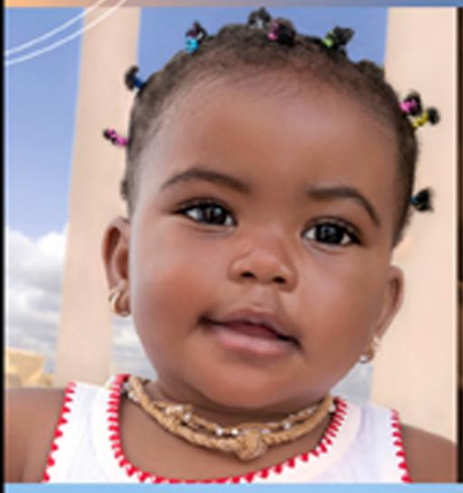
Maternal Child Nursing Care



SEVENTH EDITION

MATERNITY

Perry

Cashion

Alden

Olshansky

Lowdermilk

PEDIATRIC

Hockenberry

ELSEVIER

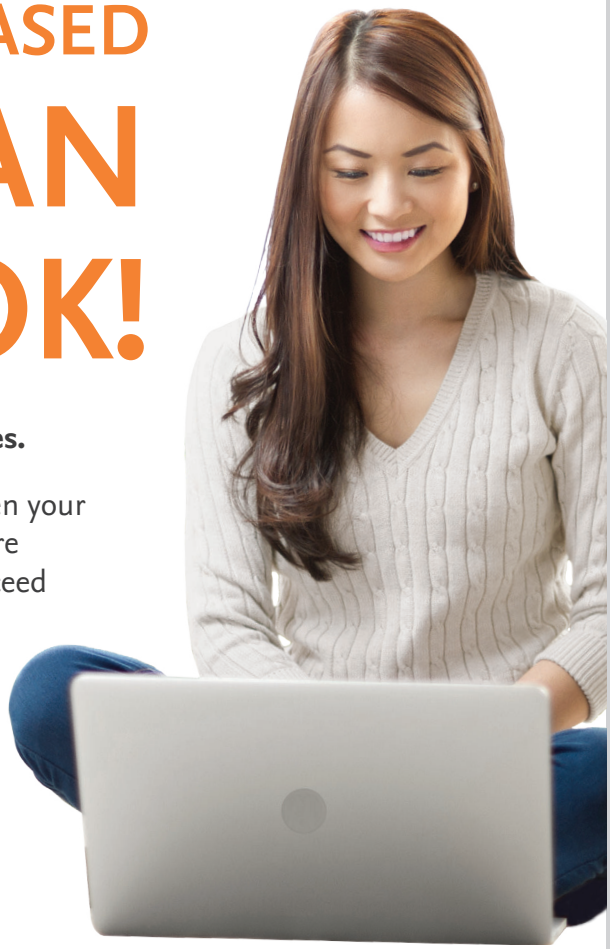
Evolve®

Student Resources on Evolve

Access Code Inside

Evolve®

YOU'VE JUST PURCHASED MORE THAN A TEXTBOOK!



Enhance your learning with Evolve Student Resources.

These online study tools and exercises can help deepen your understanding of textbook content so you can be more prepared for class, perform better on exams, and succeed in your course.

Activate the complete learning experience that comes with each NEW textbook purchase by registering with your scratch-off access code at

http://evolve.elsevier.com/Perry/maternal

If your school uses its own Learning Management System, your resources may be delivered on that platform. Consult with your instructor.

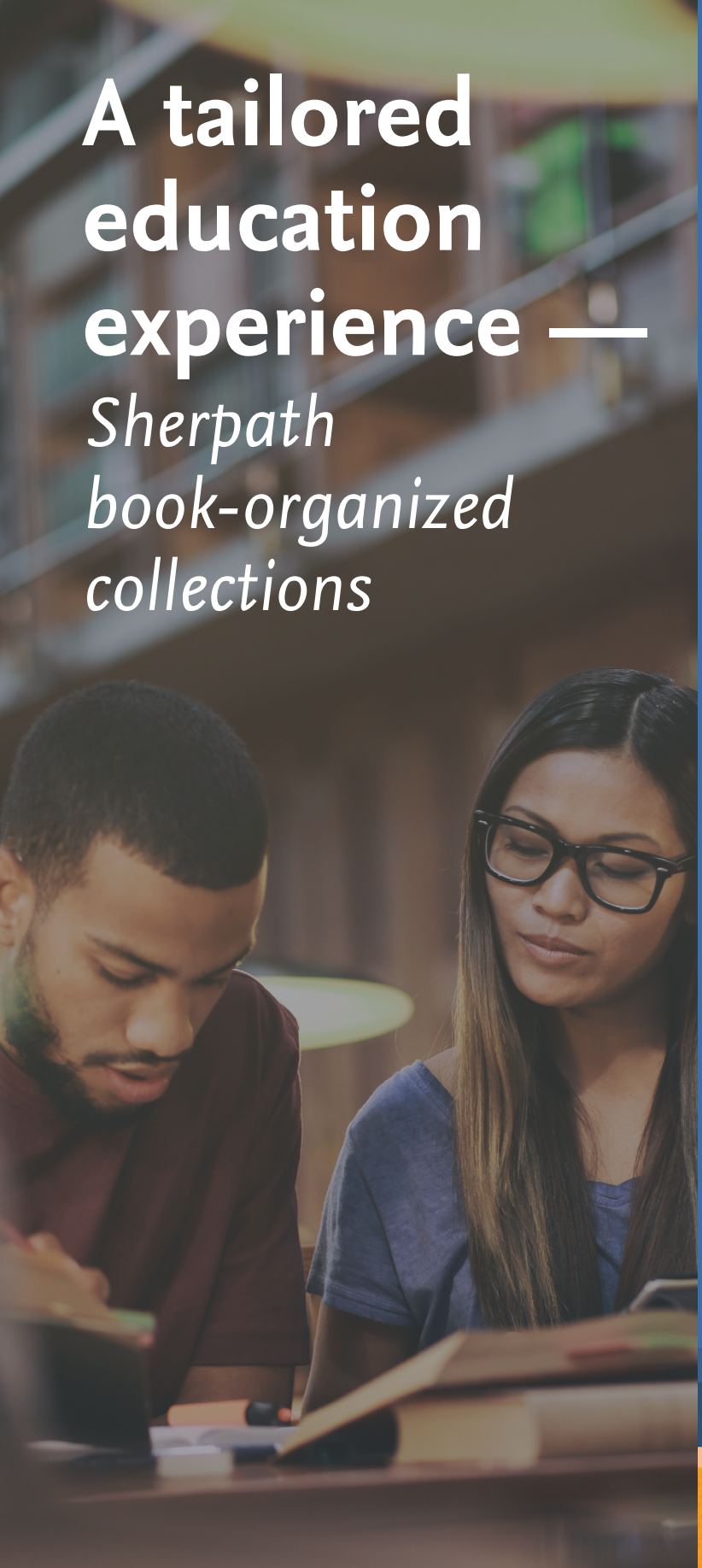
If you rented or purchased a used book and the scratch-off code at right has already been revealed, the code may have been used and cannot be re-used for registration. To purchase a new code to access these valuable study resources, simply follow the link above.

Place Sticker Here

REGISTER TODAY!

ELSEVIER

You can now purchase Elsevier products on Evolve!
Go to evolve.elsevier.com/shop to search and browse for products.



A tailored education experience — *Sherpath book-organized collections*

Sherpath is the digital teaching and learning technology designed specifically for healthcare education.

ELSEVIER

Sherpath book-organized collections offer:

Objective-based, digital lessons, mapped chapter-by-chapter to the textbook, that make it easy to find applicable digital assignment content.

Adaptive quizzing with personalized questions that correlate directly to textbook content.

Teaching materials that align to the text and are organized by chapter for quick and easy access to invaluable class activities and resources.

Elsevier ebooks that provide convenient access to textbook content, even offline.

VISIT
myevolve.us/sherpath
today to learn more!

21-CS-0280 TM/AF 6/21

This page intentionally left blank

Maternal Child Nursing Care

SEVENTH EDITION

This page intentionally left blank

SEVENTH EDITION

Maternal Child Nursing Care

MATERNITY

Shannon E. Perry, RN, PhD, FAAN
School of Nursing
San Francisco State University
San Francisco, California

Deitra Leonard Lowdermilk, RNC-E, PhD, FAAN
Clinical Professor, Retired
School of Nursing
University of North Carolina at Chapel Hill
Chapel Hill, North Carolina

Kitty Cashion, RN-BC, MSN
Clinical Nurse Specialist
Department of Obstetrics and Gynecology
Division of Maternal Fetal Medicine
University of Tennessee Health Science Center
Memphis, Tennessee

Kathryn Rhodes Alden, EdD, MSN, RN
Associate Professor, Retired
School of Nursing
University of North Carolina at Chapel Hill
Chapel Hill, North Carolina

Ellen Frances Olshansky, PhD, RN, WHNP-E, FAAN
Professor Emerita
Bill & Sue Gross School of Nursing
University of California
Irvine, California

PEDIATRIC

Marilyn J. Hockenberry, PhD, RN, FAAN
Professor Pediatrics
Department of Pediatrics
Baylor College of Medicine
Houston, Texas
Bessie Baker Professor of Nursing Emeritus
Duke University
Durham, North Carolina

ELSEVIER

Elsevier
3251 Riverport Lane
St. Louis, Missouri 63043

MATERNAL CHILD NURSING CARE, SEVENTH EDITION ISBN: 978-0-323-77671-4

Senior Content Strategist: Sandra Clark
Senior Content Development Manager: Luke Held
Senior Content Development Specialist: Maria Broeker
Publishing Services Manager: Julie Eddy
Senior Project Manager: Rachel E. McMullen
Design Direction: Brian Salisbury

Printed in Canada

Last digit is the print number: 9 8 7 6 5 4 3 2 1

CONTRIBUTORS

Jennifer Taylor Alderman, PhD, RNC-OB, CNL, CNE
Assistant Professor
School of Nursing
University of North Carolina at Chapel Hill
Chapel Hill, North Carolina

Dusty Dix, MSN, RN
Assistant Professor, Retired
School of Nursing
University of North Carolina at Chapel Hill
Chapel Hill, North Carolina

Debbie Fraser, MN, CNeoN(C)
Associate Professor
Faculty of Health Disciplines
Athabasca University
Athabasca, Alberta, Canada;
Neonatal Nurse Practitioner
NICU
St Boniface Hospital
Winnipeg, Manitoba, Canada;
Editor-in-Chief
Neonatal Network
Springer Publishing
New York, New York;
Chief Nurse Planner
Academy of Neonatal Nursing
Petaluma, California

Rhonda Lanning, DNP, CNM, RN, LCCE, IBCLC
Assistant Professor
School of Nursing
University of North Carolina at Chapel Hill;
Program Coordinator
Birth Partners Volunteer Doula Program
North Carolina Women's Hospital, UNC Healthcare
Chapel Hill, North Carolina

Evolve Contributors

Kimberly Amos, PhD, MS(N), RN, CNE
Director of Nursing (ADN & PN)
Isothermal Community College
Spindale, North Carolina

Amber Dortch, MSN, RN, FNP-C
Nurse Practitioner, Cerebral Medical
Kalamazoo, Michigan

REVIEWERS

Brooka Thomsen Martin, MSN, RN
Nursing Instructor
Coffeyville Community College
Coffeyville, Kansas

Jamie Mears, MSN, RN
Allied Health Coordinator, Educator
Allied Health (RN and LVN Program)
Clarendon College
Pampa, Texas

Kate Raciak, MSN, BSN, RN, C-EFM
Nursing Instructor
Paradise Valley Community College
Phoenix, Arizona

Cheryl L. Smith, MSN, RN, CNE
Professor of Nursing
Labette Community College
Parsons, Kansas

Jane C. Wilson, PhD, MSN, BSN
Associate Professor; BSN Track Chairman
School of Nursing
Palm Beach Atlantic University
West Palm Beach, Florida

MATERNITY

Shannon E. Perry is Professor Emerita, School of Nursing, San Francisco State University, San Francisco, California. She received her diploma in nursing from St. Joseph Hospital School of Nursing, Bloomington, Illinois; a BSN from Marquette University; an MSN from the University of Colorado Medical Center; and a PhD in Educational Psychology from Arizona State University. She completed a 2-year postdoctoral fellowship in perinatal nursing at the University of California, San Francisco, as a Robert Wood Johnson Clinical Nurse Scholar.

