

And, as always, we dedicate our work to our beloved families—

To Tim Ladewig; Ryan, Amanda, Reed, and Addison Grace; Erik, Kedri, Emma, and Camden

To David London, Craig, Jennifer, and Matthew

To Nathan Davidson, Hayden, Chloe, Caroline, and Grant

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Marcia L. London

received her BSN and School Nurse Certificate from Plattsburgh State University in Plattsburgh, New York, and her MSN in pediatrics as a clinical nurse specialist from the University of Pittsburgh in Pennsylvania. She worked as a pediatric nurse and began her teaching career at Pittsburgh Children's Hospital Affiliate Program. Mrs. London began teaching at Beth-El School of Nursing and Health Science in 1974 (now part of the University of Colorado, Colorado Springs) after opening the first intensive care nursery at Memorial Hospital of Colorado Springs. She has served in many faculty positions at Beth-El, including assistant director of the School of Nursing. Mrs. London obtained her postmaster's Neonatal Nurse Practitioner certificate in 1983 and subsequently developed the Neonatal Nurse Practitioner (NNP) certificate and the master's NNP program at Beth-El. She is active nationally in neonatal nursing and was involved in the development of National Neonatal Nurse Practitioner educational program guidelines. Mrs. London pursued her interest in college student learning by taking doctoral classes in higher education administration and adult learning at the University of Denver in Colorado. She feels fortunate to be involved in the education of her future colleagues and teaches undergraduate education. Mrs. London and her husband, David, enjoy reading, travel, and hockey games. They have two sons. Craig, who lives in Florida with his wife, Jennifer, works with Internet companies. Matthew works in computer teleresearch. Both are more than willing to give Mom helpful hints about computers.

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received an ADN degree from Marymount University in 1990 and, upon graduation, began working in postpartum and the newborn nursery in Washington, D.C. She obtained a BSN from George Mason University and then earned her MSN and a nurse-midwifery certificate at Case Western Reserve University. She worked as a nurse-midwife at Columbia Hospital for Women in Washington, D.C., while completing her PhD in nursing administration and healthcare policy from George Mason University (GMU). She has delivered over 1,000 babies during her career as a nurse–midwife and has treated women with a variety of mental health disorders. Dr. Davidson began teaching at GMU in 1999. She is a member of the American College of Nurse Midwives Certification Council, the body that writes the national certification examination for certified nurse-midwives. Dr. Davidson has developed an immersion clinical experience for GMU students on a remote island in the Chesapeake Bay where she teaches community health nursing to students who reside in the community. In 2003, she founded the Smith Island Foundation, a nonprofit organization in which she served as executive director for eight years. In her free time, Michele enjoys spending time with her mother, gardening, reading, and camping with her nurse practitioner husband, Nathan, and their four young children, Hayden, Chloe, Caroline, and Grant.

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We extend a sincere thank you to our contributors, who gave their time, effort, and expertise so tirelessly to develop and write resources that help provide students with the latest information by extending our content beyond the book.

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Preface

Maternal–newborn nursing is multifaceted, challenging, rewarding, and endlessly varied. Opportunities abound to touch lives and to make a difference. Many nurses opt for a career in mother–baby care and clinic or office nursing so that they can work closely with childbearing families. As these nurses continue their education, they may embrace the role of nurse practitioner, nurse–midwife, genetic counselor, lactation consultant, or childbirth educator. Those nurses who find the most reward by working in intense, highly technical situations are often drawn to the neonatal intensive care unit, to high-risk pregnancy units, or to work with laboring families. Some nurses become enthralled by the possibility of shaping the profession for years to come, and so they become nurse managers or administrators, nursing faculty, advocates, influential leaders in national associations such as AWHONN, or even authors. We applaud them, too!

Because of the varied and rich opportunities for nurses, the theme we emphasize in this edition is the many facets of maternal–newborn nursing. This thread is subtly woven throughout the book. You will find it in the chapter-opening quotes from nurses in a variety of roles and settings, in the photograph on the cover, and in the text itself. As authors and educators, it is our hope that we can encourage and inspire students to consider a rewarding career in maternal–newborn nursing.

As always, the underlying philosophy of *Contemporary Maternal–Newborn Nursing Care* remains unchanged. We see pregnancy and childbirth as normal life processes with the family members as co-participants in care. We remain committed to providing a text that is accurate and readable, a text that helps students develop the skills and abilities they need now and in the future in an ever-changing healthcare environment.

ORGANIZATION—A NURSING CARE MANAGEMENT FRAMEWORK

Nurses today must be able to think critically and to solve problems effectively. For these reasons, we begin with an introductory unit to set the stage by providing information about maternal–newborn nursing and important related concepts. Subsequent units progress in a way that closely reflects the steps of the nursing process. We clearly delineate the nurse's role within this framework. Thus, the units related to pregnancy, labor and birth, the newborn period, and postpartum care begin with a discussion of basic theory followed by chapters on nursing assessment and nursing care for essentially healthy women or infants. Within the nursing care chapters and content areas, we use the heading **Nursing Care Management** and the subheadings **Nursing Assessment and Diagnosis, Planning and Implementation**, and **Evaluation**.

Complications of a specific period appear in the last chapter or chapters of each unit. The chapters also use the nursing process as an organizational framework. We believe that students can more clearly grasp the complicated content of the high-risk conditions once they have a good understanding of the normal processes of pregnancy, birth, and postpartum, and of newborn needs and care. However, to avoid overemphasizing the prevalence of complications in such a wonderfully normal process as pregnancy and birth, we avoid including an entire unit that focuses only on complications. To aid student study, Chapter 21, Childbirth at Risk: Pre-Labor Complications, addresses issues that impact both pregnancy and labor and birth. We think you will find this very helpful.

More specialized or distinctive material is sometimes focused in a single chapter, such as the chapters on maternal nutrition, adolescent pregnancy, special diagnostic procedures, and newborn nutrition. For faculty, we provide detailed syllabus suggestions and reading assignments for your course, whether you teach high-risk conditions at the end of the course or integrate them throughout the course. We include this guide in the **Instructor's Resource Manual** and other resources developed specifically for instructors.

