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CRITICAL COMMENTARY

Why Nurses Are Essential to Research on Birth Outcomes in the United States

Lori L. Trego

Correspondence
Lori L. Trego, PhD, CNM, FAAN, College of Nursing, University of Colorado Anschutz, Medical Campus, 13120 East 19th Avenue, Aurora, CO.
lori.trego@ucdenver.edu

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ABSTRACT

In a consensus study on birth settings in the United States, the National Academy of Sciences, Engineering, and Medicine concluded that childbirth outcomes are influenced by quality of care, access to services, and choices of women within the maternity health care system. The United States has one of the highest rates of maternal mortality among the most developed nations in the world, and outcomes are marked by disparities among racial and ethnic groups of women. However, recommendations for improving birth outcomes are limited by the lack of an evidence base related to the physical and psychological safety of women during childbirth. Nurses who care for pregnant women and their infants are dedicated to ensuring that safe, high-quality care is provided during every encounter. Therefore, they are uniquely positioned to conduct the research on the fundamental elements of safety, quality, and inequities in health care that is needed to improve the maternity care system and outcomes for women and infants.

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Lori L. Trego, PhD, CNM, FAAN, is an associate professor, College of Nursing, University of Colorado Anschutz Medical Campus, Aurora, CO.

Seven hundred women in the United States die from pregnancy-related causes each year, and 50,000 women suffer severe maternal morbidity (Centers for Disease Control and Prevention, 2019a, 2019b). The maternal mortality rate in the United States continues to rise against a global backdrop of decreasing maternal mortality (World Health Organization, 2019) despite the fact that maternity care costs more in the United States than in the world's other high-resource nations (National Academies of Sciences, Engineering, and Medicine [NASEM], 2020).

In its consensus study report, *Birth Settings in America: Outcomes, Quality, Access, and Choice* (referred to as *Birth Settings* in the remainder of the article), the NASEM (2020) provides a comprehensive review of the state of childbirth in the United States. The findings confirm that 98.4% of all births occur in the hospital setting, but the United States has the worst maternal and neonatal outcomes of all high-resourced nations. These outcomes are not proportionate. Non-Hispanic Black and Native American women are three times more likely to die from pregnancy-related causes than non-Hispanic White women, and women who live in rural communities are 60% more likely to die than women who live in large metropolitan areas. Infant mortality among non-Hispanic Black mothers (10.97 per 1,000 live births) is three times the rate of non-Hispanic White mothers, and infant mortality is higher in rural areas than urban areas (NASEM, 2020). Members of the maternity health care team, including registered nurses (RNs), advance practice nurses (APNs), and certified nurse-midwives (CNMs), are professionally and ethically obligated to actively promote the elimination of the pervasive disparities in maternal and neonatal outcomes in the United States.

Birth Settings is the culmination of a deep and intensive investigation to determine the state of the science on maternal and neonatal health outcomes across birth settings in the United States, including hospitals, birth centers, and home. The report also addresses the epidemiology of clinical risks in pregnancy and childbirth, the systemic factors that influence outcomes in pregnancy and childbirth, and the measurement of maternal and neonatal outcomes across all birth settings. A framework to improve birth outcomes across all birth settings in the United States is built on the basic premise that every birth has modifiable risk factors that can be mediated to increase the safety of the mother and newborn. Therefore, recommendations to

The author served as the Distinguished Nurse Scholar-in-Residence at the National Academy of Medicine during the conduct of the National Academies of Sciences, Engineering, and Medicine consensus study, *Birth Settings in America: Outcomes, Quality, Access, and Choice.*

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Research is a critical step to decrease the high rates of maternal and neonatal morbidity and mortality in the United States.

improve the birth outcomes in each birth setting focus on improving the physical and psychological safety of the childbearing woman. This can most likely be achieved through the consideration of five fundamental concepts of maternity care: a culture of health, maternity care in the right amount at the right time, respectful treatment of childbearing women and their families, informed choice and risk selection, and access to care providers and birth settings of a woman's choice (NASEM, 2020).