Dr. Perry has had clinical experience in obstetrics, pediatrics, gynecology, and neonatal nursing. She has taught in schools of nursing in several states for more than 30 years and was director of the School of Nursing at San Francisco State University. She is a Fellow in the American Academy of Nursing. Dr. Perry's experience in international nursing includes teaching in the United Kingdom, Ireland, Italy, Thailand, Ghana, and China, as well as participating in health missions in Ghana, Kenya, Nigeria, and Honduras. She has published extensively on maternity and newborn topics as well as coediting *Maternity Nursing* (4 editions), *Maternal Child Nursing Care* (6 editions), and *Maternity and Women's Health Care* (7 editions).

Deitra Leonard Lowdermilk is Clinical Professor retired School of Nursing, University of North Carolina at Chapel Hill. She received her BSN from East Carolina University and her MEd and PhD in Education from the University of North Carolina at Chapel Hill. She is certified in in-patient obstetrics by the National Certification Corporation. She is a Fellow in the American Academy of Nursing. In addition to being a nurse educator for more than 34 years, Dr. Lowdermilk has clinical experience in maternity and women's health care.

Dr. Lowdermilk has been recognized for her expertise in nursing education and women's health by state and national nursing organizations and by her alma mater, East Carolina University. A few examples include Educator of the Year by the Association of Women's Health, Obstetric and Neonatal Nurses and by the North Carolina Nurses Association. Dr. Lowdermilk also is co-author of *Maternity and Women's Health Care* (7 editions), *Maternity Nursing* (5 editions), and *Maternal Child Health Nursing Care* (6 editions). In Fall 2010, the East Carolina University College of Nursing named the Neonatal Intensive Care and Midwifery Laboratory in honor of Dr. Lowdermilk. In 2011, she was named as one of the first 40 nurses inducted into the College of Nursing Hall of Fame.

Kitty Cashion is a Clinical Nurse Specialist in the Maternal Fetal Medicine Division, Department of Obstetrics and Gynecology at the University of Tennessee Health Science Center in Memphis. She received her BSN from the University of Tennessee College of Nursing in Memphis and her MSN in parent-child nursing from the Vanderbilt University School of Nursing in Nashville, Tennessee. Ms. Cashion is certified as a high-risk perinatal nurse through the American Nurses Credentialing Center.

Ms. Cashion's job responsibilities at the University of Tennessee include providing education regarding low- and high-risk obstetrics to staff nurses in West Tennessee community hospitals. For more than 25 years, Ms. Cashion has been an adjunct clinical instructor in maternal-child nursing (primarily in Labor & Delivery) at both associate degree and baccalaureate nursing programs. Ms. Cashion has contributed many chapters to maternity nursing textbooks over the years and also co-authored several major maternity nursing textbooks. She is a co-editor for *Maternal Child Nursing Care* and *Maternity & Women's Health Care*.

Kathryn Rhodes Alden is Associate Professor, retired from the University of North Carolina at Chapel Hill (UNC-CH) School of Nursing, where she taught clinical and didactic in maternal/newborn nursing for 29 years. She received numerous awards for excellence in nursing education at the University of North Carolina, being recognized for clinical and classroom teaching expertise as well as for academic counseling. Dr. Alden was instrumental in the adoption of simulation-based learning by the prelicensure program at UNC-CH and authored obstetric simulation cases for Elsevier. She was an early collaborator in interprofessional education at UNC-CH, offering obstetric and neonatal simulation-based learning opportunities for nursing, medicine, and pharmacy students.

Dr. Alden earned a BSN from University of North Carolina at Charlotte, an MSN from the UNC-CH, and a doctorate in adult education from North Carolina State University. She has clinical experience as a staff nurse in pediatrics, pediatric intensive care, and neonatal intensive care, as well as in postpartum home care of mothers, newborns, and families. She has served as a nursing administrator and coordinator of quality improvement. As an international board-certified lactation consultant, Dr. Alden has extensive experience as an inpatient lactation consultant and a lactation educator. Dr. Alden has contributed numerous chapters on maternal/newborn nursing and is co-editor for *Maternal Child Nursing Care* and *Maternity and Women's Health Care*. Her research has focused on promoting academic success in prelicensure nursing students.

Ellen F. Olshansky is Professor Emerita at the University of California Irvine, Sue & Bill Gross School of Nursing, where she served as Founding Director of the Program in Nursing Science, providing the foundation for the eventual Sue & Bill Gross School of Nursing. She also served as Founding Chair of the Department of Nursing in the Suzanne Dworak-Peck School of Social Work at the University of Southern California. She earned a BA in Social Work from the University of California, Berkeley, and a BS, MS, and PhD from the University of California, San Francisco School of Nursing. She is a Fellow in the American Academy of Nursing and the Western Academy of Nursing through the Western Institute of Nursing.

Dr. Olshansky is a women's health nurse practitioner emerita, certified through the National Certification Corporation, and her research focuses on women's health across the life span, with an emphasis on reproductive health. She is one of the founders of the Orange County Women's Health Project, which promotes women's health and wellness

in Orange County, California. Previously she served for 10 years as editor of the *Journal of Professional Nursing,* the official journal of the American Association of Colleges of Nursing. She has published extensively in numerous nursing and other health-related journals as well as authoring many book chapters and editorials.

PEDIATRIC

Marilyn J. Hockenberry is a Professor of Pediatrics at Baylor College of Medicine and the Global HOPE Director of Nursing at Texas Children's Hospital. She is Professor Emerita in the School of Nursing at Duke University. Dr. Hockenberry has authored more than 130 publications and has extensive expertise in advancing nursing education in developing innovative programs and teaching experiences. In 2016, she was inducted into the Sigma Theta Tau International Research Hall of Fame, recognized for her research program that focuses on symptoms associated with childhood cancer treatment. For 20 years, she sustained National Institutes of Health (NIH) RO-1 funding for two research paths: one related to acute symptom experiences caused by cancer treatment and another evaluating the long-term toxicities of childhood leukemia therapy.

PREFACE

This seventh edition of *Maternal Child Nursing Care* combines essential maternity, women's health, neonatal, and pediatric nursing information into one text. The text focuses on the care of women and their families during their reproductive years and the care of children from birth through adolescence. The issues and concerns of childbearing families and the health care of children are the primary concentrations. The promotion of wellness and the management of common women's health problems and child development in the context of the family are also addressed. As we move further into the 21st century, this edition of *Maternal Child Nursing Care* is designed to address the changing needs of women and men during their childbearing years and children during their developing years.

In this edition, we have intentionally included content that addresses the diversity among childbearing families. We have paid particular attention to address beliefs and practices of diverse cultural, ethnic, and religious groups without presenting stereotypes. Our emphasis is on teaching nursing students and future nurses the importance of assessment: learning from patients and their families about their cultural, ethnic, and religious beliefs and practices and how these practices may or may not affect their health care. The goal is to provide patient- and family-centered care that occurs within a social context in which social and structural determinants of health, including structural racism, affect health and health care.

Because our primary focus is on women and infants, we have chosen to use the terms "women" and "mothers" throughout Part I of the text. However, we realize that diverse gender identities and many types of families exist in today's world. Therefore we encourage health care professionals to ask individuals the words they use to describe themselves, in order to not assume how they identify themselves, and then use those words when communicating with families, to provide respectful and sensitive care.

Maternal Child Nursing Care was developed to provide students with the knowledge and skills they need to become competent critical thinkers and to attain the sensitivity needed to become caring nurses. This seventh edition has been revised and refined in response to comments and suggestions from educators, clinicians, and students. It includes the most accurate, current, and clinically relevant information available.

APPROACH

Professional nursing practice continues to evolve and adapt to society's changing health priorities. The rapidly changing health care delivery system offers new opportunities for nurses to alter the practice of maternity, women's health, and pediatric nursing and to improve the way care is given. Increasingly, nursing practice must be evidence based. It is incumbent on nurses to use the most up-to-date and scientifically supported information on which to base their care. To assist nurses in providing this type of care, Evidence-Based Practice boxes with implications for practice are included throughout the text.

Consumers of maternity and pediatric care vary in age, ethnicity, culture, language, social status, marital status, sexual orientation, and gender identification. They seek care from a variety of health care providers in numerous health care settings, including the home. To meet the needs of these consumers, clinical education must offer students a variety of health care experiences in settings that include hospitals and birth centers, homes, clinics, private physicians' offices, shelters for the homeless or for women and children in need of protection, and other community-based settings.

Interprofessional care has been used as an organizing framework for the information presented in the nursing care chapters. Interprofessional care is emphasized because this approach demonstrates how nursing must and does collaborate with other health care disciplines to provide the most comprehensive care possible to women and children. In chapters that focus on complications of childbearing, reproductive conditions, and childhood illnesses, medical interventions are included along with nursing care management. Throughout the discussion of assessment and care, we alert the nurse to signs of potential problems and provide informational boxes that highlight warning signs and emergency situations.

Patient and family education is an essential component of the nursing care of women and children. The chapter on women's health promotion and screening emphasizes teaching for self-care to promote wellness and to encourage preventive care. The chapter on transition to parenthood focuses on teaching for new parents and infants at home. Special boxes highlight community care throughout the text. Family-Centered Care boxes incorporate family considerations important to the care of women and children. Issues concerning grandparents, siblings, and different family constellations are addressed. In the pediatric chapters, these boxes focus on the special learning needs of families. Legal Tips are integrated into the maternity section to emphasize issues related to the care of women and infants. Alerts are located throughout the text to draw attention to important information on medications, nursing care, and safety.

This seventh edition features a contemporary design with logical, easy-to-follow headings and an attractive four-color design that highlights important content and increases visual appeal. Hundreds of color photographs and drawings throughout the text, many of them new, illustrate important concepts and techniques to further enhance comprehension. To help students learn essential information quickly and efficiently, we have included numerous features that prioritize, condense, simplify, and emphasize important aspects of nursing care. In addition, the text encourages students to think critically.

SPECIAL FEATURES

- **Atraumatic Care** boxes emphasize the importance of providing competent care without creating undue physical and psychologic distress. Although many of the boxes provide suggestions for managing pain, atraumatic care also considers approaches to promoting self-esteem and dignity.
- **Community Focus** boxes emphasize community issues, provide resources and guidance, and illustrate nursing care in a variety of settings.
- **Cultural Considerations** boxes describe a variety of beliefs and practices about pregnancy, labor and birth, parenting, and women's health concerns.
- **Emergency Treatment** boxes alert students to the signs and symptoms of various emergency situations and provide interventions for immediate implementation.
- **Evidence-Based Practice** is incorporated in new boxes that integrate findings from recent studies on selected clinical practice topics.
- **Family-Centered Care** boxes highlight the needs and concerns of families that should be addressed that emphasizes a family focus.

- **Nursing Care Guidelines** boxes provide students with examples of various approaches to implementing care.
- **Legal Tips** are integrated throughout Part 1 to provide students with relevant information to deal with important legal matters in the context of maternity nursing.
- **Medication Guide** boxes include key information about medications used in maternity and newborn care, including their indications, adverse effects, and nursing considerations.
- **Next-Generation NCLEX® Examination-Style Case Studies** and **Next-Generation NCLEX® Examination-Style Unfolding Case Studies** are included in most of the patient care chapters. The case studies present a brief clinical situation to help students conceptualize how to individualize patient care. Students will have the opportunity to become familiar with the types of questions that will soon be included in examinations for state licensure.
- **Nursing Alerts** call the reader's attention to critical information that could lead to deteriorating or emergency situations.
- **Patient Teaching** boxes assist students to help patients and families become involved in their own care with optimal outcomes.
- **Resources,** including websites and contact information for organizations and educational resources available for the topics discussed, are listed throughout.
- **Safety Alerts** call the reader's attention to potentially dangerous situations that should be addressed by the nurse.
- During assessment, the nurse must be alert for **Signs of Potential Complications;** these are included in chapters that cover uncomplicated pregnancy and birth.
- A highly detailed, cross-referenced **Index** allows readers to quickly access needed information.