WHAT'S NEW IN THIS EDITION

- **SAFETY ALERT!** provides important Standards of Safety information.
- **Clinical Judgment** features a Case Study and Critical Thinking questions to help students utilize the concepts they have learned.
- **Health Promotion Education**, special sections for the mother, parents, or newborn, are featured throughout the text.
- **Concept Maps** offer visual depictions of nursing care management.
- **Critical Thinking in Action** provides Scenarios and Critical Thinking questions at the end of each chapter, reinforcing what students have learned.
- **Hints for Practice** provides "real-life" nursing suggestions.
- Guidelines and areas of emphasis from ***Healthy People 2020*, AACN Baccalaureate Essentials, Quality and Safety Education for Nurses (QSEN)**, and the **Institute of Medicine (IOM)** have been incorporated in this edition.
- Over 50 new drawings and photos.

THEMES FOR THE EIGHTH EDITION

Evidence-Based Practice

The use of reliable information as the basis for planning and providing effective care—evidence-based practice (EBP)—is becoming a hallmark of skillful, proficient care. EBP draws on information from a variety of sources including nursing research. To help nurses become more comfortable in using evidence-based practice, we include a brief discussion of it in Chapter 1, Contemporary Maternal–Newborn Care, and then provide examples of evidence-based practice as it relates to maternal–newborn nursing throughout the textbook.

Critical Thinking and Clinical Decision Making

It is a challenge and a responsibility to help students use evidence, analyze information, and make sound decisions that result in safe, effective patient care. In this edition, we provide new tools to support this learning process. The use of **Concept Maps** is an exciting trend in nursing care management. Concept maps are visual depictions of the relationships that exist among a variety of concepts and ideas related to a patient's specific health problems. The relationship "picture" created by the map allows the nurse to plan interventions that can address multiple problems more effectively. To help students understand how concept maps can influence care planning, we have included four concept maps in this edition.

Scenarios provide a realistic way of enabling students to apply concepts. Throughout this edition a feature titled **Clinical Judgment** presents a brief **Case Study** and asks **Critical Thinking** questions to help students determine how they would handle the issues raised. To further reinforce the importance of critical thinking, each chapter ends with a section entitled **Critical Thinking in Action**, which presents a patient scenario with questions to help students apply concepts they have learned in the chapter.

Community-Based Nursing Care

Although pregnancy, birth, and the postpartum period cover a period of many months, in reality most women spend only 2 to 3 days, if any, in the hospital. Thus, by its very nature, maternal-newborn nursing is primarily community-based nursing care. This emphasis on nursing care provided in community-based settings is a driving force in health care today and, consequently, forms a dominant theme throughout this edition. We address this topic in focused, user-friendly ways. For example, **Community-Based Nursing Care** is a special heading used throughout this text. Because we consider home care to be one form of community-based care, it often has a separate heading under Community-Based Nursing Care. Even more important, Chapter 31, The Postpartum Family: Early Care Needs and Home Care, provides a thorough explanation of home care, both from a theoretical perspective and as a significant tool in caring for childbearing families.

Emphasis on Patient and Family Teaching

Patient and family teaching remains a critical element of effective nursing care, one that we continue to emphasize. Our focus is on the teaching that nurses do at all stages of pregnancy and the childbearing process—including the important postpartum teaching that is done before and after families are discharged from the hospital. With this in mind, in this edition we have incorporated a new heading, **Health Promotion Education**, that assists students to focus on important areas of health teaching with patients and families. Also, more detailed discussions of patient and family teaching are summarized in **Patient Teaching** guides, such as the one on sexual activity during pregnancy. These Patient Teaching guides help students plan and organize their thoughts for preparing to teach women and their families. The tear-out **Patient–Family Teaching Cards** inserted into the back of the text are also handy tools for the student to use while studying or as a quick reference in the clinical setting. In addition, a foldout, full-color **Fetal Development Chart** depicts maternal and fetal development by month and provides specific teaching guidelines for each stage of pregnancy. Students can use this chart as another study tool or as a quick clinical reference.

Safety Is Essential

Patient safety is an essential element of effective patient care. It is the focus of the Joint Commission and one of the key elements of the Quality and Safety Education for Nurses (QSEN) project, which is discussed in Chapter 1. To help keep safety in the forefront, a new feature called **SAFETY ALERT!** has been added. This feature calls attention to issues that could place a patient at risk. Another feature, **Hints for Practice**, relates to patient safety and many other nursing concepts by providing readers with concrete suggestions for safe, effective practice.

Commitment to Cultural Competence

As nurses and educators, we feel a strong commitment to the importance of acknowledging and respecting diversity and multiculturalism. Thus, we strive continually to make our textbook ever more inclusive, integrating diversity in our photographs, illustrations, case scenarios, and content. Chapter 2, Culture and the Childbearing Family, lays the foundational concepts for students to develop cultural competence, whereas the **Cultural Perspectives** feature carries the concept forward by providing insights into specific issues related to culture. In addition, integrated into our narrative are a variety of issues and scenarios affecting maternal–newborn nursing care.

Complementary and Alternative Therapies

Nurses and other healthcare professionals recognize that today, more than ever, complementary and alternative therapies have become a credible component of holistic care. To help nurses become more familiar with these therapies, Chapter 2, Culture and the Childbearing Family, provides basic information on some of the more commonly used therapies. Then, throughout the text, we expand the topic by providing a boxed feature that highlights specific therapies.

Women's Health Care

Women's health care is specifically addressed in Chapter 5, Health Promotion for Women, and Chapter 6, Common Gynecologic Problems. Because of the nature of this textbook, we do not address gynecologic cancers. However, we are delighted to announce that you can find information on these disorders in great detail at www.nursing.pearsonhighered.com.

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We are especially grateful to Janet Houser, PhD, RN, for contributing the **Evidence-Based Practice** features to this edition. She has a wide and varied background in nursing and is a born teacher. A special thank you to Nathan S. Davidson, II, CFNP, MSN, RN, for creating the **Concept Maps** for this edition.

A project of this scope is not possible without the skill and expertise of many. And so we extend special thanks to the following people.

First and foremost, we are grateful to our new editor, Kim Norbuta, for her support and encouragement. It isn't easy to come into a project that is well under way, but she has ensured a smooth process and an amazingly effective transition. Welcome to the team, Kim!

Julie Alexander, our publisher, has delineated a vision for the future and a commitment to excellence for Pearson Health Science. Her energy, responsiveness, and forward thinking are awe-inspiring and challenge us to give our best. We anticipate a long and exciting relationship with this very special woman.

We cannot adequately express our deep gratitude to our developmental editors, Elena Mauceri and Lynda Hatch. This amazing pair brought a fresh, discerning perspective that helped us update content and streamline narrative. More importantly, they remained calm when things were rushed and were unfailingly supportive. We are truly blessed to have them!