Although the *Birth Settings* report calls attention to the shortcomings of the United States maternity care system, it also includes guidance on improving maternal and neonatal outcomes through research. There is a dearth of knowledge about the racial and ethnic disparities that contribute to maternal and neonatal outcomes, particularly the biology and epidemiology of childbirth. Therefore, NASEM (2020) identified 12 priority areas for research to better understand the safety, quality, and outcomes of birth while considering the pregnant woman's personal characteristics (including race/ethnicity, socioeconomic status, and risk factors), dimensions of the social system in which she lives, and her choices for maternity care providers and setting for birth. The maternity health care team is called on to collaborate with pregnant women, policy makers, regulators, payers, and the research community to decrease rates of maternal morbidity and mortality in the United States. The purpose of this commentary is to discuss research topics to help discover the multidimensional causes of and solutions to the national health crisis in childbearing outcomes.

Why Nurses?

Nurses possess the knowledge and skills necessary to design and conduct childbirth research, and they have the ethical and professional responsibility to contribute to the body of knowledge that is needed to decrease rates of maternal morbidity and mortality rates in the United States. The *Birth Settings* report establishes the importance of nurses in the process of birth, including CNMs, women's health and maternal-child health APNs, and RNs who provide maternity, public health, and visiting nursing care throughout the continuum of maternity and postpartum care. The foundational concepts of the report are that a woman has the right to choose where to give birth and with whom, and respect for pregnant persons, their infants, partners, and family members regardless of "race, ethnic origin or immigration status, gender identity, sexual orientation, marital status, family composition, religion, income, or education" is

Table 1: Values and Goals Surrounding Birth According to the National Academies of Sciences, Engineering and Medicine Committee on Assessing Outcomes by Birth Settings

1. Women and their children should have access to affordable, respectful, responsive, clinically and culturally safe, high-quality care from the prenatal period through at least 1 year postpartum
2. Women's right to informed choice in maternity care[a]
3. Women's need for a continuum of health care[b]
4. Recognition of midwives, obstetrician-gynecologists, family physicians, labor and delivery nurses, pediatricians, neonatologists, doulas, and laborists as critical contributors to the maternal and child health continuum of care team[c]
5. Community co-located, culturally matched, integrated, and comprehensive services provided by personnel who are knowledgeable about and responsive to that community and have connections and collaborations with a regionalized network of services

Note. From *Birth Settings in America: Improving Outcomes, Quality Access, and Choice*, by the National Academies of Sciences, Engineering, and Medicine, 2020 (https://doi.org/10.17226/25636). Adapted with permission.
[a]Informed choice includes having access to options for and choices among birth settings, care providers, and care practices whereby women are cared for with the highest level of respect, bodily autonomy, bodily integrity, quality care, safety, and protection from abuse, and respectful, culturally concordant care is provided in health systems that are actively addressing implicit bias and the pernicious legacy of racism. [b]Women's maternal care ideally involves a continuum within a health care and financing system in which affordable, accessible, integrated, risk-stratified, coordinated, comprehensive, and equitable care is delivered by interdisciplinary teams of health care professionals across multiple birth settings. [c]Interdisciplinary team collaboration among these personnel, supported by interprofessional education and communication within seamlessly integrated systems of care, can improve the quality of care as well as maternal and infant birth outcomes.

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Table 2: Core Values of Maternal and Child Nursing

American College of Nurse-Midwives (ACNM) Core Values[a]	Association of Women's Health, Obstetric and Neonatal Nurses Core Values[b]
Excellence: ACNM values excellence in midwifery education, clinical practice, and research.	Commitment to professional and social responsibility
Evidence-based care: ACNM evaluates, publishes, and showcases scientific evidence to improve professional practice.	Accountability for personal and professional contributions
Formal education: ACNM promotes the certification of midwives based on completion of nationally recognized and accredited midwifery education programs in accordance with the International Confederation of Midwives' global standards for education.	Respect for diversity of and among colleagues and clients
Inclusiveness: through a lens that promotes a culture of inclusion in which diverse identities are respected, sought after, and embraced, ACNM shall carry forward its objectives so that all constituents may rise to leadership roles and contribute to their fullest potential.	Integrity in exemplifying the highest standards in personal and professional behavior
Woman-centered care and respect for physiologic processes: womankind is the core of our practice. ACNM and its members respect each woman's right to dominion over her own health and care.	Nursing excellence for quality outcomes in practice, education, research, advocacy, and management
Primary care: ACNM members provide primary and maternity care services to help women of all ages and their newborns attain, regain, and maintain health.	Generation of knowledge to enhance the science and practice of nursing to improve the health of women and newborns
Partnership: our members build partnerships with women and their families by providing guidance and counseling in a shared decision-making process.	
Advocacy: ACNM represents women's voices and opinions on health care.	
Global outreach: ACNM promotes the profession of midwifery at a global level.	