TEACHING AND LEARNING PACKAGE

Several ancillaries for this text have been developed for instructors and students to use in classroom and clinical settings.

For Students

Evolve: Evolve is an innovative website that provides a wealth of content, resources, and state-of-the-art information on maternity and pediatric nursing. Answers to the Next-Generation NCLEX® Examination-Style Case Studies and Next-Generation NCLEX® Examination-Style Unfolding Case Studies that appear in the textbook are included. Learning resources for students include Audio Glossary, Printable Key Points, and NCLEX®-Style Review Questions and Answers.

Study Guide: This comprehensive and challenging study aid presents a variety of questions to enhance learning of key concepts and content from the text. Multiple-choice and matching questions and Critical Judgment and Next-Generation NCLEX® Examination-Style Questions are included. Answers for all questions are included at the back of the study guide.

For Instructors

Evolve includes these teaching resources for instructors:

Image Collection, containing more than 1100 full-color illustrations and photographs from the text, helps instructors develop presentations and explain key concepts.

PowerPoint Slides, with lecture notes for each chapter of the text, assist in presenting materials in the classroom.

TEACH for Nurses includes teaching strategies; in-class case studies; nursing skills, and nursing curriculum standards such as QSEN, concepts, and BSN Essentials.

Test Bank in ExamView format contains more than 1850 NCLEX®-style test items, including alternate-format questions. An answer key with page references to the text, rationales, and NCLEX®-style coding is included.

Next Generation NCLEX® (NGN)-Style Cases and Answers for Maternity Nursing (Instructor only) and Next Generation NCLEX® (NGN)-Style Cases and Answers for Pediatric Nursing (Instructor only).

ACKNOWLEDGMENTS

Thanks to Jennifer Taylor Alderman, Dusty Dix, and Rhonda Lanning for preparing the Evidence-Based Practice boxes, the Next-Generation NCLEX Examination-Style Unfolding Case Studies, and the Next-Generation NCLEX Examination-Style Case Studies in Part 1. Thanks, too, to those parents who permitted us to use photos of their infants and families. Very special thanks to Heather Bays, Maria Broeker, Sandy Clark, and Rachel McMullen, Elsevier staff members, whose support was crucial for the completion of this project. Thanks also to those faculty and students who provided reports and offered suggestions to ensure accuracy.

Shannon E. Perry
Deitra Leonard Lowdermilk
Kitty Cashion
Kathryn Rhodes Alden
Ellen F. Olshansky

I am grateful to the many nursing faculty members, practitioners, and students who have offered their comments, recommendations, and suggestions. This edition could not have been completed without the dedication of these special people. I am also grateful to the editorial staff at Elsevier, especially Sandra Clark, Heather Bays, and Maria Broeker, for their support and commitment to excellence.

Marilyn J. Hockenberry

The authors would like to acknowledge the following individuals for contributions to the eleventh edition of *Wong's Essentials of Pediatric Nursing:* Caroline E. Anderson, MSN, RN, CPHON; Annette L. Baker, RN, BSN, MSN, CPNP; Rose Ann U. Baker, PhD, PMHCNS-BC; Amy Barry, RN, MSN, CPNP; Heather Bastardi, RN, MSN, CPNP, CCTC; Rosalind Bryant, PhD, RN, PPCNP-BC; Alice M. Burch, DNP, MSN-Ed, BSN; Lisa M. Cleveland, PhD, RN, CPNP, IBCLC, FAAN; Erin Connelly, BBA, BSN, MSN; Elizabeth A. Duffy, DNP, RN, CPNP; Kimberley Ann Fisher, PhD; R. Elizabeth Fisher, DNP, APRN, CPNP AC/PC, CPON; Jan M. Foote, DNP, ARNP, CPNP, FAANP; Melody Hellston, DNP, MSN, MS; Ruth Anne Herring, MSN, RN, CPNP-AC/PC, CPHON; Joy Hesselgrave, MSN, RN, CPON, CHPPN; Maryellen S. Kelly, DNP, CPNP; Patricia McElfresh, PNP-BC, Tara Taneski Merck, RN, MS, CPNP, APNP; Kristina Miller, DNP, RN, PCNS-BC, CNE; Mary Mondozzi, MSN, BSN, WCC; Rebecca A. Monroe, MSN, APRN, CPNP; Tadala Mulemba, BSN; Patricia O'Brien, MSN, CPNP-AC, FAHA; Kathie Prihoda, RN, MSN, DNP; Cynthia A. Prows, BSN, MSN, APRN; Mpho Raletshegwana, BSN, RN; Kathleen S. Ruccione, PhD, MPH, RN, CPON, FAAN; Gina Santucci, MSN, FNP, APN-BC; Margaret L. Schroeder, MSN, BSN, BA, RN, PPCNP-BC; Micah Skeens, PhD, RN, CPNP; Laura Tillman, DNP, APRN, CPNP; and Caroline C. Weeks, BS, BA, RDN, LD.

CONTENTS

1

21st-Century Maternity Nursing

Ellen Frances Olshansky

http://evolve.elsevier.com/Perry/maternal

Maternity nursing encompasses care of childbearing women and their families through all stages of pregnancy and birth and the first 6 weeks after birth. This chapter covers the **preconception** period, pregnancy (**prenatal** or **antepartum**), labor and birth (**intrapartum**), and the first 6 weeks after birth (**postpartum**). The term **perinatal** is also used to describe all of these periods. Some practitioners include preconception as part of maternity nursing because of the importance of counseling related to planning for pregnancy. Throughout the prenatal period, nurses, nurse practitioners, and nurse-midwives provide care for women in clinics and physicians' offices and teach classes to help families prepare for birth. Nurses and nurse-midwives care for childbearing families during labor and birth in hospitals and birthing centers (e.g., www.birthcenters.org). Nurse-midwives may also care for childbearing families in the home. Nurses with special training may provide intensive care for high-risk neonates in special care units and high-risk mothers in antepartum units, in critical care obstetric units, or in the home. Maternity nurses teach about pregnancy; the process of labor, birth, and recovery; newborn care; postpartum care; and parenting skills. They provide continuity of care throughout the childbearing cycle. Gregory, Ramos, and Jauniaux (2021) aptly argued that care of women during the childbearing cycle should be addressed within the larger context of their lives and health across their life spans and they advocated developing a "reproductive life plan," referred to as a compilation of goals related to their own decisions regarding choosing to bear a child or not. This chapter presents a general overview of issues and trends related to the health and health care of women and infants, which provides a foundation for a woman's reproductive life plan.

Nurses caring for women have helped make the health care system more responsive to women's needs. They have been critically important in developing strategies to improve the well-being of women, their families, and their infants and have led the efforts to implement clinical practice guidelines and to practice using an evidence-based approach. Through professional associations, nurses have a voice in setting standards and influencing health policy by actively participating in the education of the public and communicating with state and federal legislators (e.g., www.nursingworld.org; www.awhonn.org; www.capwhn.ca). Some nurses hold elective office and influence policy directly. For example, Mary Wakefield, a nurse, served from 2015 to 2017 as Acting Deputy Secretary of the Health Resources and Services Administration (HRSA), the agency that oversees approximately 7000 community clinics that serve low-income and uninsured people. In fact, nurses have a strong impact worldwide. The World Health Organization (WHO) declared 2020 as the year of the nurse and midwife (WHO, 2019).

ADVANCES IN THE CARE OF MOTHERS AND INFANTS

Although tremendous advances have taken place in the care of mothers and their infants during the past 150 years (Box 1.1), serious problems exist in the United States related to the health and health care of mothers and infants. Maternal mortality is increasing in the United States despite advances in health care and decreases in maternal mortality globally (WHO, 2018a, 2018b). Chronic medical conditions such as heart disease, diabetes, and obesity are likely contributory factors. Moreover, significant racial disparities exist: Black women face much greater risks of death related to birth than do White women (Centers for Disease Control and Prevention [CDC], 2020). Mayer, Dingwall, Simon-Thomas, et al (2019) report that the maternal mortality rate in the United States over the past two decades has doubled, and most troubling is that non-Hispanic Black women have a threefold to fourfold increase in the likelihood of dying due to a pregnancy-related condition as compared with non-Hispanic White women. The Tikkanen, Gunja, FitzGerald, et al (2020) found that the United States has the highest maternal mortality rate compared with other developed countries, and one of the factors attributed to this disparity is the lack of midwives and lack of adequate access to health care during the postpartum period.

Systemic racism, perpetuated through our societal structure, is a root cause of many of the negative social determinants of health. Lack of access to prepregnancy and pregnancy-related care for all women and the lack of reproductive health services for adolescents are major concerns. Sexually transmitted infections, including acquired immunodeficiency syndrome (AIDS), continue to adversely affect reproduction. In looking at all the disparities, racism is an important root cause. The Aspen Institute (2020), a non-profit and non-ideological think-tank, addresses racism as it promotes ways of combatting what is a structural, systemic context that reinforces inequities among racial groups and recognizes privileges that are associated with "whiteness" and disadvantages associated with "color," leading to the perpetuation of inequities among people of color.

BOX 1.1 Historic Overview of Milestones in the Care of Mothers and Infants

1847—James Young Simpson in Edinburgh, Scotland, used ether for an internal podalic version and birth; the first reported use of obstetric anesthesia
1861—Ignaz Semmelweis wrote *The Cause, Concept and Prophylaxis of Childbed Fever*
1906—First US program for prenatal nursing care established
1908—Childbirth classes started by the American Red Cross
1909—First White House Conference on Children convened
1911—First milk bank in the United States established in Boston
1912—US Children's Bureau established
1915—Radical mastectomy determined to be effective treatment for breast cancer
1916—Margaret Sanger established first American birth control clinic in Brooklyn, New York
1918—Condoms became legal in the United States
1923—First US hospital center for premature infant care established at Sarah Morris Hospital in Chicago, Illinois
1929—The modern tampon (with an applicator) invented and patented
1933—Sodium pentothal used as anesthesia for childbirth
1933—*Natural Childbirth* published by Grantly Dick-Read
1934—Dionne quintuplets born in Ontario, Canada, and survive partly due to donated breast milk
1935—Sulfonamides introduced as cure for puerperal fever
1941—Penicillin used as a treatment for infection
1941—Papanicolaou (Pap) test introduced
1942—Premarin approved by the US Food and Drug Administration (FDA) as treatment for menopausal symptoms
1953—Virginia Apgar, an anesthesiologist, published Apgar scoring system of neonatal assessment
1956—Oxygen determined to cause retrolental fibroplasia (now known as retinopathy of prematurity)
1958—Edward Hon reported on the recording of the fetal electrocardiogram (ECG) from the maternal abdomen (first commercial electronic fetal monitor produced in the late 1960s)
1958—Ian Donald, a Glasgow physician, was first to report clinical use of ultrasound to examine the fetus
1959—*Thank You, Dr. Lamaze* published by Marjorie Karmel
1959—Cytologic studies demonstrated that Down syndrome is associated with a particular form of nondisjunction now known as trisomy 21
1960—American Society for Psychoprophylaxis in Obstetrics (ASPO/Lamaze) formed
1960—International Childbirth Education Association founded
1960—Birth control pill introduced in the United States
1962—Thalidomide found to cause birth defects
1963—Title V of the Social Security Act amended to include comprehensive maternity and infant care for women who were low income and high risk
1963—Testing for phenylketonuria (PKU) begun
1965—Supreme Court ruled that married people have the right to use birth control
1967—Rh_0(D) immune globulin produced for treatment of Rh incompatibility
1967 –First known helicopter transport under the nursing care of Sister M. Andre of a preterm infant from place of birth in Zion, IL to Peoria, IL for specialized care.
1967—Reva Rubin published article on maternal role attainment
1968—Rubella vaccine became available
1969—Nurses Association of the American College of Obstetricians and Gynecologists (NAACOG) founded; renamed Association of Women's Health, Obstetric and Neonatal Nurses (AWHONN) and incorporated as a 501(c)(3) organization in 1993
1969—Mammogram became available
1972—Special Supplemental Food Program for Women, Infants, and Children (WIC) started
1973—Abortion legalized in United States
1974—First standards for obstetric, gynecologic, and neonatal nursing published by NAACOG
1975—The Pregnant Patient's Bill of Rights published by the International Childbirth Education Association
1976—First home pregnancy kits approved by FDA
1978—Louise Brown, first test-tube baby, born
1987—Safe Motherhood initiative launched by World Health Organization and other international agencies
1991—Society for Advancement of Women's Health Research founded
1992—Office of Research on Women's Health authorized by US Congress
1993—Female condom approved by FDA
1993—Human embryos cloned at George Washington University
1993—Family and Medical Leave Act enacted
1994—DNA sequences of *BRCA1* and *BRCA2* identified
1994—Zidovudine guidelines to reduce mother-to-fetus transmission of human immunodeficiency virus (HIV) published
1996—FDA mandated folic acid fortification in all breads and grains sold in United States
1998—Newborns' and Mothers' Health Act went into effect
1998—Canadian Obstetric, Gynecologic, and Neonatal Nurses (COGNN) becomes AWHONN Canada
1999—First emergency contraceptive pill for pregnancy prevention (Plan B) approved by FDA
2000—Working draft of sequence and analysis of human genome completed
2006—Human papillomavirus (HPV) vaccine available
2010—Centenary of the death of Florence Nightingale
2010—Patient Protection and Affordable Care Act signed into law by President Obama
2011—AWHONN Canada becomes the Canadian Association of Perinatal and Women's Health Nurses (CAPWHN)
2012—US Supreme Court upheld individual mandate but not the Medicaid expansion provisions of the Patient Protection and Affordable Care Act
2012—Scientists reported findings of the ENCODE (**Enc**yclopedia **o**f **D**NA **E**lements) project showing that 80% of the human genome is active
2016—Zika virus discovered, spread by mosquitos, and sexually transmitted by sperm if a male is infected, affects the fetus/neonate (microcephaly)
2020—Coronavirus (COVID-19) first discovered in 2019, and led to shutdown of the United States; effects on maternal-child health continue to need more research