We also extend our deep appreciation to Lynn Steines of S4Carlisle Publishing Services. She assumed the Herculean task of steering the book through all phases of production. She was effective in her role, patient and gracious in her interactions, and responsive to our needs when scheduling problems arose.

This is a time of possibilities for nursing. The need for skilled nurses has never been higher, nor have the opportunities to make a real difference in the lives of childbearing families ever been greater. Time and again we have seen the difference a skilled nurse can make in the lives of people in need. We, like you, are committed to helping all nurses recognize and take pride in that fact. Thank you for your letters, your comments, and your suggestions. We feel embraced by your support.

PWL

MLL

MRD

Contents

CHAPTER
1

Contemporary Maternal-Newborn Care


Paul and Pamela Wieland

The opportunities I've had as a nurse are amazing. I've been an Air Force nurse and a hospital staff nurse. I thought I could never love any type of nursing more than I loved the mother-baby unit, but then I became a nurse practitioner and found wonderful new challenges. At the same time, I became a faculty member at a local university and learned the joy of helping to shape future nurses' lives. Now I am the dean of the program. Do you know how lucky I am? I am 57, I've been a nurse for 36 years, and I am still passionate about what I do!

LEARNING OUTCOMES

1-1. Describe the use of community-based nursing care in meeting the needs of childbearing families.

1-2. Distinguish among the education, qualifications, and scopes of practice in nurses caring for childbearing families.

1-3. Identify the nursing roles available to the maternal-newborn nurse.

1-4. Identify legal and ethical principles in the practice of maternal-newborn nursing.

1-5. Identify the impact of evidence-based practice in improving the quality of nursing care for childbearing families.

1-6. Explain how nurses can use descriptive and inferential statistics in clinical practice in maternal-child health nursing.

1-7. Discuss how available statistical data can be used to formulate further research questions.

KEY TERMS

The practice of most nurses is filled with special moments, shared experiences, times in which they know they have practiced the essence of nursing and, in so doing, touched a life. What is the essence of nursing? Simply stated, nurses care *for* people, care *about* people, and use their expertise to help people help themselves. Skilled nurses view patients and families holistically, with a clear realization that a myriad of factors have shaped each individual's perceptions. Such nurses recognize and respect the influence of a host of factors such as upbringing, religious beliefs, culture, socioeconomic status, and life experiences.

The following situation demonstrates the impact a skilled nurse can have by practicing from a framework that considers a patient holistically:

> *My first pregnancy had ended in a miscarriage at 8 weeks' gestation, so when I became pregnant again we decided to wait until I was a full 3 months along to tell our families. We had just told both families the preceding day when it happened again. We rushed to the hospital and, a short time later, I passed a small fetus in the Johnny cap the nurse had placed in the commode. My poor baby was so tiny, only about 3 inches long. We called the nurse, who came and took my baby away.*
>
> *I sat on the side of the bed and sobbed as my husband sought to console me. The nurse returned a few minutes later and said, "I saw on your record that you are Catholic. Would you like me to baptize your baby?" I was amazed and humbled by her suggestion. She had thought of something that I had not yet even considered. I said, "Oh, yes, please." And she left. Even in my grief, I recognized the meaningfulness of her act. I realized that I had been incredibly fortunate to have a nurse who showed me so very clearly that I was a person, an individual in need of personalized care. I vowed that I would practice nursing in the same holistic way. I also began sharing my story with the students I taught so that they could recognize the difference an expert, caring nurse can make.*

We believe that many nurses who work with childbearing families are experts: They are sensitive, intuitive, and technically skilled. They are empowered professionals who can collaborate effectively with others and advocate for those individuals and families who need their support. They view patients holistically and can support the efforts of childbearing families to make decisions about their needs and desires. They can foster independence and self-reliance. Such nurses do make a difference in the quality of care that childbearing families receive.

Weblink Office on Women's Health

CONTEMPORARY CHILDBIRTH

Contemporary childbirth is characterized by an emphasis on the family. Today the concept of family-centered childbirth is accepted and encouraged. Fathers are active participants, not simply bystanders (Figure 1–1 ●); siblings are encouraged to visit and meet the newest family member, and they may even attend the birth. New definitions of family are evolving. The family of a single mother may include her mother, her sister, another relative, a close friend, the father of the child, or a same-sex partner. Many cultures also recognize the importance of extended families, in which the expectant woman's mother, sister, or other family member may provide care and support (see Chapter 2 🔗).

● **Figure 1–1** This new father enjoys some private time with his daughter just minutes after her birth.
Source: Courtesy of Val M. Emmich.

Contemporary childbirth is also characterized by an increasing number of choices about the birth experience. The family can make choices about the primary caregiver (physician, certified nurse-midwife, or certified midwife), the use of a *doula* to provide labor support, the place of birth (hospital, birthing center, or home), and birth-related experiences (e.g., method of childbirth preparation, position for birth, and use of analgesia and anesthesia), as well as breastfeeding and childcare choices.

Many women elect to have their pregnancy and birth managed by a certified nurse-midwife (CNM). Some women choose to receive care from a direct-entry certified midwife or even a lay midwife, who is an unlicensed or uncertified midwife trained through an informal route such as apprenticeship or self-study rather than a formal educational program (Midwives Alliance of North America [MANA], 2009). Midwives who complete a direct-entry midwifery education program that meets the standards established by the American College of Nurse-Midwives (ACNM) may take a certification exam to become a *certified midwife (CM)*. ACNM has mandated that, as of 2010, a graduate degree will be required for entry into clinical practice as either a CNM or CM. The ACNM (2009) position statement does support the continued recognition of CNMs and CMs without graduate degrees who completed their education prior to 2010.

The North American Registry of Midwives (NARM) is also a certification agency. Midwives certified through NARM may become midwives through a formal educational program at a college, university, or midwifery school, or through apprenticeship or self-study. They are eligible to use the credential *certified professional midwife (CPM)* (MANA, 2009).

Birthing centers and special homelike labor–delivery–recovery–postpartum (LDRP) rooms in hospitals have become increasingly popular. Some women choose to give birth at home, although healthcare professionals do not generally recommend

this approach. Most professionals are concerned that, in the event of an unanticipated complication, delay in receiving emergency care might jeopardize the well-being of the mother or her infant. Some CNMs do attend home births; however, the majority of home births are attended by CMs, CPMs, or lay midwives. In 2006, just over half of 1% (0.59%) of births occurred at home. Of those, 61% were attended by midwives. Of the midwife-attended home births, only one fourth (27%) were done by CNMs (MacDorman & Menacker, 2010).