[a]From *Vision, Mission and Core Values*, by the American College of Nurse-Midwives, n.d. (https://www.midwife.org/our-mission-vision-core-values). Adapted with permission. [b]From *Careers at AWHONN*, by the Association of Women's Health Obstetric and Neonatal Nursing, n.d. (https://awhonn.org/careers-at-awhonn). Adapted with permission.

paramount (NASEM, 2020). The report further establishes the values and goals that are essential to the prenatal and perinatal care of women and their families in the United States (see Table 1).

The concepts, values, and goals for maternal care at the heart of the report are reflected in the ideologies of the nursing profession and the core values of nurses who care for pregnant women, mother–newborn dyads, and their families. Nurses' contributions to maternity care are underscored by their professional values and their commitment to evidence-based clinical excellence, integrity, accountability, and professional responsibilities. These core values are codified by the American College of Nurse-Midwives (ACNM) and the Association for Women's Health, Obstetric and Neonatal Nurses (AWHONN), two of the professional membership organizations for nurses who care for childbearing women, infants, and families (ACNM, n.d.-b; AWHONN, n.d.-a; see Table 2).

The Conceptual Model

To facilitate the synthesis of the available information on birth outcomes across birth settings, the NASEM Consensus Study Committee developed a conceptual framework, the Interactive Continuum of Maternity Care, to capture the complicated and interwoven concepts that shape

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maternal health in the United States (NASEM, 2020). In this multilayered, social ecological framework, maternity experiences are shaped by the dynamic layers of a woman's social environment, which includes the closest layer of family and care team support, to wide-ranging, sociocultural influences. The overarching layer consists of structural inequities, such as systemic and institutional racism in the United States and other discriminatory characteristics of identity. These structural inequities have resulted in the unequal distribution of power and resources, which drives the social determinants of health that in turn affect maternal and infant outcomes.

Women and their infants receive health care in a continuum, from preconception, through birth, and through the year after birth. A tenet of the model is that CNMs, RNs, and APNs who provide prenatal, intrapartum, and postpartum care are critical to the maternal and child health continuum of care team. Perinatal and neonatal nurses interact with women at multiple points on the continuum, and they promote healthy maternal and neonatal outcomes in birth centers and the home setting (NASEM, 2020). Therefore, as critical members of the health care system's maternal and neonatal/pediatric care teams, nurses are ensconced in the inner layer, the woman's social environment.

Also, within the woman's social environment at the interface of the health care system and the community, public health nurses (PHNs) and home/visiting nurses address social determinants that negatively affect pregnant women and mothers. PHNs connect women with services related to health care financing and food security, such as Medicaid and the Supplemental Nutrition Program for Women, Infants, and Children (NASEM, 2020), and can facilitate access to prenatal care (Nurse-Family Partnership [NFP], 2020; Walker & Chestnut, 2010). Through the provision of care in the home, PHNs and visiting nurses can assess the social and family environment while they help mothers with self-care, breastfeeding, newborn care, and safety in the home (Feder et al., 2018; NFP, 2020). For example, the NFP is a program in which nurses visit mothers and children who live in poverty during the prenatal and postpartum periods. Over a period of 20 years, the NFP has been shown to decrease all-cause mortality for the women who receive its services (NFP, 2020). Furthermore, the NFP supports self-advocacy as women negotiate the health care system throughout the continuum of maternity care (NFP, 2020).

In the outer layer of the conceptual model, structural inequities and biases are embedded in U.S. culture and the health care system that manifest in the racial disparities seen in maternal and neonatal outcomes (NASEM, 2020). Disparities in access and the provision of medical care for racial and ethnic minorities are long-standing in the United States and reflective of the effects that discrimination has on health (Williams & Wyatt, 2015). Racism, racial bias, and implicit bias in the health care system contribute to medical racism; for childbearing women, these biases contribute to obstetric racism (Davis, 2019; Williams et al., 2019). Nurses are present at the intersection of medical racism and maternity care when they care for women in the prenatal, intrapartum, and postpartum periods (Davis, 2019). Thus, nurses' interactions with women occur at key points at which a nurse's perspectives of a woman and her family, the woman's social and environmental surroundings, and collaboration among members of the maternal care team can inform essential research on the social ecological aspects of women's lives that affect maternal and neonatal outcomes (see Figure 1).