EFFORTS TO REDUCE HEALTH DISPARITIES

Racial and ethnic diversity is increasing within the United States. A Brookings Institute report (Frey, 2019) predicted that the 2020 census would reveal a more racially diverse nation than at any point in our history. It is projected that by 2045 the United States will be "minority White," with 49.7% of the nation's population being White, 24.6% Hispanic, 13.1% Black, 7.9% Asian, and 3.8% multiracial (Frey, 2018).

Blacks, Native Americans, Hispanics, Alaska Natives, and Asian/Pacific Islanders experience significant disparities in **morbidity** and mortality rates compared with Whites. Shorter life expectancy, higher infant and maternal mortality rates, more **birth defects,** and more sexually transmitted infections are found among these ethnic and racial minority groups. The disparities are thought to result from a complex interaction among biologic factors, environment, socioeconomic factors, and health behaviors. Social determinants of health are

those nonbiologic factors that have profound influences on health. Disparities in education and income are associated with differences in morbidity and mortality.

The HRSA Health Disparities Collaboratives are part of a national effort to eliminate disparities and improve delivery systems of health care for all people in the United States who are cared for in HRSA-supported health centers. The National Partnership for Action to End Health Disparities (NPA), sponsored by the Office of Minority Health, has a newsletter to address priorities to end health disparities (NPA, 2018). Artiga, Orgera, and Pham (2020) from the Kaiser Family Foundation emphasized the urgency of our health care system to address health disparities. The National Institutes of Health (NIH) has a commitment to improve the health of minorities and provide funding for research and training of minority researchers (www.nih.gov). The National Institute of Nursing Research includes in its strategic plan support of research that promotes health equity and eliminates health disparities. The Black Mamas Matter Alliance (BMMA) is an organization that makes policy recommendations, framed through the lens of reproductive justice, to address the alarming disparities in pregnancy-related health among black women (see website: https://blackmamasmatter.org/). The Institute for Healthcare Improvement (IHI) has developed informational materials (podcasts, videos) specifically focused on Black women and maternal care (IHI, 2019).

The CDC publishes reports of recent trends and variations in health disparities and inequalities in some social and health indicators and provides data against which to measure progress in eliminating disparities. Topics specific to perinatal nursing that are addressed are infant deaths, preterm births, and adolescent pregnancy and birth. In 2019, the US Department of Health and Human Services (USDHHS) released a progress report on its USDHHS Disparities Action Plan that provides a vision of "a nation free of disparities in health and health care" (USDHHS, 2019). Through this plan, USDHHS will promote evidence-based programs, integrated approaches, and best practices to reduce disparities. The Action Plan complements the 2011 National Stakeholder Strategy for Achieving Health Equity prepared by the NPA. Through these initiatives, the United States is making a concerted effort to eliminate health disparities. However, much more work is needed in this important area.

The issue of health disparities applies to people who define themselves as lesbian, gay, bisexual, transgender, queer/questioning, intersex, and asexual or allied (LGBTQIA). All people deserve highest-quality health care in a safe environment. Nurses must be open and empathic when caring for any person who identifies in any way related to sexuality (U.C. Davis, 2020).

CONTEMPORARY ISSUES AND TRENDS

HEALTHY PEOPLE 2030 GOALS

Healthy People provides science-based 10-year national objectives for improving the health of all Americans. The most recent goals are for 2030 and include five overarching goals, which extend to the year 2030 as these are continuing goals: (1) attain healthy, thriving lives and well-being, free of preventable disease, disability, injury, and premature death; (2) eliminate health disparities, achieve health equity, and attain health literacy to improve the health and well-being of all; (3) create social, physical, and economic environments that promote attaining full potential for health and well-being for all; (4) promote healthy development, healthy behaviors, and well-being across all life stages; and (5) engage leadership, key constitutents, and the public across multiple sectors to take action and design policies that improve the health and well-being of all. (https://www.healthypeople.gov/2020/About-Healthy-People/Development-Healthy-People-2030/Framework).

BOX 1.2 United Nations Sustainable Development Goals

1. No poverty
2. Zero hunger
3. Good health and well-being
4. Quality education
5. Gender equality
6. Clean water and sanitation
7. Affordable and clean energy
8. Decent work and economic growth
9. Industry, innovation, and infrastructure
10. Reduced inequalities
11. Sustainable cities and communities
12. Responsible consumption and production
13. Climate action
14. Life below water
15. Life on land
16. Peace, justice, and strong institutions
17. Partnerships for the goals

From United Nations Development Programme. (2020). Sustainable development goals. Retrieved from: https://www.undp.org/content/undp/en/home/sustainable-development-goals.html.

GLOBAL GOALS

In September 2015, the United Nations site in New York City hosted a conference of world leaders, where they adopted the 2030 Agenda for Sustainable Development. This 2030 agenda consists of 17 Sustainable Development Goals (SDGs), also referred to as Global Goals, which are now replacing the Millennium Development Goals (MDGs) (United Nations Development Programme, 2020). The majority of these SDGs are related to the environment and eliminating poverty, in many ways collectively encompassing social determinants of health, all of which are relevant to childbearing and childrearing. They are listed in Box 1.2.

INTEGRATIVE HEALTH CARE

Integrative health care encompasses complementary and alternative therapies in combination with conventional Western modalities of treatment. Many popular alternative healing modalities offer human-centered care based on philosophies that recognize the value of the patient's input and honor the individual's beliefs, values, and desires. The focus of these modalities is on the whole person, not just on a disease complex. Patients often find that alternative modalities are more consistent with their own belief systems and also allow for more autonomy in health care decisions. Examples of alternative modalities include acupuncture, macrobiotics, herbal medicines, massage therapy, biofeedback, meditation, yoga, **chelation therapy**, and guided imagery. Chelation therapy is an alternative therapy that consists of infusing intravenous substances to remove calcium and heavy metals from hardened arteries. Integrative health care is not limited to maternity or women's health, but many of the therapies may be considered by women, in consultation with their health care providers, to use for various conditions.

The National Center for Complementary and Integrative Health (NCCIH) (https://nccih.nih.gov) is a US government agency that supports research and evaluation of various alternative and complementary modalities and provides information to health care consumers about such modalities. It is one of the 27 institutes and centers included in the NIH.

INTERPROFESSIONAL EDUCATION AND CARE MANAGEMENT

Interprofessional education (IPE) "occurs when two or more professions (students, residents, and health care workers) learn with, about, and from each other to enable effective collaboration and improved health outcomes (National Center for Interprofessional Practice and Education, 2021) (nexusipe.org). The underlying premise of interprofessional collaboration is that patient care will improve when health professionals work together. The National League for Nursing (2019), the Interprofessional Education Collaborative (2019), the WHO, and many others, such as the American Association of Colleges of Nursing, have expressed support for IPE. IPE is identified as an important way to decrease medical errors and to prevent needless morbidities and mortalities due to such errors. The interprofessional collaborative practice competency domains include (1) values/ethics for interprofessional practice, (2) roles/responsibilities, (3) interprofessional communication, and (4) teams and teamwork.

See Box 1.3 for a description of the practice competencies related to IPE.

Interprofessional care management can includes many specialties, including nurses and obstetricians, but also perinatologists, neonatologists, pharmacists, social workers, and anesthesiologists, among others. For example, an infant born with a congenital malformation will need a neonatologist as well as a social worker and nurse.

PROBLEMS WITH THE US HEALTH CARE SYSTEM

Structure of the Health Care Delivery System

The US health care delivery system is often fragmented and expensive and is inaccessible to many. Opportunities exist for nurses to alter nursing practice and improve the way care is delivered through managed care, integrated delivery systems, and redefined roles. Information about health and health care is readily available on the Internet (e-health). Consumers use this information to participate in their own care and consult health care providers when they have further questions.

Reducing Medical Errors

Medical errors are a major cause of death in the United States, and they are the most common of mistakes made in US hospitals (Leapfrog Group, 2019). Since the Institute of Medicine (IOM) released its report, *To Err Is Human: Building a Safer Health System* (IOM, 2000), a concerted effort has been under way to analyze causes of errors and develop strategies to prevent them. Rodziewicz and Hipskind (2019) presented comprehensive information for how health care providers can decrease interruptions and distractions that contribute to medical errors. Recognizing the multifaceted causes of medical errors, the AHRQ (2018) prepared a fact sheet in 2020, *20 Tips to Help Prevent Medical Errors*. Patients are encouraged to be knowledgeable consumers of health care and ask questions of providers, including physicians, nurse-midwives, nurses, and pharmacists. Table 1.1 lists several safe practices for better health care.

The National Quality Forum (NQF) published a list of Serious Reportable Events in Healthcare (2020). Box 1.4 lists those events that pertain specifically to maternity and newborn care.

High Cost of Health Care

Health care is one of the fastest-growing sectors of the US economy. Currently 17.7% of the gross domestic product is spent on health care (Centers for Medicare & Medicaid, 2019a). These high costs are related to higher prices, readily accessible technology, and greater obesity.

Nurse-midwifery and advanced practice nursing care have helped to contain some health care costs. However, not all insurance carriers reimburse nurse practitioners and clinical nurse specialists as direct care providers, nor do they reimburse for all services provided by nurse-midwives, a situation that continues to be a problem. Nurses must become involved in the politics of cost containment because they, as knowledgeable experts, can provide solutions to many health care problems at a relatively low cost. Nurse practitioners are among the

BOX 1.3 Interprofessional Education and Collaboration

The Interprofessional Education Collaborative builds on earlier work, in which practice competencies were identified to include the following:

1. Values/ethics for interprofessional practice
2. Roles/responsibilities
3. Interprofessional communication
4. Teams and teamwork

The Interprofessional Education Collaborative developed a new collaborative that expands the number of health professionals involved Interprofessional Education Collaborative. (2019). *What is professional education?* Retrieved from: https//www.ipecollaborative.org/about-ipec.html.

TABLE 1.1 Selected Safe Practices for Better Health Care

Safe Practice	Practice Statement
Safe Practice 2: Culture Measurement, Feedback, and Intervention	Health care organizations must measure their culture, provide feedback to leadership and staff, and undertake interventions that reduce patient safety risk.
Safe Practice 5: Informed Consent	Ask each patient or legal surrogate to "teach back" in his or her own words key information about the proposed treatments or procedures for which he or she is being asked to provide informed consent.
Safe Practice 12: Patient Care Information	Ensure that care information is transmitted and appropriately documented in a timely manner and a clearly understandable form to patients and all of the patients' health care providers/professionals, within and between care settings, who need that information to provide continued care.
Safe Practice 19: Hand Hygiene	Comply with current Centers for Disease Control and Prevention (CDC) hand hygiene guidelines.