The Healthcare Environment

In 2007 the healthcare share of the U.S. gross domestic product (GDP) was 16%. This share of the GDP is significantly greater than that of France (11%) or Switzerland (10.8%), the countries with the next highest shares (National Center for Health Statistics [NCHS], 2011). Despite this increase in spending, not all pregnant women and children in the United States have access to health care. In 2009, 18% of people under age 65 (46.2 million) were without health insurance (NCHS, 2011).

For women who become pregnant, early prenatal care is one of the most important approaches available to reduce adverse pregnancy outcomes. In 2007, 82% of pregnant women in the United States began prenatal care in the first trimester.

Changes in the healthcare environment are influencing women's health and maternal-newborn nursing. Several factors contribute to this, including:

- Demographic changes
- Recognition of the need to improve access to care
- Public demand for more effective healthcare options
- New research findings
- Women's preferences for health care

Changes also are predicted in clinical procedures, provider roles, care settings, and financing of care. As access to health care and the need to control costs increase, so will the need for, and use of, nurses in many roles—especially in advanced practice.

Culturally Competent Care

The U.S. population becomes more diverse every day. Approximately 46% of all children less than 18 years of age are from families of minority populations (Forum on Child and Family Statistics, 2011). Thus, it is vitally important that nurses who care for women and for childbearing families recognize the importance of a family's cultural values and beliefs, which may be quite different from those of the nurse.

Specific elements that contribute to a family's value system include the following:

- Religious and social beliefs
- Presence and influence of the extended family, as well as socialization within the ethnic group
- Communication patterns
- Beliefs and understanding about the concepts of health and illness
- Beliefs about propriety of physical contact with strangers
- Education

Cultural Perspectives

Values Conflicts

Conflicts can occur with a childbearing woman and her family when the traditional rituals and practices of the family's elders do not conform with current healthcare practices. Nurses need to be sensitive to the potential implications for the woman's health and that of her newborn, especially after they are discharged home. When cultural values are not part of the nursing care plan, a woman and her family may be forced to decide whether the family's beliefs should take priority over the healthcare professional's guidance.

When the family's cultural and social values are incorporated into the plan of care, the family is more likely to embrace the plan, especially in the home setting. By learning about the values, religious beliefs, traditions, and practices of local ethnic groups, nurses can develop an individualized nursing care plan for each childbearing woman and her family.

Because of the importance of culturally competent care, this topic is discussed in more depth in Chapter 2 and throughout the book as well.

Complementary Therapies

Interest in complementary and alternative therapies, sometimes called complementary and alternative medicine (CAM), continues to grow nationwide and affects the care of childbearing families. CAM includes a wide array of therapies such as acupuncture, acupressure, aromatherapy, Therapeutic Touch, biofeedback, massage therapy, meditation, yoga, herbal therapies, and homeopathic remedies. Concepts related to the use of CAM by childbearing families are addressed in more detail in Chapter 2 and in the Complementary and Alternative Therapies feature throughout the text.

Community-Based Nursing Care

Primary care is the focus of much attention as caregivers search for a new, more effective direction for health care. Primary care includes a focus on health promotion, illness prevention, and individual responsibility for one's own health. These services are best provided in community-based settings. Community-based healthcare systems providing primary care and some secondary care are becoming available in schools, workplaces, homes, churches, clinics, transitional care programs, and other ambulatory settings.

Response to Managed Care

Community-based care has increased in part as a response to third-party payers, which are beginning to recognize the importance of primary care in containing costs and maintaining health. The growth and diversity of third-party plans offer both opportunities and challenges for women's health care. The potential exists for third-party payers to work with consumers to provide a model for coordinated and comprehensive well-woman care that includes improved delivery of screening and preventive services. At the same time, third-party payers face the challenge of integrating essential community providers of care, such as family-planning clinics or women's health centers, which offer a unique service or serve groups of women with special needs (adolescents, women with disabilities, and ethnic or racial minorities). In addition, community-based care remains an essential element of health care for individuals who benefit from

public programs such as Medicare, Medicaid, or state-sponsored health-related programs.

Response to Consumer Demand

Community-based care is also part of a trend initiated by consumers, who are asking for a "seamless" system of family-centered, comprehensive, coordinated health care, health education, and social services. This type of system requires coordination as patients move from primary care services to acute care facilities and then back into the community. Nurses can assume this care-management role and perform an important service for individuals and families.

Community-based care is especially important in maternal-child nursing because the vast majority of health care provided to childbearing women and their families takes place outside of hospitals—in clinics, offices, community-based organizations, and private homes. In addition, maternal-child nurses offer specialized services such as childbirth preparation classes and postpartum exercise classes that typically take place outside of hospitals. In essence, we are expert at providing community-based nursing care.

Home Care

Providing health care in the home is an especially important dimension of community-based nursing care. Shorter hospital stays end in the discharge of individuals who still require support, assistance, and teaching. Home care helps fill this gap. Conversely, home care enables some individuals to remain at home with conditions such as pregnancy-related complications that formerly would have required hospitalization.

Nurses are the major providers of home care services. Home care nurses perform direct nursing care and also supervise unlicensed assistive personnel who provide less-skilled levels of service. In a home setting, nurses use their skills in assessment, therapeutics, communication, teaching, problem solving, and organization to meet the needs of childbearing women and their families. They also play a major role in coordinating services from other providers, such as physical therapists and lactation consultants.

Postpartum and newborn home visits help ensure a satisfactory transition from the birthing center to the home. Chapter 31 discusses home care and provides guidance about making a home visit. Throughout the text we have also provided information on the use of home care to meet the needs of pregnant women with health problems, such as diabetes or preterm labor. We believe that home care offers nurses the opportunity to function in an autonomous role and make a significant difference for individuals and families.

Patient Teaching in Contemporary Care

The physical and psychologic changes of pregnancy are dramatic and occasionally disconcerting, even for women who have planned their pregnancies. Effective, thoughtful, and carefully timed teaching can help prepare women for the changes they will encounter throughout the trimesters of pregnancy. In addition, anticipatory guidance can help women and their loved ones plan for the birth of the baby and beyond.