Overall, NASEM (2020) advocates a culture of health in U.S. communities to decrease the inequities and racial disparities seen in health, health care, and birth outcomes. However, the consensus study committee concluded that there is a dearth of knowledge "at the levels of human biology, clinical epidemiology, and implementation science" about the health of childbearing women and their infants in the United States (NASEM, 2020, p. 7-32). Research is an essential component of the framework to improve outcomes in the United States, but the recommendations in *Birth Settings* (NASEM, 2020) are tempered by a lack of quality research. Furthermore, the existing evidence is weakened by inconsistencies in data sources for birth characteristics and limitations in study design and methodology.

Research is needed to study and develop sustainable models for safe, effective, and adequately resourced maternity care in underserved rural and urban areas, including the establishment of sustainably financed demonstration model birth centers and hospital services. Such research could explore options for

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the use of a variety of maternity care professionals, including nurse practitioners, CNMs, certified professional midwives, certified midwives, PHNs, home visiting nurses, and community health workers, in underserved communities to increase access to maternal and newborn care, including prenatal and postpartum care (NASEM, 2020, p. 7-27).

Therefore, priority areas for research are identified in order to better understand the safety, quality, and outcomes of birth in different birth settings while accounting for different provider types and considering the pregnant woman's personal characteristics (race/ethnicity, socioeconomic status, and risk factors) and other dimensions of the social system in which she lives.

Research Opportunities for Nurses

In *Birth Settings* (NASEM, 2020), the following specific areas of research are recommended for CNMs, APNs, and RNs: safe, effective, and culturally appropriate clinical practices; assessment of women's birth experiences; development and collection of core data to better predict maternal and neonatal outcomes; and interprofessional education, communication, and collaboration of care. Specifically, researchers should explore the associations among birth outcomes and the type of provider, birth setting, effective practices, and widely used intrapartum interventions. These explorations should include a specific focus on disparities by racial/ethnic and socioeconomic status. It is logical that maternity care nurses lead research initiatives on quality of care, access to care options, informed choices about birth, and risk assessment during the maternity care cycle.

Nurses can lead research initiatives on quality of care, access to options for perinatal care, informed choice about birth, and risk assessment in the maternity care system.

Quality of Care

The quality of maternity care in the United States is affected by social, clinical, financial, and structural factors that determine where women give birth and with whom. Because of system-level factors, such as access to the health care system, payment for services, and state- and institutional-level regulations and policies, nearly all women give birth in the hospital setting, where many interventions (e.g., induction/augmentation of labor) are not medically indicated and are overused. Quality improvement initiatives to decrease the use of nonmedically indicated interventions have been shown to improve birth outcomes (NASEM, 2020).

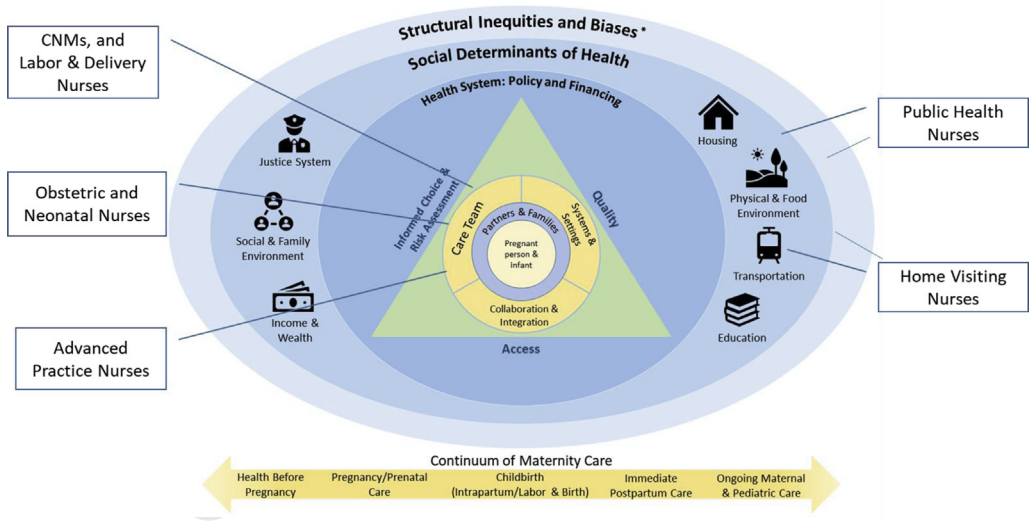

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Figure 1. Touch points for nursing research in the Interactive Continuum of Maternity Care. *Note.* "*Structural inequities and biases include systemic and institutional racism. Interpersonal racism and implicit and explicit bias underlie the social determinants of health for women of color" (National Academies of Sciences, Engineering, and Medicine, 2020, p. S-2). From *Birth Settings in America: Improving Outcomes, Quality Access, and Choice*, by the National Academies of Sciences, Engineering, and Medicine, 2020 (https://doi.org/10.17226/25636). Adapted with permission.