From National Quality Forum. (2020). Safe practices for better healthcare. Retrieved from: https://www.qualityforum.org/News_And_Resources/Press_Kits/Safe_Practices_for_Better_Healthcare.aspx.

BOX 1.4 National Quality Forum Serious Reportable Events Pertaining to Maternal and Child Health

- Maternal death or serious injury associated with labor or birth in a low-risk pregnancy while being cared for in a health care facility
- Death or serious injury of a neonate associated with labor or delivery in a low-risk pregnancy
- Artificial insemination with the wrong donor sperm or wrong egg

From National Quality Forum. (2020). *List of serious reportable events (SREs).* Washington, DC: NQF.

health care providers included in the Affordable Care Act (ACA). Despite this, only 22 states and the District of Columbia allow nurse practitioners to practice to their fullest potential without physician involvement (Peterson, 2017).

Limited Access to Care

Barriers to access must be removed so pregnancy outcomes and care of children can be improved. The most significant barrier to access is the inability to pay. Some improvement in ability to pay has been seen due to the ACA. The uninsured rate in 2018 was 8.5%, or 27.5 million people, but this was increased from 2017 when the rate of the uninsured was 7.9%, or 25.6 million people (Berchick, Barnett, & Upton, 2019). Lack of transportation and dependent child care are other barriers. In addition to a lack of insurance and high costs, a lack of providers for low-income women exists because many physicians either refuse to take Medicaid patients or take only a few such patients. This presents a serious problem because a significant proportion of births are to mothers who receive Medicaid.

Health Care Reform

In early 2010, President Obama signed into law the Patient Protection and ACA. The act aims to make insurance affordable, contain costs, strengthen and improve Medicare and Medicaid, and reform the insurance market. The act contained provisions to promote prevention and improve the health delivery system. In the early years of its implementation, the ACA gained ground on many of its goals, including the reduction in the number of uninsured Americans. Professional associations such as The Association of Women's Health, Obstetric and Neonatal Nurses (AWHONN) and the American College of Nurse Midwives (ACNM) advocated successfully for the inclusion in the ACA of contraceptive methods, services, and counseling, without any out-of-pocket costs to patients; preventive services such as mammograms, well-woman visits, and screening for gestational diabetes; and providing breastfeeding equipment and counseling for pregnant and nursing women in new insurance plans. At the time of this writing, the ACA continues to be tenuous as the Supreme Court is currently considering its viability.

Accountable Care Organizations

The Centers for Medicaid and Medicare Services (CMS, 2020) developed rules under the ACA to help health care providers and hospitals better coordinate care for Medicare patients through Accountable Care Organizations (ACOs). An ACO is a group of health care providers and health care agencies that are accountable for improving the health of populations while containing costs. These groups of health care providers and hospitals voluntarily come together to coordinate high-quality care, eliminate duplication of services, and prevent medical errors, which results in savings of health care dollars.

HEALTH LITERACY

Health literacy involves a spectrum of abilities, ranging from reading an appointment slip to interpreting medication instructions. These skills must be assessed routinely to recognize a problem and accommodate patients with limited literacy skills. Most educational materials are written at too high a reading level for the average adult; **e-health literacy** has emerged as a concept. Individuals use the Internet for diagnosis, and more than half of these individuals seek the opinion of a medical professional rather than trying to care for themselves based on the information accessed.

The CDC (2019a) has a health literacy website (www.cdc.gov/healthliteracy) that highlights implementation of goals and strategies of the National Action Plan to Improve Health Literacy. Health literacy is part of the ACA.

As a result of the increasingly multicultural US population, there is a more urgent need to address health literacy as a component of culturally and linguistically competent care. Older adults, racial or ethnic minorities, and those whose income is at or below the poverty level are most vulnerable. Lower health literacy is associated with adverse health outcomes (CDC, 2019a).

Health care providers contribute to health literacy by using simple common words, avoiding jargon, and assessing whether the patient understands the discussion. Speaking slowly and clearly and focusing on what is important will increase understanding.

TRENDS IN FERTILITY AND BIRTH RATE

Fertility trends and birth rates reflect women's needs for health care. Box 1.5 defines biostatistical terminology useful in analyzing maternity health care. In 2017, the **fertility rate**, births per 1000 women from 15 to 44 years of age, was 58.3 , which is a slight decline (Martin, Hamilton, Osterman, et al., 2021). The birth rate for teens 15 to 19 years declined by 4% since between 2018 and 2019. Birth rates since decreased for women aged 20 to 34, while they increased for women in the age range of 35-44. The cesarean birth rate decreased slightly to 31.7% in 2019 (Martin et al, 2021).

LOW BIRTH WEIGHT AND PRETERM BIRTH

The risks of morbidity and mortality increase for newborns weighing less than 2500 g (5 lb, 8 oz)—low-birth-weight (LBW) infants. The percentage of babies born at LBW in 2019 was 8.31% nationwide (Martin et al, 2021). The percentage of LBW infants born in 2018 ranged from a low of 5.9 in Alaska to a high of 12.1 in Mississippi (CDC, 2020b). This range reflects troubling discrepancies in birth outcomes across the United States.

Multiple births contribute to the incidence of LBW, but there has been a decline in twin, triplet, and higher order births from 2018 to

BOX 1.5 Maternal-Infant Biostatistical Terminology

Abortus: An embryo or fetus that is removed or expelled from the uterus at 20 weeks of gestation or less, weighs 500 g or less, or measures 25 cm or less

Birth rate: Number of live births in 1 year per 1000 population

Fertility rate: Number of births per 1000 women between 15 and 44 years of age (inclusive), calculated on an annual basis

Infant mortality rate: Number of deaths of infants younger than 1 year of age per 1000 live births

Maternal mortality rate: Number of maternal deaths from births and complications of pregnancy, birth, and puerperium (the first 42 days after termination of the pregnancy) per 100,000 live births

Pregnancy-associated deaths: All deaths during pregnancy and within the 1 year following the end of pregnancy

Pregnancy-related deaths (subset of pregnancy-associated): Deaths that are a complication of pregnancy, an aggravation of an unrelated condition by the physiology of pregnancy, or a chain of events initiated by the pregnancy

Neonatal mortality rate: Number of deaths of infants younger than 28 days of age per 1000 live births

Perinatal mortality rate: Number of stillbirths and number of neonatal deaths per 1000 live births

Stillbirth: An infant who at birth demonstrates no signs of life such as breathing, heartbeat, or voluntary muscle movements

2019 (Martin et al, 2021). The preterm birth rate (i.e. infants born before 37 weeks of gestation) increased for the past five years to 10.23% in 2019 (Martin et al, 2021).

INFANT MORTALITY TRENDS

A common indicator of the adequacy of prenatal care and the health of a nation as a whole is the **infant mortality rate**. The US infant mortality rate for 2017 was 5.8 deaths per 1000 live births (CDC, 2019b). The disparity in infant mortality rate between Black infants and non-Hispanic White infants has increased over time. The infant mortality rate continues to be higher for non-Hispanic Black babies (11.4 per 1000) than for non-Hispanic Whites (4.9 per 1000) and Hispanic (5.0 per 1000) babies (CDC, 2019b). Limited maternal education, young maternal age, unmarried status, poverty, lack of prenatal care, and smoking appear to be associated with higher infant mortality rates. Poor nutrition, alcohol use, and maternal conditions such as poor health or hypertension also are important contributors to infant mortality. To address the factors associated with infant mortality, a shift from the current emphasis on high-technology medical interventions to a focus on improving access to preventive care for low-income families must occur.

Leading causes of neonatal death include: birth defects (congenital malformations), preterm and low birth weight, pregnancy complications, sudden infant death syndrome, and injuries (such as those leading to suffocation) (CDC, 2020c). Racial differences in the infant mortality rates continue to challenge public health experts. Increased rates of survival during the neonatal period have resulted largely from high-quality prenatal care and the improvement in perinatal services, including technologic advances in neonatal intensive care and obstetrics.

Commitment at national, state, and local levels is required to reduce the infant mortality rate. More research is needed to identify the extent to which financial, educational, sociocultural, and behavioral factors individually and collectively affect perinatal morbidity and mortality. Barriers to care must be removed and perinatal services modified to meet contemporary health care needs.

In 2018, the infant mortality rate in the United States ranked 11th when compared with those of other industrialized countries (Organisation for Economic Cooperation and Development [OECD], 2018). Decreases in the infant mortality rate in the United States do not keep pace with the rates of other industrialized countries. One reason for this is the high rate of LBW infants in the United States in contrast with the rates in other countries.

MATERNAL MORTALITY TRENDS

The United Nations estimated that 303,000 women died of problems related to pregnancy or birth in 2015, a decline from approximately 358,000 in 2008 and 532,000 in 1990 (WHO, 2018b). In 2018, the **maternal mortality rate** was 17.4 per 100,000 live births in the United States, with 37.1 per 100,000 live births in Black women, which was 2.5 to 3 times that of non-Hispanic White women (Hoyert and Minino, 2020). The CDC began working with national and international groups in 2001 to develop and implement programs to promote safe motherhood. Although the overall number of maternal deaths in the United States is small (approximately 700 each year), maternal mortality remains a significant problem because 60% of deaths are preventable, primarily through improving access to and use of prenatal care services (CDC, 2019c). In the United States, there is significant racial disparity in the rates of maternal death: Black and Indian/Alaska Native women are three times more likely to die from pregnancy-related causes compared with White women (CDC, 2019c). There is an act in Congress, the Black Maternal Health Momnibus Act of 2020, introduced by the Black Maternal Health Caucus. This is a package of nine bills that seek to close the gap in racial disparities and provide comprehensively improved maternal outcomes (Kai, 2020; Underwood, 2020). As of this writing, this bill is still under review.

The leading causes of maternal death attributable to pregnancy differ over the world. In general, three major causes have persisted for the past 50 years: hypertensive disorders, infection, and hemorrhage. Many states have formed maternal mortality review committees to examine maternal deaths and determine which are pregnancy-related and which are pregnancy-associated, meaning due to circumstances such as social structural issues. The three leading causes of maternal mortality in the United States currently are cardiovascular disease, noncardiovascular diseases, and infection/sepsis (CDC, 2019c). Factors that are strongly related to maternal death include age (younger than 20 years and 35 years or older), lack of prenatal care, low educational attainment, unmarried status, and non-White race. College-educated Black women in the United States have a 1.6 times higher likelihood of experiencing a pregnancy-related death as compared with White women without a high school diploma; and among college-educated women, pregnancy-related mortality in Black women is 5.2 times that of White women (Underwood, 2020). These disparities are not due to race; they are due to racism (McLemore, 2018). Rather than blaming Black women for poor health, we instead must tackle the underlying causes that are rooted in racism. Racism is a systemic part of the structure of society. The Aspen Institute (2016) describes systemic, structural racism as "a system in which public policies, institutional practices, cultural representations, and other norms work in various, often reinforcing ways to perpetuate racial group inequity. It identifies dimensions of our history and culture that have allowed privileges associated with 'whiteness' and disadvantages associated with 'color' to endure and adapt over time." The *Healthy People 2020* goal of 3.3 maternal deaths per 100,000 posed a significant challenge and was not achieved. The *Healthy People 2030* goal is 15.7 maternal deaths per 100,000 live births, which may also be difficult to achieve. These statistics points out the gravity of the problem of maternal mortality and the need to address this issue, particularly the disparities in maternal morality. Worldwide strategies to reduce maternal mortality rates include improving access to skilled attendants at birth, providing postabortion care, improving family planning services, and providing adolescents with better reproductive health services.

MATERNAL MORBIDITY

Although mortality is the traditional measure of maternal health, and maternal health is often measured by neonatal outcomes, pregnancy complications are important. Currently no surveillance method is available to measure the incidence of maternal **morbidity**. This includes such conditions as acute renal failure, amniotic fluid embolism, cerebrovascular accident, eclampsia, pulmonary embolism, liver failure, obstetric shock, respiratory failure, septicemia, and complications of anesthesia (pulmonary, cardiac, central nervous system). Maternal morbidity results in a high-risk pregnancy. The diagnosis of high risk imposes a situational crisis on the family. Interprofessional health care teams caring for women with high risk pregnancies include health care providers and nurses with expertise in maternal-fetal medicine and critical care obstetrics.