In the early 1990s, women who gave birth vaginally remained in the hospital for about 3 days. This provided time for nurses to assess the family's knowledge and skill and to complete essential teaching. In an effort to control costs, discharge within 12 to 24 hours after birth became the norm. This practice did not necessarily cause problems for women with supportive families, thorough prenatal preparation, and adequate resources for necessary follow-up care. However, because early discharge severely limits the time available for patient teaching, women with little knowledge, experience, or support were often inadequately prepared to care for themselves and their newborns. Fortunately, the negative impact of this practice gained recognition nationwide and resulted in legislation that provides for a postpartum stay of up to 48 hours following a vaginal birth and up to 96 hours following a cesarean birth at the discretion of the mother and her healthcare provider. Nevertheless, nurses are challenged to prepare parents adequately—especially first-time parents—for postpartum and infant care. For this reason, the ability to provide concise and effective teaching is especially important (Figure 1–2 ●). Nurses can also supplement the teaching they complete with informational handouts and referral to community agencies when indicated.

Healthy People 2020 Goals

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For 30 years the federal government's *Healthy People* initiative has been providing science-based, national agendas for improving the health of all Americans. "The Healthy People initiative is grounded in the principle that setting national objectives and monitoring progress can motivate action, and indeed, in just the last decade, preliminary analyses indicate that the country has either progressed toward or met 71 percent of its Healthy People targets" (U.S. Department of Health and Human Services, 2010, p. 1). In December 2010 the next 10-year effort, *Healthy People 2020*, was launched.

Healthy People 2020 is grouped by topic area and objectives. Maternal-newborn and women's health nurses focus directly on many of the topics, including maternal, infant, and child health; adolescent health (new to the list); family planning; injury and violence prevention; lesbian, gay, bisexual, and transgender health (new); and sexually transmitted infections. Because of the role women play in maintaining their family's health, many other topics may also be of importance to women, such as immunization and infectious diseases; diabetes; and nutrition and weight status to name but a few. Nurses of all disciplines will find it helpful to become familiar with

● **Figure 1–2** Individualized education for childbearing couples is one of the prime responsibilities of the maternal-newborn nurse.
Source: © WavebreakMediaMicro/Fotolia.

the 2020 topics and objectives, which may be found at the *Healthy People* website.

NURSING ROLES

The depth of care provided by nurses caring for women and for childbearing families depends on the nurses' education, qualifications, and scope of practice. The titles used to describe the professional requirements of the nurse in various maternity care roles include:

- **Professional nurse:** Graduate of an accredited basic program in nursing; successfully completed the nursing licensure examination (NCLEX); currently licensed as a registered nurse (RN); may work as labor nurse, mother-baby nurse, lactation consultant, clinic nurse, newborn nursery nurse, home health nurse, adult or newborn intensive care nurse, gynecology unit nurse. See Figure 1–3 ●.
- **Certified registered nurse (RNC):** Passed a national certification exam showing expertise in a field.
- **Nurse practitioner (NP):** Received specialized education in a doctor of nursing practice (DNP) program or a master's degree program; can function in an advanced practice role (early NP programs were sometimes certificate programs). Provides ambulatory care services to expectant families; neonatal nurse practitioner (NNP) cares for newborns; may function in acute care, high-risk settings. NPs focus on physical and psychosocial assessments, including history, physical examination, and certain diagnostic tests and procedures; make clinical judgments and begin appropriate treatments, seeking physician consultation when necessary. The emerging emphasis on community-based care has greatly increased opportunities for NPs.
- **Clinical nurse specialist (CNS):** Has a master's degree and specialized knowledge and competence in a specific clinical area; assumes a leadership role within his or her specialty and works to improve inpatient care both directly and indirectly.

● **Figure 1–3** At each prenatal visit, the professional nurse reviews important areas of health teaching and provides opportunities for the pregnant woman to ask questions and raise concerns.

- **Certified nurse-midwife (CNM):** Educated in the two disciplines of nursing and midwifery; certified by the American College of Nurse-Midwives (ACNM); prepared to manage independently the care of women at low risk for complications during pregnancy and birth and the care of healthy newborns.
- **Nurse researcher:** Has an advanced doctoral degree, typically a PhD, and assumes a leadership role in generating new research; generally found in university settings although more and more hospitals are employing them to conduct research relevant to health care, administrative issues, and the like.

LEGAL CONSIDERATIONS

Scope of Practice

The *scope of practice* is defined as the limits of nursing practice set forth in state statutes. Although some state practice acts continue to limit nursing practice to the traditional responsibilities of providing patient care related to health maintenance and disease prevention, most state practice acts cover expanded practice roles that include collaboration with other health professionals in planning and providing care, physician-delegated diagnosis and prescriptive privilege, and the delegation of patient care tasks to other specified licensed and unlicensed personnel. Specified care activities for certified nurse-midwives and women's health, perinatal, and neonatal nurse practitioners may include diagnosis and prenatal management of uncomplicated pregnancies (certified nurse-midwives [CNMs] may also manage births) and prescribing and dispensing medications under protocols in specified circumstances. A nurse must function within the scope of practice or risk being accused of practicing medicine without a license.

Standards of Nursing Care

Standards of care establish minimum criteria for competent, proficient delivery of nursing care. Such standards are designed to protect the public and are used to judge the quality of care provided. Legal interpretation of actions within standards of care is based on what a reasonably prudent nurse with similar education and experience would do in similar circumstances.

A number of different sources publish written standards of care. The American Nurses' Association (ANA) has published standards of professional practice written by the ANA Congress for Nursing Practice. The ANA Divisions of Practice have also published standards, including the standards of practice for maternal-child health. Organizations such as the Association of Women's Health, Obstetric and Neonatal Nurses (AWHONN), the National Association of Neonatal Nurses (NANN), and the Association of Operating Room Nurses (AORN) have developed standards for specialty practice. Agency policies, procedures, and protocols also provide appropriate guidelines for care standards. The Joint Commission, a nongovernmental agency that audits the operation of hospitals and healthcare facilities, has also contributed to the development of nursing standards.

Some standards carry the force of law; others, although not legally binding, carry important legal significance. Any nurse who fails to meet appropriate standards of care may be subject to

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American Academy of Nurse Practitioners, American College of Nurse-Midwives, The American Society of Law, Medicine, and Ethics, Association of Women's Health, Obstetric and Neonatal Nurses, Society of Pediatric Nurses, American Nurses Association

allegations of negligence or malpractice. However, any nurse who practices within the guidelines established by an agency, or follows local or national standards, is assured that patients are provided with competent nursing care, which, in turn, decreases the potential for litigation.

Patients' Rights

Patients' rights encompass such topics as safety, informed consent, and the right to privacy.

Patient Safety

The Joint Commission has identified patient safety as an important responsibility of healthcare providers, and established the patient safety goals as requirements for accreditation. These goals and requirements, which are updated regularly, can be found on the Joint Commission website.