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Therefore, NASEM (2020) recommends that quality improvement initiatives include the adoption of evidence-based national standards and guidelines for maternity care in hospital settings. However, the development of national standards is limited by gaps in knowledge. For example, because of limitations in study design and methods, it is not known with certainty which intrapartum processes lead to the best outcomes in varying circumstances. The establishment of a nationally adopted core set of data to include as many potential predictors of maternal and neonatal outcomes as possible is a prerequisite for determining national standards. Traditional clinical variables, such as those found in vital statistics data, do not capture the full extent of possible outcomes and should be expanded to "include perceptions of racism, disrespect and unequal treatment, women's experiences of care, human-centered design, and patient-reported outcomes" (NASEM, 2020, p. 5-1). The clinical expertise and knowledge of CNMs, RNs, and APNs are essential to conceptualize and develop core data sets to capture the relevant experiential, psychosocial, and physiologic information to predict optimal maternal and neonatal outcomes.

Nursing care of women and their families is guided by professional standards of care and clinical practice guidelines and includes one-on-one assessment of maternal, fetal, and neonatal well-being. Given this firsthand experience with women, it is essential that nurses lead and participate in research teams that investigate the outcomes of routine and innovative practices to support a national standard based on best practices.

Improvements to the quality of care in hospitals, birth centers, and home birth settings hinge on coordination and collaboration among professionals who provide care in these settings. NASEM calls for interdisciplinary team collaboration among physicians, midwives, laborists, nurses, doulas, and pediatricians. Research on interprofessional collaboration and integration of out-of-hospital maternity care in the existing health care system is recommended to develop models of care that improve quality, regardless of women's choices for birth. CNMs, APNs, and RNs in outpatient and inpatient settings can use translational research to improve interprofessional communication and collaboration in the care of women during pregnancy and the postpartum period.

However, the quality of care cannot be improved without addressing racism, discrimination, and explicit and implicit biases that manifest as disparities in maternal and neonatal outcomes. Creating a diverse workforce that can best serve a diverse population of childbearing women and infants is a common goal among professional organizations for nurses (ACNM, 2019a; AWHONN, n.d.-b). The research priorities of ACNM include the identification of barriers and facilitators of a diverse midwifery workforce, the education of midwives from underrepresented groups, and the development and testing of training to teach various health care professionals to recognize explicit and implicit biases in care (ACNM, 2019b). Research on how to increase the education, training, and professional opportunities for nurses of color and how to provide culturally appropriate care for women of color would fill critical gaps in knowledge related to the disparities in maternal and neonatal outcomes among women of color in the United States.

Access to Options for Perinatal Care

According to NASEM (2020), in the United States, women's choices regarding their maternity care provider and setting are limited by sociocultural, institutional, and financial barriers. The costs of nearly half of U.S. births are covered by Medicaid; therefore, the options for care are largely limited to hospital births and physician providers. Most Medicaid recipients do not have the option to give birth in a birth center or at home or with a midwife. Women also have limited access to nonsurgical options, such as vaginal birth after cesarean, external cephalic version, planned vaginal breech, and planned vaginal twin birth instead of cesarean. Furthermore, care options for physiologic birth without nonmedically indicated interventions are not provided at many hospitals. These barriers to options for nonsurgical births may be driving the cesarean birth rate in the United States, which national and international experts agree is too high at 31.9% (NASEM, 2020).

Physiologic birth practices have been associated with reduced maternal and neonatal morbidity (Avery et al., 2018) and prevention of the primary cesarean (American College of Obstetricians and Gynecologists & Society for Maternal-Fetal Medicine, 2014). Because nurses provide noninterventional support during labor and physiologic birth, the NASEM recommendations for research on practices that support physiologic birth and the effects of intrapartum interventions on the mother–infant dyad are directly relevant (NASEM, 2020). The promotion of physiologic

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Table 3: Alignment of Research Priorities Among National Academies of Sciences, Engineering, and Medicine (NASEM); American College of Nurse-Midwives (ACNM); and Association of Women's Health, Obstetric, and Neonatal Nurses (AWHONN)