Obesity

Approximately 31% of women ages 20 through 39 are obese (body mass index [BMI] of 30 or higher); including those who are overweight (BMI 25.0 to <30), approximately 58.5% of women in this age group fit in that category (Catalano, 2019). The two most frequently reported maternal medical risk factors are hypertension associated with pregnancy and diabetes, both of which are associated with obesity. Decreased fertility, congenital anomalies, miscarriage, and fetal death are also associated with obesity. Obesity in pregnancy is associated with

higher risks, and there are significant disparities in obesity associated with race and ethnicity (Chapman, 2019).

REGIONALIZATION OF PERINATAL HEALTH CARE SERVICES

Not all facilities can or should develop and maintain the full spectrum of services required for high-risk perinatal patients. A regionalized system focusing on integrated delivery of graded levels of hospital-based perinatal health care services is effective and results in improved outcomes for mothers and their newborns. This system of coordinated care can be extended to preconception and ambulatory prenatal care services. In 2015 and then updated in 2019, American College of Obstetricians and Gynecologists (ACOG) and the Society for Maternal-Fetal Medicine (SMFM) published a consensus statement on levels of maternal care (ACOG and SMFM, 2019). This statement established four levels of care, which include: 1) basic care, 2) specialty care, 3) subspecialty care, and 4) regional perinatal health care centers.

Basic Care

Guidelines have been established regarding the level of care that can be expected at any given facility. In ambulatory settings, providers must distinguish themselves by the level of care they provide. *Basic care* is provided by obstetricians, family physicians, certified nurse-midwives, and other advanced practice clinicians approved by local governance. Routine risk-oriented prenatal care, education, and support are provided. Providers offering *specialty care* are obstetricians who must provide fetal diagnostic testing and management of obstetric and medical complications in addition to basic care. *Subspecialty care* is provided by maternal-fetal medicine specialists and reproductive geneticists and includes the aforementioned in addition to genetic testing, advanced fetal therapies, and management of severe maternal and fetal complications. Collaboration among providers to meet the woman's needs is the key to reducing perinatal morbidity and mortality.

Specialized Care

Advances in scientific knowledge and the large number of high-risk pregnancies have contributed to a health care system that offers specialized care to improve outcomes. With an emphasis on high-technology care, maternity care has extended to preconception counseling, more and better scientific techniques to monitor the mother and fetus, more definitive tests for hypoxia and acidosis, and NICUs. The labors of virtually all women who give birth in hospitals in the United States are monitored electronically despite the lack of evidence of efficacy of such monitoring. Internet-based information that enhances interactions among health care providers, families, and community providers is available to the public. Point-of-care testing is available. Personal data assistants are used to enhance comprehensive care; the medical record is increasingly in electronic form.

Strides are being made in identifying genetic codes, and genetic engineering is taking place. Women's health has expanded to emphasize care of older women, new cancer-screening techniques, advances in the diagnosis and treatment of breast cancer, and work on an AIDS vaccine. In general, high-technology care has flourished, whereas "health" care has become relatively neglected. Nurses must use caution and prospective planning and assess the effect of the emerging technologies.

INTERNET-BASED TECHNOLOGIES

Telehealth

Telehealth is an umbrella term for the use of communication technologies and electronic information to provide or support health care when the participants are separated by distance. It permits specialists, including nurses, to provide health care and consultation when distance separates them from those needing care. This technology has the potential to save billions of dollars annually for health care, but these technologic advances have also contributed to higher health care costs. With the recent coronavirus pandemic, telehealth is being used more frequently.

Social Media

Social media uses Internet-based technologies to allow users to create their own content and participate in dialog. The most common social media platforms are Facebook, Twitter, and LinkedIn, with others also gaining in popularity. Through social media, women can find information and support related to relevant topics on pregnancy, postpartum, breastfeeding, and parenting. The accuracy of health care information accessed through social media may be in question; dialogue between patients and health care providers can help consumers to identify inaccuracies and emphasize important information.

Social media can be integrated into nursing practice, facilitating communication among nurses and between nurses and other health care providers and patients. However, there are pitfalls for nurses using this technology. Patient privacy and confidentiality can be violated, and institutions and colleagues can be cast in unfavorable lights with negative consequences for those posting the information. Nursing students have been expelled from school, and nurses have been fired or reprimanded by a Board of Nursing for injudicious posts. To help make nurses aware of their responsibilities when using social media, the American Nurses Association (ANA) published six principles for social networking and the nurse (Box 1.6). *A Nurse's Guide to the Use of Social Media* was published by the National Council of State Boards

BOX 1.6 National Council of State Boards of Nursing's Principles for Social Networking and the Nurse

- Nurses must recognize that they have an ethical and legal obligation to maintain patient privacy and confidentiality at all times.
- Nurses are strictly prohibited from transmitting by way of any electronic media any patient-related image.
- In addition, nurses are restricted from transmitting any information that may be reasonably anticipated to violate patient rights to confidentiality or privacy, or otherwise degrade or embarrass the patient.
- Nurses must not share, post, or otherwise disseminate any information or images about a patient or information gained in the nurse/patient relationship with anyone unless there is a patient care–related need to disclose the information or other legal obligations to do so.
- Nurses must not identify patients by name, or post or publish information that may lead to the identification of a patient. Limiting access to postings through privacy settings is not sufficient to ensure privacy.
- Nurses must not refer to patients in a disparaging manner, even if the patient is not identified.
- Nurses must not take photos or videos of patients on personal devices, including cell phones. Nurses should follow employer policies for taking photographs or videos of patients for treatment or other legitimate purposes using employer-provided devices.
- Nurses must maintain professional boundaries in the use of electronic media. Like in-person relationships, the nurse has an obligation to establish, communicate and enforce professional boundaries with patients in the online environment. Use caution when having online social contact with patients or former patients.

From National Council of State Boards of Nursing. (2018). A nurses's guide to use of media. *Fact sheet: Navigating the world of social media.* Chicago, IL: Author.

of Nursing (NCSBN, 2018), detailing issues of confidentiality and privacy, possible consequences of inappropriate use of social media, common myths and misunderstandings of social media, and tips on how to avoid problems.

COMMUNITY-BASED CARE

A shift in settings from acute care institutions to ambulatory settings, including the home, has occurred. Even childbearing women at high risk are cared for on an outpatient basis or in the home. Technology previously available only in the hospital is now found in the home. This has affected the organizational structure of care, the skills required in providing such care, and the costs to consumers.

Home health care also has a community focus. Nurses are involved in providing care for women and infants in homeless shelters and adolescents in school-based clinics and in promoting health at community sites, churches, and shopping malls. Nursing education curricula are increasingly community based.

BIRTHING PRACTICES

Prenatal care can promote better pregnancy outcomes by providing early risk assessment and promoting healthy behaviors such as improved nutrition and smoking cessation. Prenatal care ideally begins before pregnancy because early decisions lay the foundation for the entire perinatal year. If at all possible, education continues in each trimester of pregnancy and extends through the postpartum period. Some health care providers today promote preconception care as an important component of perinatal services. Preconception or early-pregnancy classes also emphasize health-promoting behavior and choices of care.

In the United States, the vast majority of pregnant women receive care in the first trimester; in 2019, 77.6% of women began prenatal care during the first trimester (Martin et al., 2021). However, there is disparity in receiving prenatal care by race and ethnicity, with non-Hispanic Black women and Hispanic women receiving significantly later prenatal care as compared with non-Hispanic Whites. In spite of these statistics, substantial gains have been made in the use of prenatal care since the early 1990s, which are attributed to the expansion in the 1980s of Medicaid coverage for pregnant women.

Women can choose physicians or nurse-midwives as primary care providers. In 2015, doctors of medicine (MDs) attended 84% of births in hospitals, certified nurse-midwives attended 8.1%, and doctors of osteopathy attended 7.1% (Martin et al., 2018). Hebinck (2019) reported that in 2014 in the United States, 8.3% of women had certified nurse midwives (CNMs) or certified midwives (CMs) attend their births. Women who choose nurse-midwives as their primary care providers participate more actively in birth decisions, receive fewer interventions during labor, including cesarean births, and are less likely to give birth prematurely; in addition, they tend to be more low-risk patients. The WHO (2020) designated 2020 as the Year of the Nurse and the Midwife. Table 1.2 presents a summary of the various titles, educational preparation, and scope of practice of various types of midwives.

With family-centered care, fathers, partners, grandparents, siblings, and friends may be present for labor and birth. Fathers and partners may be present for cesarean births and may participate in vaginal births by "catching the baby" or by cutting the umbilical cord or both (Fig 1.1). Doulas (i.e., trained and experienced female labor attendants) may be present to provide a continuous, one-on-one caring presence throughout the labor and birth. Ideally, newborns are placed skin-to-skin with the mother immediately after birth and are encouraged to breastfeed as soon as possible. Neonates often remain in the room with their parents and may never transfer to a newborn nursery, unless medically necessary. Parents actively participate in newborn care on mother/baby units, in nurseries, and in NICUs.

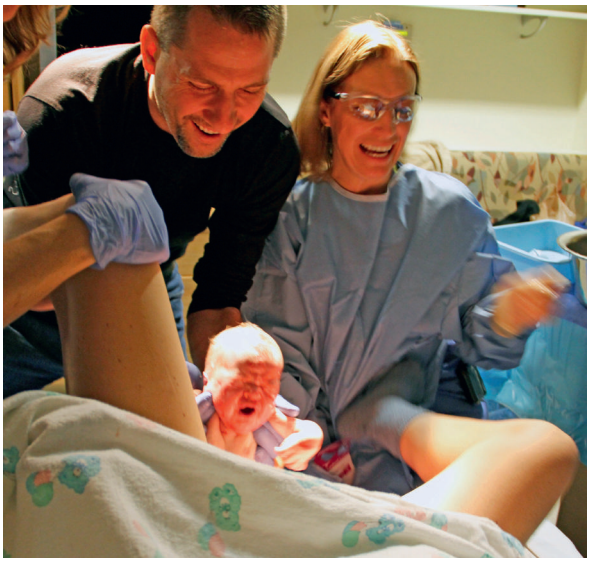


Fig. 1.1 Father "Catching" Newborn Daughter Who Cried Before Her Lower Body Had Emerged. (Courtesy Darren and Julie Nelson, Loveland, CO.)

Discharge of a mother and baby within 24 hours of birth has created a growing need for follow-up or home care. In some settings, discharge may occur as early as 6 hours after birth. Legislation has been enacted to ensure that mothers and babies are permitted to stay in the hospital for at least 48 hours after vaginal birth and 96 hours after cesarean birth, although they may choose to leave earlier. Focused and efficient teaching is necessary to enable the parents and infant to make the transition safely from the hospital to the home.

INVOLVING CONSUMERS AND PROMOTING SELF-MANAGEMENT

Self-management of health care is appealing to both patients and the health care system because of its potential to reduce health care costs. Maternity care is especially suited to self-management because childbearing is primarily health focused, women are usually well when they enter the system, and visits to health care providers can present the opportunity for health and illness interventions. Measures to improve health and reduce risks associated with poor pregnancy outcomes and illness can be addressed. Topics such as nutrition education, stress management, smoking cessation, alcohol and drug treatment, prevention of violence, improvement of social supports, and parenting education are appropriate for such encounters.

GLOBAL CONCERNS

Access to prenatal care and family planning education, care for women experiencing postpartum hemorrhage, obstructed labors with no access to hospital care or operative birth, fistulas due to obstructed labors, and human immunodeficiency virus (HIV)-positive parents are major international concerns. The high maternal and infant mortality in developing countries is a serious problem with limited resources to address the contributing factors (Fig. 1.2 shows a group of women who are addressing these global issues). Two concerns that nurses in the United States and Canada might encounter are female genital mutilation and human trafficking.