Safety is a major focus of nursing education programs. The Quality and Safety Education for Nurses (QSEN) project, established in 2005, is designed "to meet the challenge of preparing future nurses who will have the knowledge, skills and attitudes (KSAs) necessary to continuously improve the quality and safety of the healthcare systems within which they work" (2011, p. 1). The project, which draws on the Institute of Medicine (IOM) (2003) competencies, focuses on competencies in six areas: (1) patient-centered care, (2) teamwork and collaboration, (3) evidence-based practice, (4) quality improvement, (5) safety, and (6) informatics. To support the efforts of the Joint Commission and to draw special attention to the importance of the QSEN project's emphasis on safety, key issues related to safety are noted throughout this text in red with the words **SAFETY ALERT!** See page 63 for an example.

Informed Consent

Informed consent is a legal concept that protects a patient's right to autonomy and self-determination by specifying that no action may be taken without that person's prior understanding and freely given consent. Although this policy is usually enforced for such major procedures as surgery or regional anesthesia, it pertains to any nursing, medical, or surgical intervention. To touch a person without consent (except in an emergency) constitutes battery. Consent is not informed unless the woman understands the recommended procedures or treatments, their rationales, the benefits of each, and any associated risks. To be a truly active participant in decision making about her care, the patient should also understand other possible alternatives. When possible, it is important to have translators available for non–English-speaking women. If no translator is available it may be necessary to rely on a family member.

The person who is ultimately responsible for the treatment or procedure should provide the information necessary to obtain informed consent. In most instances, this is the physician, and the nurse's role is to witness the patient's signature giving consent. If the nurse determines that the patient does not understand the procedure or risks, the nurse must notify the physician, who must then provide additional information to ensure that the consent is informed. Anxiety, fear, pain, and medications that alter consciousness may influence an individual's ability to give informed consent. An oral consent is legal, but written consent is easier to defend in a court of law.

Society grants parents the responsibility and authority to give consent for their minor children (generally under age 18). Special problems can occur in maternal-newborn nursing when a minor gives birth. It is possible that, depending on state law, the very young mother may consent to treatment for her newborn but not for herself. In most states, however, a pregnant teenager is considered an emancipated minor and may therefore give consent for herself as well.

Refusal of a treatment, medication, or procedure after appropriate information is provided also requires that a patient sign a form releasing the doctor and clinical facility from liability resulting from the effects of such a refusal. The refusal of blood transfusions or Rh immune globulin by Jehovah's Witnesses is an example of such refusal.

Nurses are responsible for educating patients about any nursing care provided. Before each nursing intervention, the maternal-newborn nurse lets the woman know what to expect, thus ensuring her cooperation and obtaining her consent. Afterward, the nurse documents the teaching and the learning outcomes in the woman's record. The importance of clear, concise, and complete nursing records cannot be overemphasized. These records are evidence that the nurse obtained consent, performed prescribed treatments, reported important observations to the appropriate staff, and adhered to acceptable standards of care.

Right to Privacy

The *right to privacy* is the right of a person to keep her or his person and property free from public scrutiny. Maternity nurses must remember that this includes avoiding unnecessary exposure of the childbearing woman's body. To protect the woman, only those responsible for her care should examine her or discuss her case.

Most states have recognized the right to privacy through statutory or common law, and some states have written that right into their constitution. The ANA, the National League for Nursing (NLN), and the Joint Commission have adopted professional standards protecting patients' privacy. Healthcare agencies should also have written policies dealing with patient privacy. The Health Insurance Portability and Accountability Act (HIPAA) of 1996, which was fully implemented in 2002, has a provision that guarantees the security and privacy of health information.

Laws, standards, and policies about privacy specify that information about an individual's treatment, condition, and prognosis can be shared only by health professionals responsible for that person's care. Information considered as vital statistics (name, age, occupation, and so on) may be revealed legally but is often withheld because of ethical considerations. The patient should be consulted regarding what information may be released and to whom. When the patient is a celebrity or is considered newsworthy, inquiries by the media are best handled by the agency's public relations department.

SPECIAL ETHICAL ISSUES IN MATERNITY CARE

Although ethical dilemmas confront nurses in all areas of practice, those related to pregnancy, birth, and the newborn seem especially difficult to resolve.

Maternal-Fetal Conflict

Until fairly recently, the fetus was viewed legally as a nonperson. Mother and fetus were viewed as one complex patient—the pregnant woman—of which the fetus was an essential part. However, advances

in technology have permitted the physician to treat the fetus and monitor fetal development. The fetus is increasingly viewed as a patient separate from the mother. This focus on the fetus intensified in 2002 when President George W. Bush announced that "unborn children" would qualify for government healthcare benefits. This move was designed to promote prenatal care but it represented the first time that any U.S. federal policy had defined childhood as starting at conception.

Most women are strongly motivated to protect the health and well-being of their fetus. In some instances, however, women have refused interventions on behalf of the fetus, and forced interventions have occurred. These include forced cesarean birth; coercion of mothers who practice high-risk behaviors such as substance abuse to enter treatment; and, perhaps most controversial, mandating experimental in utero therapy or surgery in an attempt to correct a specific birth defect. These interventions infringe on the mother's autonomy. They may also be detrimental to the baby if, as a result, maternal bonding is hindered, the mother is afraid to seek prenatal care, or the mother is herself harmed by the actions taken.

Attempts have also been made to criminalize the behavior of women who fail to follow a physician's advice or who engage in behaviors (such as substance abuse) that are considered harmful to the fetus. This raises two thorny questions: (1) What practices should be monitored? and (2) Who will determine when the behaviors pose such a risk to the fetus that the courts should intervene?

The American College of Obstetricians and Gynecologists (ACOG) (2004) has affirmed the fundamental right of pregnant women to make informed, uncoerced decisions about medical interventions and has taken a direct stand against coercive and punitive approaches to the maternal-fetal relationship. Table 1–1 provides ACOG's rationale for the position.

Table 1–1 Rationale for Avoiding Coercive and Punitive Approaches to the Maternal-Fetal Relationship

1. Coercive and punitive legal approaches to pregnant women who refuse medical advice fail to recognize that all competent adults are entitled to informed consent and bodily integrity.
2. Court-ordered interventions in cases of informed refusal, as well as punishment of pregnant women for their behavior that may put a fetus at risk, neglect the fact that medical knowledge and predictions of outcomes in obstetrics have limitations.
3. Coercive and punitive policies treat medical problems such as addiction and psychiatric illness as if they were moral failings.
4. Coercive and punitive policies are potentially counterproductive in that they are likely to discourage prenatal care and successful treatment, adversely affect infant mortality rates, and undermine the physician–patient relationship.
5. Coercive and punitive policies directed toward pregnant women unjustly single out the most vulnerable women.
6. Coercive and punitive policies create the potential for criminalization of many types of otherwise legal maternal behavior.