NASEM[a]	ACNM[b]	AWHONN Research Priority[c]
The impact of home and birth center births on outcomes with attention to disparities by race, ethnicity, and socioeconomic status	Outcomes of care when midwives have full practice autonomy Barriers to and opportunities for the development of a diverse midwifery workforce Women's health inequities and disparities	
Variation in outcomes by setting and by midwives with accredited education compared with those without	Midwifery and interprofessional education Barriers to and opportunities for the development of a diverse midwifery workforce	
Collection of data on maternal and newborn outcomes from the prenatal period through at least 1 year postpartum, including the development of core data sets	Linkages between midwifery care practices and maternal and neonatal outcomes A systematic approach to collecting clinical practice data across the membership	Supporting efforts to reduce maternal morbidity and mortality Addressing the impact of social determinants of health on health equities
Practices that support physiologic childbearing, one-to-one labor support practices by nurses, and doula care	Women's decision-making processes about health care procedures and interventions Midwifery model of care and translation into specific practices Linkages between midwifery care practices and maternal and neonatal outcomes	Supporting efforts to reduce maternal morbidity and mortality Addressing the impact of social determinants of health on health equities
Short- and long-term effects of widely used intrapartum interventions on maternal behaviors, maternal anxiety and depression, mother–infant attachment, and breastfeeding	Women's decision-making processes about health care procedures and interventions Midwifery model of care and translation into specific practices Linkages between midwifery care practices and maternal and neonatal outcomes Interprofessional collaborations to enhance financial efficiency	Supporting efforts to reduce maternal morbidity and mortality Addressing the impact of social determinants of health on health equities
Models for culturally appropriate care	Women's health inequities and disparities Linkages between midwifery care practices and maternal and neonatal outcomes	Supporting efforts to reduce maternal morbidity and mortality Addressing the impact of social determinants of health on health equities

(Continued)

Table 3: Continued

NASEM[a]	ACNM[b]	AWHONN Research Priority[c]
Survey development for maternal care experiences specific to access to services, respectful care, utility of information, willingness to listen, patient engagement, and safety	Women's decision-making processes on choice of providers during pregnancy and birth Women's decision-making processes about health care procedures and interventions Midwifery model of care and translation into specific practices Linkages between midwifery care practices and maternal and neonatal outcomes Interprofessional collaborations to enhance financial efficiency	Supporting efforts to reduce maternal morbidity and mortality Addressing the impact of social determinants of health on health equities
Incorporating quality improvement through all levels of professional education and as a core component of professional practice	Midwifery and interprofessional education	Supporting efforts to reduce maternal morbidity and mortality
Interprofessional communication and collaboration on integrated home-to-hospital care	Midwifery and interprofessional education Interprofessional collaborations to enhance financial efficiency	Supporting efforts to reduce maternal morbidity and mortality Addressing the impact of social determinants of health on health equities

[a]From *Birth Settings in America: Improving Outcomes, Quality Access, and Choice*, by the National Academies of Sciences, Engineering, and Medicine, 2020 (https://doi.org/10.17226/25636). Adapted with permission. [b]From *Research Priorities by Strategic Focus*, by the American College of Nurse-Midwives, 2019 (https://www.midwife.org/ACNM-Research-Agenda). Adapted with permission. [c]From *Research Priorities in Women's Health, Obstetric and Neonatal Nursing 2019–2024*, by the Association of Women's Health Obstetric and Neonatal Nursing, n.d. (https://awhonn.org/professional-development/research-program). Adapted with permission.

birth and reducing the primary cesarean rate in low-risk women are also research priorities for ACNM and AWHONN. AWHONN specifically supports research that builds evidence for mother–child clinical practices through the generation of behavioral and biological knowledge about childbirth (AWHONN, n.d.-c).

The establishment of a knowledge base to promote the safety and physiologic birth in all birth settings addresses a significant recommendation in the consensus study report. Midwives and nurses are in key positions to conduct research on continuous labor support, appropriate fetal assessment, and the spontaneous progression of labor without nonmedically indicated interventions. Nurses can create environments of care that support physiologic birth as the norm among women, communities, health care systems, and all providers. In the birth center or home setting, they can advance similar research and community initiatives to structurally and philosophically link the promotion of health through physiologic approaches to care with the extant health care systems and institutions. Therefore, nurses' involvement in this area of research is essential to promote the widespread adoption of physiologic birth processes and universal access to various birth settings and providers.