TABLE 1.2 Different Types of Midwives in Arizona

Midwife Type	Education Required	National Exam	Licensed/ Regulated	Professional Organization	Scope of Practice	Prescriptive Authority	Care Setting	Medical Physician Affiliation	Hospital Privileges
Certified Nurse-Midwife (CNM)	Advanced Practice RN, Masters or Doctorate	Yes, American Midwifery Certification Board (AMCB)	State Board Nursing	American College of Nurse-Midwives (ACNM)	Pregnancy Birth Newborn Gynecology Women's Primary Care	Yes	Hospital Clinic Birth center Home	Yes	Yes
Certified Midwife (CM)	Masters or Doctorate	Yes (AMCB)	Not yet licensed in Arizona	ACNM	Pregnancy Birth Newborn Gynecology Women's Primary Care	Yes	Hospital Clinic Birth center Home	Yes	Yes
Certified Professional Midwife (CPM)	High School or GED	Yes, North American Registry of Midwives (NARM)	Department of Health Services	Midwives Alliance of North America (MANA)	Pregnancy Birth Newborn	No	Birth center Home	No	No
Licensed Midwife (LM)	High School or GED	No	Department of Health Services	MANA	Pregnancy Birth Newborn	No	Birth center Home	No	No
Lay Midwife	None	No	Not licensed	None	Pregnancy Birth Newborn	No	Home	No	No

Used with permission of the author, Janice Bovee. Published in Arizona Nurse.

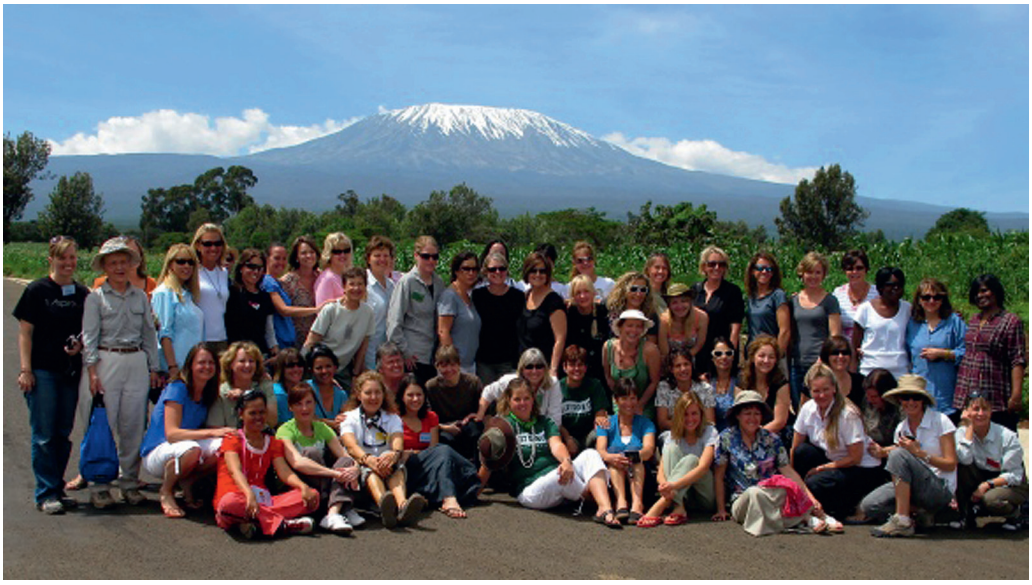


Fig. 1.2 A Group of Women Participating in the Freedom Climb of Mt. Kilimanjaro. (Courtesy Nurses Certificate Program in Interactive Imagery, Foster City, CA.)

Female genital mutilation, infibulation, and *circumcision* are terms used to describe procedures in which part or all of the female external genitalia is removed for cultural or nontherapeutic reasons (Office of Women's Health, 2019). Worldwide, it is estimated that 140 million women and girls undergo such procedures (Office of Women's Health, 2019). The International Council of Nurses and other health professionals have spoken out against procedures that result in mutilation as harmful to women's health. Although it is illegal in the United States to perform female genital mutilation on a person younger than 18 years of age, it is estimated that 513,000 women and girls in the United States have experienced or are at risk for female genital mutilation (Office of Women's Health, 2019).

Human trafficking, a serious crime, is an illegal business that exists in the United States and internationally in which mostly women and children are "trafficked," or forced into hard labor, sex work, and even organ donation (NIH, 2020; USDHHS, 2019). Health care professionals may interact with survivors who are in captivity. This provides an opportunity to identify survivors, intervene to help them obtain necessary health services, and provide information about ways to escape from their situation (Fig. 1.3) (see Chapter 3). The National Human Trafficking Resource Center (1-888-373-7888) can assist.

Advances in medicine and nursing have resulted in increased knowledge and understanding in the care of mothers and infants and reduced perinatal morbidity and mortality rates. However, these advances have affected predominantly the industrialized nations. With more knowledge and implementation of interventions in other countries (e.g., antiretroviral treatment for mother during pregnancy and for baby as well, more education about prevention of transmission), the rates of HIV have the potential to decrease worldwide. Without intervention, rates of HIV transmission to infants range from 15% to 45%, but with interventions it is possible to decrease the rate to 5% (WHO, 2017).

The Zika virus (CDC, 2020d) is a virus that is spread via bites from infected mosquitos and may be spread through sexual intercourse with an infected partner. The virus can also be spread to a fetus, leading to microcephaly. Currently there is no vaccine for this virus, and much more research is needed to better understand and treat this infectious disease. More discussion about the Zika virus is included in Chapter 4.

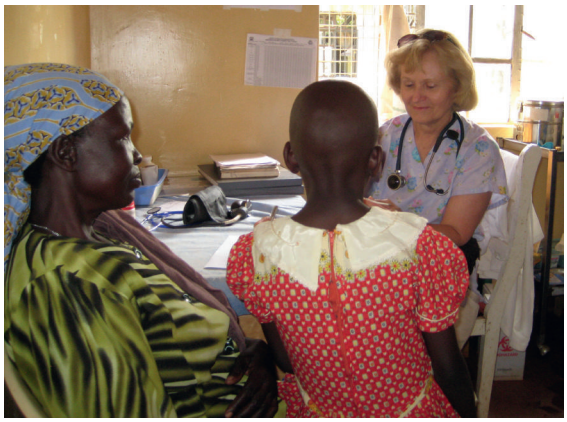


Fig. 1.3 Nurse Interviewing a Young Girl Accompanied by Her Mother in a Clinic in Rural Kenya. (Courtesy Shannon Perry, Phoenix, AZ.)

As the world becomes smaller because of travel and communication technologies, nurses and other health care providers are gaining a global perspective and participating in activities to improve the health and health care of people worldwide. Nurses participate in medical outreach, providing obstetric, surgical, ophthalmologic, orthopedic, or other services (Fig. 1.3); attend international meetings; conduct research; and provide international consultation. International student and faculty exchanges occur. More articles about health and health care in various countries are appearing in nursing journals. Several schools of nursing in the United States are WHO Collaborating Centers.

In 2020 the US faced its first pandemic due to the COVID-19 virus (COrona VIrus Disease 2019). Vaccines were developed and approved by the FDA for emergency use. The effectiveness of the vaccines is under evaluation (CDC, 2021). At this point, there is no evidence that intrauterine or transplacental transmission to fetuses may occur, but with few problematic outcomes to the fetus (Naz, Rahat, Memon, 2021). Much more research is needed to learn about any potential maternal-fetal effects. More detailed discussion of COVID-19 is included in Chapter 3.

TRENDS IN NURSING PRACTICE

The increasing complexity of care for maternity and women's health patients has contributed to specialization of nurses working with these patients. This specialized knowledge is gained through experience, advanced degrees, and certification programs. Nurses in advanced practice (e.g., nurse practitioners and nurse-midwives) may provide primary care throughout a woman's life, including during the pregnancy cycle. In some settings, the clinical nurse specialist and nurse practitioner roles are blended, and nurses deliver high-quality, comprehensive, and cost-effective care in a variety of settings. In other settings, nurses educated in both critical care and high-risk obstetrics provide care in obstetric critical care units. Lactation consultants provide services in the hospital setting, in clinics and physician offices, and during home visits.

EVIDENCE-BASED PRACTICE

Evidence-based practice (EBP) is an important trend in nursing practice. For that reason, we have included an EBP box in this chapter to introduce the concept of EBP.

OUTCOMES-ORIENTED PRACTICE

Outcomes of care (i.e., the effectiveness of interventions and quality of care) are receiving increased emphasis. Outcomes-oriented care measures effectiveness of care against benchmarks or standards. It is a measure of the value of nursing using quality indicators and assesses whether or not the patient benefitted from the care provided. The Outcome and Assessment Information Set (OASIS) is an example of an outcome system important for nursing (CMS, 2019b). Its use is required by the CMS in all home health organizations that are Medicare accredited. The Nursing Outcomes Classification (NOC) is an effort to identify outcomes and related measures that can be used for evaluation of care of individuals, families, and communities across the care continuum.

STANDARDS OF PRACTICE AND LEGAL ISSUES IN DELIVERY OF CARE

Several organizations have described standards of practice in perinatal and women's health nursing. These organizations include the ANA, which publishes standards for maternal-child health nursing; the AWHONN (2019), which publishes standards of practice and education for perinatal nurses (Box 1.7); the American College of Nurse-Midwives (ACNM), which publishes standards of practice for midwives; and the National Association of Neonatal Nurses (NANN), which publishes standards of practice for neonatal nurses. These standards reflect current knowledge, represent levels of practice agreed on by leaders in the specialty, and can be used for clinical benchmarking.

In addition to these more formalized standards, agencies have their own policies, procedures, and protocols that outline standards to be followed in that setting. In legal terms, the **standard of care** is that level of practice that a reasonably prudent nurse would provide in the same or similar circumstances. In determining legal **negligence,** the care given is compared with the standard of care. If the standard was not met and harm resulted, negligence occurred. The number of legal suits in the perinatal area typically has been high. As a consequence, **malpractice** insurance costs are high for physicians, nurse-midwives, and nurses who work in labor and birth settings.

LEGAL TIP: Standard of Care
When a nurse is uncertain about how to perform a procedure, he or she should consult the agency's policies and procedures documents. These guidelines are the standard of care for that agency.

EVIDENCE-BASED PRACTICE

Seeking and Evaluating Evidence: A Necessary Competency for Quality and Safety

Evidence-Based Practice boxes are found throughout this textbook. These boxes provide examples of how any nurse, no matter how much experience he or she has, might conduct an inquiry into an identified practice question. Practice questions can emerge on any given shift. Curiosity and access to a virtual or real library are all the nurse needs to be confident that his or her practice has a sound foundation of evidence.

At the tertiary level, professional organizations such as the AHRQ (www.ahrq.gov) or the National Guidelines Clearinghouse (NGC) (www.guideline.gov) may decide to address a broad practice question by sorting through all the available primary and secondary evidence and consulting experienced clinicians. After thoughtful review, the committee of experts in the organization crafts its consensus statement. These recommendations for best practice are derived from the work of the systematic analysts, who used the work of the primary researchers to create comprehensive systematic reviews.

There are two important resources for EBP: the Cochrane Pregnancy and Childbirth Database and the JBI (formerly called the Joanna Briggs Institute). These two resources are described here.

The Cochrane Pregnancy and Childbirth Database was first planned in 1976 with a small grant from the WHO to Dr. Iain Chalmers and colleagues at Oxford. In 1993, the Cochrane Collaboration was formed, and the Oxford Database of Perinatal Trials became known as the Cochrane Pregnancy and Childbirth Database. The Cochrane Collaboration oversees up-to-date, systematic reviews of randomized controlled trials of health care and disseminates these reviews. The premise of the project is that these types of studies provide the most reliable evidence about the effects of care.

The evidence from these studies should encourage practitioners to implement useful measures and abandon those that are useless or harmful. Studies are ranked in the following six categories:

1. Beneficial forms of care
2. Forms of care that are likely to be beneficial
3. Forms of care with a trade-off between beneficial and adverse effects
4. Forms of care with unknown effectiveness
5. Forms of care that are unlikely to be beneficial
6. Forms of care that are likely to be ineffective or harmful

The JBI was established in 1996 as an initiative of the Royal Adelaide Hospital and the University of Adelaide in Australia. The JBI, formerly called the Joanna Briggs Institute (JBI) uses a collaborative approach for evaluating evidence from a range of sources (https://jbi.global/). The JBI has formed collaborations with a variety of universities and hospitals around the world, including in the United States and Canada. The JBI uses the following grades of recommendation for evidence of feasibility, appropriateness, meaningfulness, and effectiveness: *A,* strong support that merits application; *B,* moderate support that warrants consideration of application; and *C,* not supported (JBI, 2013). The JBI provides another source for perinatal nurses to access information to support evidence-based practice.