Source: ACOG, 2005, pp. 6–9.

ACOG and the American Academy of Pediatrics (AAP) recognize that cases of maternal-fetal conflict involve two patients, both of whom deserve respect and treatment. Such cases are best resolved using internal hospital mechanisms including counseling, the intervention of specialists, and consultation with an institutional ethics committee. Court intervention should be considered a last resort, appropriate only in extraordinary circumstances.

Abortion

Since the 1973 Supreme Court decision in *Roe v. Wade*, abortion has been legal in the United States. Abortion can be performed until the *period of viability*, that is, the point at which the fetus can survive independently of the mother. After that time, abortion is permissible only when the life or health of the mother is threatened. Before viability, the rights of the mother are paramount; after viability, the rights of the fetus take precedence.

Personal beliefs, cultural norms, life experiences, and religious convictions shape people's attitudes about abortion. Ethicists have thoughtfully and thoroughly argued positions supporting both sides of the question. However, few issues spark the intensity of response seen when the issue of abortion is raised.

At present the decision about abortion is to be made by the woman and her physician. Nurses (and other caregivers) have the right to refuse to assist with the procedure if abortion is contrary to their moral and ethical beliefs. However, if a nurse works in an institution where abortions may be performed, the nurse can be dismissed for refusing to assist. To avoid being placed in a situation contrary to their ethical values and beliefs, nurses should determine the philosophy and practices of an institution before going to work there. A nurse who refuses to participate in an abortion because of moral or ethical beliefs has a responsibility to ensure that someone with similar qualifications is available to provide appropriate care for the patient. Patients must never be abandoned, regardless of a nurse's beliefs.

Intrauterine Fetal Surgery

Intrauterine fetal surgery, generally considered experimental, is a therapy for certain anatomic lesions that can be corrected surgically and are incompatible with life if not treated. The procedure involves opening the uterus during the second trimester (before viability), performing the planned surgery, and replacing the fetus in the uterus. The risks to the fetus are substantial, and the mother is committed to cesarean births for this and subsequent pregnancies (because the upper, active segment of the uterus is entered). The parents must be informed of the experimental nature of the treatment, the risks of the surgery, the commitment to cesarean birth, and alternatives to the treatment.

As in other aspects of maternity care, caregivers must respect the pregnant woman's autonomy. The procedure involves health risks to the woman, and she retains the right to refuse any surgical procedure. Healthcare providers must be careful that their zeal for new technology does not lead them to focus unilaterally on the fetus at the expense of the mother.

Reproductive Assistance

Therapeutic insemination (TI) is accomplished by depositing into a woman sperm obtained from her husband, partner, or other donor. No states prohibit TI using a husband's sperm but legal

problems may arise if donor sperm is used. Typically the donor signs a form waiving parental rights. The donor is also required to furnish a complete health history and his sperm is tested for HIV before it is used. If the woman receiving the donor sperm is married, her husband may be asked to sign a form to agree to the insemination and to assume parental responsibility for the child.

Assisted reproductive technology (ART) is the term used to describe highly technologic approaches used to produce pregnancy. *In vitro fertilization and embryo transfer (IVF-ET)*, a therapy offered to selected infertile couples, is perhaps the best-known ART technique. (See the discussion in Chapter 7.)

Multifetal pregnancy may occur with ART because the use of ovulation-inducing medications typically triggers the release of multiple eggs. When fertilized, they produce multiple embryos, which are then implanted. Multifetal pregnancy increases the risk of miscarriage, preterm birth, and neonatal morbidity and mortality. It also increases the mother's risk of complications including cesarean birth. To help prevent a high-level multifetal pregnancy, the American Society for Reproductive Medicine and the Society for Assisted Reproductive Technology (2009) have issued guidelines to limit the number of embryos transferred. These guidelines are designed to decrease risk while also allowing for individualized care. This practice raises ethical considerations about the handling of the unused embryos. However, when a multifetal pregnancy does occur, the physician may suggest that the woman consider fetal reduction, in which some fetuses are aborted to give the remaining ones a better chance for survival. This procedure raises ethical concerns about the sacrifice of some so that the remainder can survive.

Prevention should be the first approach to the problem of multifetal pregnancy. Prevention begins with careful counseling about the risks of multiple gestation and the ethical issues that relate to fetal reduction. No physician who is morally opposed to fetal reduction should be expected to perform the procedure; however, physicians should be aware of the ethical and medical issues involved and be prepared to respond to families in a professional and ethical manner (ACOG, 2007).

Surrogate childbearing is another approach to infertility. Surrogate childbearing occurs when a woman agrees to become pregnant for a childless couple. She may be artificially inseminated with the male partner's sperm or a donor's sperm or may receive a gamete transfer, depending on the infertile couple's needs. If fertilization occurs, the woman carries the fetus to term and releases the infant to the couple after birth.

These methods of resolving infertility raise ethical issues about candidate selection, responsibility for a child born with a congenital defect, and religious objections to artificial conception. Other ethical questions include the following: What should be done with surplus fertilized oocytes? To whom do frozen embryos belong? Who is liable if a woman or her offspring contracts HIV from donated sperm? Should children be told about their conception?

Embryonic Stem Cell Research

Human stem cells can be found in embryonic tissue and in the primordial germ cells of a fetus. Research has demonstrated that in tissue cultures these cells can be made to differentiate into other types of cells such as blood, nerve, or heart cells, which might then be used to treat problems such as diabetes, Parkinson and Alzheimer diseases, spinal cord injury, or metabolic disorders. The availability of specialized tissue or even organs grown from stem cells might also decrease society's dependence on donated organs for organ transplants.

Positions about embryonic stem cell research vary dramatically, from the view that any use of human embryos for research is wrong to the view that any form of embryonic stem cell research is acceptable, with a variety of other positions that fall somewhere in between these extremes. Other questions also arise: What sources of embryonic tissue are acceptable for research? Is it ever ethical to clone embryos solely for stem cell research? Is there justification for using embryos remaining after fertility treatments?