Informed Choice

Allowing women to make informed choices about maternity care is the right to autonomy that is not fully realized in the United States (NASEM, 2020). Although it is incumbent on providers to discuss treatment and plan of care options with women and allow them to make decisions about their care, this is not consistently performed for every woman in every environment. The NASEM committee recognized that informed choice is an underinvestigated topic in maternity care.

Risk assessment and risk communication are central to informed choice. While respecting women's values and preferences, culturally and linguistically appropriate communication must occur in a manner that allows women to comprehend options (NASEM, 2020). According to the Institute of Medicine (2014), shared decision making, in which the patient and the provider jointly decide on treatment options, is the optimal model. Characterized by a bidirectional flow of information between the provider and patient, shared decision making is especially relevant in reproductive health, an area in which there is often insufficient evidence to support one option over another (NASEM, 2020). Decision making in the perinatal period is hindered by research based on inconsistent methods. Subsequently, this has led to few clearly determined advantages of common obstetric interventions, and decisions are made based on preferences. As noted by NASEM (2020), shared decision making can and should be used by anyone who cares for women during pregnancy.

Shared decision making, central to midwifery and nursing, is supported by ACNM and the American Nurses Association (2015). In a position statement on shared decision making in midwifery care, ACNM (2016) calls for research on how to best apply this process in practice. Specifically, ACNM's research priorities focus on women's decision making about their choice of provider and health care procedures and interventions. However, a woman's autonomy during decision making about birth has been rarely explored, and the result is a lack of understanding about this process (NASEM, 2020). In addition, there is little evidence to guide members of the maternity care team when women's choices conflict with their own assessment of the potential for maternal or neonatal harm. A more comprehensive approach to research on the effects of shared decision making on maternal and neonatal outcomes is necessary to fill these gaps in knowledge.

Risk Assessment

In maternity care, risk assessment is the identification of demographic, obstetric, medical, and psychosocial risk factors that may lead to adverse maternal or neonatal outcomes. It is vital that a pregnant woman and her maternity care provider discuss her risk factors and the risk assessment so that she can receive the appropriate care in the appropriate setting (NASEM, 2020). However, for a pregnant woman, understanding and tolerance of risk factors are based on values that affect decision making. For example, although the hospital may be an appropriate setting for high-risk births, a woman may choose not to go to a hospital if she values maternity care services that are not always offered in hospitals. In light of limited access to various birth options, this complex process of risk assessment and decision making is exemplified by the vaginal birth after cesarean rates in 2017, which were 2.0% for hospital births and 4.0% for planned home births (NASEM, 2020).

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Through research, nurses can promote physiologic birth, one-on-one models of labor support, and the avoidance of nonmedically indicated interventions.

Risk is fluid throughout pregnancy, labor, and birth, and risk-appropriate care may change throughout the continuum. Research areas pertaining to initial and ongoing risk assessment include recognition of risk factors, contribution of health inequities to risk, increased risk during the course of care, and transfer to an appropriate level of care when needed. A particularly problematic gap in knowledge exists with regard to the transfer of care from community birth settings to hospital settings. Nurse researchers from both settings should work to establish an evidence base for interprofessional collaboration, communication, and patient movement to ensure the safety of women whose risk increases during pregnancy or childbirth.

Professional Responsibility

Nurses and nurse-midwives are supported by their professional organizations to engage in the research opportunities put forth in *Birth Settings* and to collaborate with those who are currently conducting research on maternal and neonatal outcomes. AWHONN and ACNM identify participation in research to improve the care of women and their infants as a professional responsibility for nurses and midwives (ACNM, 2012; AWHONN, n.d.-a), and their priorities for research align with many of the recommendations in *Birth Settings* (see Table 3). Ongoing ACNM research-related projects, such as reducing the incidence of primary cesarean birth, collecting core practice data, and benchmarking midwifery practices, comprise an infrastructure that could substantially contribute to studies designed to address the NASEM research topics. Thus, CNMs, APNs, and RNs who provide prenatal, intrapartum, neonatal, and postpartum care are encouraged to contribute to science across the continuum of maternity care and across birth settings, thereby simultaneously filling critical gaps in knowledge and fulfilling a professional responsibility.