Jennifer Taylor Alderman

BOX 1.7 Standards of Care for Women and Newborns

Standards That Define the Nurse's Responsibility to the Patient

Assessment
- Collection of health data of the woman or newborn

Diagnosis
- Analysis of data to determine nursing diagnosis

Outcome Identification
- Identification of expected outcomes that are individualized

Planning
- Development of a plan of care

Implementation
- Performance of interventions for the plan of care

Evaluation
- Evaluation of the effectiveness of interventions in relation to expected outcomes

Standards of Professional Performance That Delineate Roles and Behaviors for Which the Professional Nurse Is Accountable

Quality of Care
- Systematic evaluation of nursing practice

Performance Appraisal
- Self-evaluation in relation to professional practice standards and other regulations

Education
- Participation in ongoing educational activities to maintain knowledge for practice

Collegiality
- Contribution to the development of peers, students, and others

Ethics
- Use of American Nurses Association (ANA) Code of Ethics for Nurses with Interpretive Statements (ANA, 2015) to guide practice collaboration
- Involvement of patient, significant others, and other health care providers in the provision of patient care

Research
- Use of research findings in practice

Resource Utilization
- Consideration of factors related to safety, effectiveness, and costs in planning and delivering patient care

Practice Environment
- Contribution to the environment of care delivery

Accountability
- Legal and professional responsibility for practice

From Association of Women's Health, Obstetric and Neonatal Nurses. (2019). *Standards and guidelines for professional practice in the care of women and newborns* (8th ed.). Washington, DC: Author.

Prevention of Errors in Nursing Care

As noted earlier, medical errors are a major cause of death in the United States. To decrease the risk for errors in the administration of medications, in 2009 The Joint Commission (TJC) developed an official list of abbreviations, acronyms, and symbols *not* to use, which was updated in 2013 and is summarized in a 2019 publication (TJC, 2019) (Table 1.3). In addition, each agency must develop its own list.

Sentinel Events

TJC (2020) defines a **sentinel event** as any event that is not due to underlying conditions or natural courses of a patient's condition that affects a patient, resulting in death, permanent harm, or severe temporary harm. This refers to perinatal events, specifically the need for receiving four or more units of blood products and/or admission to the ICU.

TABLE 1.3 The Joint Commission "Do Not Use" List

Do Not Use	Potential Problem	Use Instead
IU (International Unit)	Mistaken for IV (intravenous) or the number 10 (ten)	Write "International Unit"
Lack of leading zero (.X mg)	Decimal point is missed	Write "0.X mg"
MS	Can mean morphine sulfate or magnesium sulfate	Write "morphine sulfate"
MSO_4 and $MgSO_4$	Confused for one another	Write "magnesium sulfate"
Q.D., QD, q.d., qd (daily)	Mistaken for each other	Write "daily"
Q.O.D., QOD, q.o.d, qod (every other day)	Period after the Q mistaken for "I" and the "O" mistaken for "I"	Write "every other day"
Trailing zero (X.0 mg)[a]	Decimal point is missed	Write "X mg"
U, u (unit)	Mistaken for "0" (zero), the number "4" (four), or "cc"	Write "unit"
Additional Abbreviations, Acronyms, and Symbols[a]		
> (greater than) < (less than)	Misinterpreted as the number "7" (seven) or the letter "L"; confused for one another	Write "greater than" Write "less than"
Abbreviations for drug names	Misinterpreted because of similar abbreviations for multiple drugs	Write drug names in full
Apothecary units	Unfamiliar to many practitioners Confused with metric units	Use metric units
@	Mistaken for the number "2" (two)	Write "at"
cc	Mistaken for U (units) when poorly written	Write "mL" or "ml" or "milliliters" ("mL" is preferred)
µg	Mistaken for mg (milligrams) resulting in 1000-fold overdose	Write "mcg" or "micrograms"

[a]For possible future inclusion in the Official "Do Not Use" List.
From The Joint Commission. (2019). The Joint Commission "Do Not Use" list, updated 2019. Retrieved from: https://www.jointcommission.org/-/media/tjc/documents/fact-sheets/do-not-use-list-fact-sheet-06-28-19.pdf?db=web&hash=043C80759207C3EC9616DDD3D5557113.
See "dnu_list.pdf" and "Facts about the Official Do Not Use List of Abbreviations." Cited in *Pharmacy Technician*. (2015). Retrieved from http://pharmacytechniciantoday.com/joint-commission-do-not-use-list/.

Failure to Rescue

Failure to rescue is the failure to recognize or act on early signs of distress. Key components of failure to rescue are (1) careful surveillance and identification of complications, and (2) quick action to initiate appropriate interventions and activate a team response. For the perinatal nurse, this involves careful surveillance, timely identification of complications, appropriate interventions, and activation of a team response to minimize patient harm. Maternal complications that are appropriate for process measurement are placental abruption, postpartum hemorrhage, uterine rupture, uterine hyperstimulation, eclampsia, and amniotic fluid embolism (AHRQ, 2019). Fetal complications include nonreassuring fetal heart rate and pattern, prolapsed umbilical cord, and shoulder dystocia.

ETHICAL ISSUES IN PERINATAL NURSING AND WOMEN'S HEALTH CARE

Ethical concerns and debates have multiplied with the increased use of technology and scientific advances. For example, with reproductive technology, pregnancy is now possible in women who thought they would never bear children, including some who are menopausal or postmenopausal. Should scarce resources be devoted to achieving pregnancies in older women? Is giving birth to a child at an older age worth the risks involved? Should older parents be encouraged to conceive a baby when they may not live to see the child reach adulthood? Should a woman who is HIV positive have access to assisted reproduction services? Should third-party payers assume the costs of reproductive technology such as the use of induced ovulation and in vitro fertilization? With induced ovulation and in vitro fertilization, multiple pregnancies occur, and multifetal pregnancy reduction (selectively terminating one or more fetuses) may be considered.

Questions about **informed consent** and allocation of resources must be addressed with innovations such as intrauterine fetal surgery, fetoscopy, therapeutic insemination, genetic engineering, stem cell research, surrogate childbearing, surgery for infertility, "test tube" babies, fetal research, and treatment of very low-birth-weight (VLBW) babies. The introduction of long-acting contraceptives has created moral choices and policy dilemmas for health care providers and legislators (i.e., should some women [substance abusers, women with low incomes, or women who are HIV positive] be required to take the contraceptives?). With the potential benefits from fetal tissue transplantation, what research is ethical? What are the rights of the embryo? Should cloning of humans be permitted? Discussion and debate about these issues will continue for many years. Nurses and patients, together with scientists, physicians, attorneys, lawmakers, ethicists, and clergy, must be involved in the discussions.

REFERENCES

Agency for Healthcare Research and Quality. (2018). *20 Tips to help prevent medical errors: Patient fact sheet*. Rockville, MD. Retrieved from https://www.ahrq.gov/patients-consumers/care-planning/errors/20tips/index.html.

Agency for Healthcare Research and Quality. (2019). *Maternal safety*. Retrieved from https://psnet.ahrq.gov/primer/maternal-safety.

American College of Obstetricians and Gynecologists, & Society for Maternal-Fetal Medicine. (2019). Levels of maternal care. Obstetric Care Consensus No. 9. *Obstetrics and Gynecology*, *134*(2), e41–e55.

American Nurses Association. (2015). *Code of ethics for nurses with interpretive statements*. Silver Spring, MD: Author.

Artiga, S., Orgera, K., & Pham, O. (2020). *Disparities in health and health care: Five key questions and answers*. Kaiser Family Foundation. Retrieved from https://www.kff.org/disparities-policy/issue-brief/disparities-in-health-and-health-care-five-key-questions-and-answers/.

Aspen Institute. (2020). *Resources to combat structural racism in America*. Retrieved from https://www.aspeninstitute.org/blog-posts/resources-to-combat-structural-racism-in-america/

Association of Women's Health, Obstetric, and Neonatal Nurses (AWHONN). (2019). *Standards for professional nursing practice in the care of women and newborns* (8th ed.). Washington, DC: AWHONN.

Association of Women's Health, Obstetric and Neonatal Nurses. (2020). *Women's health and perinatal nursing care quality measures*. Retrieved from https://awhonn.org/womens-health-perinatal-nursing-care-quality-measures/.

Berchick, E. R., Barnett, J. C., & Upton, R. D. (2019). *Health insurance coverage in the United States: 2018*. United States Census Bureau, Report Number P60-267 (RV). Retrieved from https://www.census.gov/library/publications/2019/demo/p60-267.html.

Catalano, P. M. (2019). Obesity in pregnancy. In M. B. Landon, H. L. Galan, E. R. M. Jauniaux, et al. (Eds.), *Gabbe's obstetrics essentials*. Philadelphia: Elsevier.

Centers for Disease Control and Prevention. (2019b). *Causes of infant mortality*. Retrieved from https://www.cdc.gov/reproductivehealth/maternalinfanthealth/infantmortality.htm.

Centers for Disease Control and Prevention. (2019c). *Pregnancy-related deaths. Vital Signs*. Retrieved from https://www.cdc.gov/vitalsigns/maternal-deaths/index.html.

Centers for Disease Control and Prevention. (2019a). *Understanding health literacy*. Retrieved from https://www.cdc.gov/healthliteracy/learn/Understanding.html.

Centers for Disease Control and Prevention. (2020a). *Infographic: Racial and ethnic disparities in pregnancy-related deaths, United States – 2007-2016*. Retrieved from https://www.cdc.gov/reproductivehealth/maternal-mortality/disparities-pregnancy-related-deaths/infographic.html.

Centers for Disease Control and Prevention. (2020b). *Percentage of babies born low birthweight by state*. National Center for Health Statistics. Retrieved from https://www.cdc.gov/nchs/pressroom/sosmap/lbw_births/lbw.htm.

Centers for Disease Control and Prevention. (2020c). *Infant mortality*. Retrieved from https://www.cdc.gov/reproductivehealth/maternalinfanthealth/infantmortality.htm.

Centers for Disease Control and Prevention. (2020d). *Zika virus*. Retrieved from https://www.cdc.gov/zika/index.html.

Centers for Disease Control and Prevenetion. (2021). *Science brief: COVID-19 vaccines and vaccination*. Retrieved from https://www.cdc.gov/coronavirus/2019-ncov/science/science-briefs/fully-vaccinated-people.html.

Centers for Medicare and Medicaid. (2019a). *NHE fact sheet*. Retrieved from https://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/NationalHealthExpendData/NationalHealthAccountsHistorical.

Centers for Medicare and Medicaid. (2019b). *Outcome and assessment information set (OASIS-D) guidance manual*. Retrieved from https://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/HomeHealthQualityInits/Downloads/draft-OASIS-D-Guidance-Manual-7-2-2018.pdf.

Centers for Medicare and Medicaid. (2020). *Accountable care organizations: General information*. Retrieved from https://innovation.cms.gov/initiatives/ACO/.

Chapman, L. L. (2019). Trends and issues. In R. F. Durham, & L. L. Chapman (Eds.), *Maternal-newborn nursing: The critical components of nursing care* (3rd ed.). Philadephia: FA Davis.

Frey, W. H. (2019). *Six maps that reveal America's expanding racial diversity*. The Brookings Institute. Retrieved from https://www.brookings.edu/research/americas-racial-diversity-in-six-maps/?gclid5Cj0KCQjwx7zzBRCcARIsABPRscNbFOLpdYBm3nI1lRVe8HI14W55kql7hIh2GttxVwXz40qxyRjCxIMaAk_CEALw_wcB.

Frey, W. H. (2018). *The U.S. will become "minority white" in 2045, census projects*. The Brookings Institute. Retrieved from https://www.brookings.edu/blog/the-avenue/2018/03/14/the-us-will-become-minority-white-in-2045-census-projects/.

Gregory, K. D., Ramos, D. E., & Jauniaux, E. R. M. (2021). Preconception and prenatal care. In M. B. Landon, H. L. Galan, E. R. M. Jauniauz, et al. (Eds.), *Gabbe's Obstetrics: Normal and Problem Pregnancies* (8th ed.). Philadephia, PA.