The question of how an embryo should be viewed—with status in some way as a person or in some sense as property (and, if property, whose?)—is a key question in the debate. Ethicists recognize that it is not necessary to advocate full moral status or personhood for an embryo to have significant moral qualms about the instrumental use of a human embryo in the "interests" of society. The issue of consent, which links directly to an embryo's status, also merits consideration. In truth, the ethical questions and dilemmas associated with embryonic stem cell research are staggeringly complex and require careful analysis and thoughtful dialogue.

EVIDENCE-BASED PRACTICE IN MATERNAL-NEWBORN NURSING

Evidence-based practice—that is, nursing care in which all interventions are supported by current, valid research evidence—is emerging as a force in health care. It provides a useful approach to problem solving and decision making and to self-directed, patient-centered, lifelong learning. Evidence-based practice builds on the actions necessary to transform research findings into clinical practice by also considering other forms of evidence that can be useful in making clinical practice decisions. These other forms of evidence may include statistical data, quality measurements, risk management measures, and information from support services such as infection control.

As clinicians, nurses need to meet three basic competencies related to evidence-based practice:

1. To recognize which clinical practices are supported by sound evidence, which practices have conflicting findings as to their effect on patient outcomes, and which practices have no evidence to support their use
2. To use data in their clinical work to evaluate outcomes of care
3. To appraise and integrate scientific bases into practice

Unfortunately, some agencies and clinical units where nurses practice still operate in the old style, which often generates conflict for nurses who recognize the need for more responsible clinical practice. In truth, market pressures are forcing nurses and other healthcare providers to evaluate routines to improve efficiencies and provide better outcomes for patients.

Nurses need to know what data are being tracked in their workplaces and how care practices and outcomes are improved as a result of quality improvement initiatives. However, there is more to evidence-based practice than simply knowing what is being tracked and how the results are being used. Competent, effective nurses learn to question the very basis of their clinical work.

Throughout this text we have provided *snapshots* of evidence-based practice related to childbearing women and families, such as the Evidence-Based Practice feature on page 21. We believe that

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these snapshots will help you understand the concept more clearly. We also expect that these examples may challenge you to question the usefulness of some of the routine care you observe in clinical practice. That is the impact of evidence-based practice—it moves clinicians beyond practices of habit and opinion to practices based on high-quality, current science.

Nursing Research

Research is vital to expanding the science of nursing, fostering evidence-based practice, and improving patient care. Research also plays an important role in advancing the profession of nursing. For example, nursing research can help determine the psychosocial and physical risks and benefits of both nursing and medical interventions.

The gap between research and practice is being narrowed by the publication of research findings in popular nursing journals, the establishment of departments of nursing research in hospitals, and collaborative research efforts by nurse researchers and clinical practitioners. Interdisciplinary research between nurses and other healthcare professionals is also becoming more common. This ever-increasing recognition of the value of nursing research is important because well-done research supports the goals of evidence-based practice.

Clinical Pathways and Nursing Care Plans

Clinical pathways identify essential nursing activities and provide basic guidelines about expected outcomes at specified time intervals. These guidelines are research based and enable the nurse to determine whether a patient's responses meet expected norms at any given time. In the text, we have provided sample clinical pathways.

Nursing care plans, which use the nursing process as an organizing framework, are also invaluable in planning and organizing care. Care plans are especially useful for nursing students and novice nurses. To help organize care, this text provides several examples of nursing care plans such as the one found on page 273.

Statistical Data and Maternal-Infant Care

Increasingly nurses are recognizing the value and usefulness of statistics. Health-related statistics provide an objective basis for projecting patient needs, planning the use of resources, and determining the effectiveness of specific treatments.

The two major types of statistics are descriptive and inferential. *Descriptive statistics* describe or summarize a set of data. They report the facts—what is—in a concise and easily retrievable way. An example of a descriptive statistic is the birth rate in the United States. Although these statistics support no conclusions about why some phenomenon has occurred, they identify certain trends and high-risk target groups and generate possible research questions. *Inferential statistics* allow the investigator to draw conclusions or inferences about what is happening between two or more variables in a population and to suggest or refute causal relationships between them.

Descriptive statistics are the starting point for the formation of research questions. Inferential statistics answer specific questions and generate theories to explain relationships between variables. Theory applied in nursing practice can help to change the specific variables that may be causing or at least contributing to certain health problems.

The following sections discuss descriptive statistics that are particularly important to maternal-newborn health care. Inferential considerations are addressed as possible research questions that may assist in identifying relevant variables.

Birth Rate

Birth rate refers to the number of live births per 1000 people. In the United States, the birth rate decreased from 14 per 1000 in 2008 to 13.5 in 2009. Declines in birth rate were seen in all racial and Hispanic origin groups and for all women between ages 15 and 39 years; birth rates rose for women ages 40 to 44 and remained unchanged for women ages 45 or older (Martin, Hamilton, Ventura et al., 2011). Moreover, the birth rate for teenagers ages 15 to 19 fell to 39.1 per 1000, a record low for the United States. It was 41.4 per 1000 in 2008. While the birth rate for unmarried women declined to 50.5 per 1000 as compared to 52.5 in 2008, the *percentage* of all births to unmarried women increased to 41% in 2009 from 40.6% the previous year (Martin, Hamilton, Ventura et al., 2011).

Statistics also indicate that the cesarean birth rate reached another record high at 32.3% of all births. Since 1996 this rate has increased by more than 50% (Martin, Hamilton, Ventura et al., 2011).

Table 1–2 identifies infant mortality rates for selected countries based on 2011 estimates. As the data indicate, the range is dramatic among the countries listed. Information about birth rates and mortality rates is limited for some countries because of a lack of organized reporting mechanisms.

Table 1–2 Live Birth Rates and Infant Mortality Rates for Selected Countries (2011 Estimates)

Country	Birth Rate	Infant Mortality Rate
Afghanistan	37.8	149.2
Argentina	17.5	10.8
Australia	12.3	4.6
Cambodia	25.4	55.5
Canada	10.3	4.9
China	12.3	16.1
Egypt	24.6	25.2
France	12.3	3.3
Germany	8.3	3.5
Ghana	27.6	48.6
India	21	47.6
Iraq	28.8	41.7
Japan	7.3	2.8
Mexico	19.1	17.3
Russia	11.1	10.1
Sweden	10.2	2.7
United Kingdom	12.3	4.6
United States	13.8	6.1

Source: Data from *World Fact Book 2011*. Washington, DC: Central Intelligence Agency.

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Federal Interagency Forum on Child and Family Statistics