The Time Is Right

The recommendations put forth by NASEM in *Birth Settings* have the potential to generate significant change in health and health care in the United States through innovative programs, entities, and new or revised regulations and guidelines for the health care industry and professions. For example, another consensus study, *Crossing the Quality Chasm: A New Health System for the 21st Century* (Institute of Medicine, 2001), generated a revolution in how patient safety and quality improvement are approached within the health care system. *Birth Settings* (NASEM, 2020) has the potential for a similar effect on the U.S. maternity care system.

The focus on nurses as providers of maternity care to address the U.S. maternal morbidity and mortality crisis was highlighted in two recent acts of Congress. These acts indicate that midwives and perinatal nurses should serve as members of statewide maternal mortality review committees (Preventing Maternal Deaths Act of 2018, 2018), and they should practice in health professional shortage areas (Improving Access to Maternity Care Act of 2017, 2018). These laws champion the profession of nursing and increase opportunities for outcomes-related research on the roles of nurses in enhancing maternity care.

Pending legislation (at the time of press) by the U.S. House of Representatives Black Maternal Health Caucus would commission studies on the following: the provision of culturally congruent maternity care; improvement in maternal health outcomes for minority women; reduction and prevention of bias, racism, and discrimination in maternity care; and determination of the types of trainings that are most effective to reduce bias among health care professionals (Black Maternal Health Caucus, 2020a, 2020b). Nurses in health care systems may be particularly interested in the proposed initiative to establish a national program for respectful maternity care compliance offices in health care systems. If the initiative is passed, future research could focus on the effects of these offices on maternal and neonatal outcomes (Black Maternal Health Caucus, 2020b).

When combined with the possibility of a paradigm shift in maternity care in America, legislative acts to fund research and promote the role of CNMs, RNs, and APNs in the health of women and their children are more likely to produce nurse-driven change. Nurses must capitalize on the opportunities at hand to build the science for innovative, interprofessional solutions to poor maternal and neonatal outcomes.

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Getting Involved

With an inherent passion and respect for childbearing women, CNMs, APNs, and RNs are highly likely to find relevance in many of the NASEM research recommendations for the women they serve. Nurses can contribute to all steps in the research process from conceptualization and study design to dissemination of findings. They can function as principal investigators or work on recruitment of participants, delivery of interventions, data collection, or data analysis. The level of involvement will vary based on the level of education, interests, nursing role, workplace setting, leadership support, and institutional support for research. If you are interested in advancing the state of the science on maternal health care, whether you want to conduct your own study or facilitate the research of others, here are some suggestions to get you started. Whether you are at an academic institution or in a clinical position, you can jump-start your research ideas by seeking out a research mentor in your specialty or among interprofessional colleagues at your institution. Nurses work in collaborative, interprofessional teams, so create a network of experts with whom you can consult. Immerse yourself in the existing literature on your research area of interest and identify the gaps in evidence. Ground the exploration of your area of interest in the conceptual framework set forth in the *Birth Settings* report (NASEM, 2020) for the continuum of maternity care.

If you work in a Magnet hospital, military hospital, or other large health care system, a designated nurse scientist may be employed specifically to facilitate the conduct of research in your organization (Logsdon et al., 2017). If you are not interested in conducting your own study, consider collaboration with others at your institution. Find out if there is any ongoing research that is relevant to your interest, and ask if there are opportunities to get involved. For example, you could volunteer to recruit study participants or collect data. If a formal role in research is not your goal, you could contribute to the science of clinical inquiry by being an ambassador for accurate documentation of nursing care and patient outcomes, thus promoting data integrity and the quality of future research. Finally, the opportunity to contribute formally to the evidence needed to fulfill the research needs identified in the *Birth Settings* report may mean it is time to return to graduate school to acquire the necessary research skills.

Conclusion

Although there are many ways nurses can be involved with improvements to birth outcomes, research is a critical building block for moving forward. All nurses can provide unique contributions to the development of the knowledge base for maternity care in the United States. CNMs, APNs, and RNs who provide care in the hospital and in community settings, such as birth centers, home births, and visiting nurse programs, are in distinct positions to study variations in outcomes among settings and the predictors of outcomes such as system-level and social determinants of health.

Birth Settings is a consensus study that calls for new areas of research "to better understand the science of childbirth—from Biology to Policy" (NASEM, 2020, p. 7-32). This highlights the potential for nurses to conduct the research and to advocate for evidence-based policies that move the evidence to the populations at risk—pregnant women, their infants, and their families. The combined efforts of nursing, medical, and social science researchers in collaboration with health care decision makers and legislators may stimulate a paradigm shift in the care of childbearing women in the United States. Q5 Q8

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