Midwifery care during labor and birth in the United States

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The intrapartum period is a crucial time in the continuum of pregnancy and parenting. Events during this time are shaped by individuals' unique sociocultural and health characteristics and by their healthcare providers, practice protocols, and the physical environment in which care is delivered. Childbearing people in the United States have less opportunity for midwifery care than in other high-income countries. In the United States, there are 4 midwives for every 1000 live births, whereas, in most other high-income countries, there are between 30 and 70 midwives. Furthermore, these countries have lower maternal and neonatal mortality rates and have consistently lower costs of care. National and international evidences consistently report that births attended by midwives have fewer interventions, cesarean deliveries, preterm births, inductions of labor, and more vaginal births after cesarean delivery. In addition, midwifery care is consistently associated with respectful care and high patient satisfaction. Midwife-physician collaboration exists along a continuum, including births attended independently by midwives, births managed in consultation with a physician, and births attended primarily by a physician with a midwife acting as consultant on the normal aspects of care. This expert review defined midwifery care and provided an overview of midwifery in the United States with an emphasis on the intrapartum setting. Health outcomes associated with midwifery care, specific models of intrapartum care, and workforce issues have been presented within national and international contexts. Recommendations that align with the integration of midwifery have been suggested to improve national outcomes and reduce pregnancy-related disparities.

Key words: collaboration, community birth, health disparities, intrapartum care, maternal morbidity, maternal mortality, maternal outcomes, maternity care team, midwifery model of care, midwifery, neonatal mortality, neonatal outcomes, nulliparous term singleton vertex cesarean delivery, physiological birth, preterm birth, vaginal birth, vaginal birth after cesarean delivery

Introduction

This *American Journal of Obstetrics & Gynecology* special issue is focused on labor and birth, also known as the intrapartum period. Birth is a crucial transitional event in the continuum of pregnancy and parenting. This time often draws the most concern from parents and providers alike and can have lifelong effects on the childbearing person and their family. However, birth does not occur in isolation. What happens during this time is influenced by the individual's physical and mental health, history and demographic characteristics, prenatal period, and sociocultural context of the pregnancy. Furthermore, it is greatly influenced by healthcare providers, care protocols, and the physical environment in which care is received.

This expert review described the practice of midwifery with emphasis on the intrapartum setting. We discussed the role of midwifery in team-based care, collaborative practice, and teaching. We reviewed midwifery and birth settings and examined the evidence for midwifery care both within an international context and in the United States. Lastly, we described challenges for the profession of midwifery along with recommendations for the future.

The authors currently work in a university setting and collectively have experience across all birth settings, including birth centers, community- and tertiary-level hospitals, rural and urban health networks, and domestic and international midwifery practice and research. Of the authors, 5 are certified nurse-midwives (CNMs), 1 is a certified family nurse practitioner (FNP), and 1 is a dual-certified CNM and FNP.

We recognize that not all people who become pregnant and/or give birth identify as women or mothers and that midwives and physicians care for individuals with a variety of gender identities. As we strive toward more inclusive language, we have chosen to use "women and childbearing people" when referring to people capable of becoming pregnant and giving birth. When reporting findings of research studies, we use the language from the cited sources, which is almost always "women."

Finally, we use the term "undisturbed birth" to describe the physiological processes of labor, birth, and the early postpartum period that progress normally with minimal intervention or intervention only when medically indicated. We acknowledge that every birth

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that is attended will typically have some level of intervention, even if it is nothing more than cervical examinations, and that intervention across the spectrum from amniotomy to induction of labor to cesarean deliveries are often needed and can be lifesaving. Our emphasis on undisturbed birth lies not with the appropriate use of medically indicated interventions but rather with the often challenging prospect of "not" imposing interventions on the childbearing person when they are "not" needed.

The practice of midwifery

Midwifery has existed through the ages and across cultures, evolving into a professional discipline.[1] Midwives are recognized as experts in the normal processes of labor, birth, and the postpartum period with an emphasis on supporting the experience of the childbearing person and their family, both physically and psychologically. They differ from physicians who provide additional expertise in the management of complications and surgery when needed. Thus, cooperatively, midwives and physicians provide care across the entire risk continuum. The midwifery model of care is relationship based and promotes trust, effective communication, and individualized care to foster patient empowerment and autonomy.[2] The practice of midwifery addresses the social determinants of health and recognizes the transformational potential of childbearing.[3] It depends on collaboration with a philosophically aligned healthcare team and prioritizes care environments that feel nonthreatening and comfortable for the childbearing person.

During the intrapartum period, midwives aim to protect and promote undisturbed, physiological labor and birth and the inherent benefits of this salutogenic life process.[4–8] Buckley and Moberg[9] have provided an extensive overview of the evidence that supports the physiological relationships of hormonal and neuro hormonal systems that facilitate labor and survival for both mother and baby. For example, highly personalized care that facilitates trust supports higher levels of endogenous oxytocin, which, in turn, can lead to more effective uterine contractions, decreased stress, and improved bonding and pleasure with infant contact and care.[9] Other midwifery priorities include waiting for the spontaneous onset and progression of labor (as clinically indicated); providing the psychological and biological conditions that support effective labor, vaginal birth, and delivery of the placenta; and promoting a healthy transition for the newborn through delayed cord clamping, early skin-to-skin contact, early initiation of breastfeeding, and limited mother-baby separation.[10] This undisturbed process has positive psychological and biological effects on the childbearing person and their newborn, including improved parenting self-efficacy, successful lactation, and optimized growth and development.[10] Furthermore, emerging science in neonatal microbiome colonization supports the benefits of undisturbed birth for the ongoing health of the infant.[11]

In addition, the practice of CNMs and certified midwives (CM) includes comprehensive reproductive and well-person care throughout the life span, from adolescence to postmenopause.[12] In addition to basic competencies taught in accredited US midwifery educational programs,[12,13] midwives may also receive education and certification in ultrasonography, vacuum-assisted deliveries, circumcisions, first assisting during cesarean deliveries, and abortion care.[14,15] Educational preparation and licensure for midwives in the United States are varied. Box 1 provides the International Confederation of Midwives (ICM) guidelines for midwifery education and a

Box 1
Overview of midwifery preparation and licensure

Overview

There are several educational pathways and types of national certifications for midwives in the Unites States.

CNMs and CMs: The American Midwifery Certification Board provides certification for midwives prepared through programs accredited by the ACME[a] and require entry with a bachelor's degree and exit with a graduate degree (American College of Nurse Midwives 2022). CNMs are licensed in all 50 states, the District of Columbia, and the US territories. CMs are licensed in 10 states and the District of Columbia. Most CNMs and CMs practice in hospital and birth center settings, with a smaller percentage in home settings. As of 2022, there were 13,762 CNMs and 126 CMs.[16]

CPMs: The North America Registry of Midwives provides certification for CPMs through educational pathways accredited by the MEAC.[a] A high school diploma or equivalent is required; certification does not require an academic degree but is based on demonstrated competency in specified areas of knowledge and skills. CPMs are licensed in 35 states and the District of Columbia. Most CPMs practice in home or birth center settings. As of 2016 there were 2069 active CPM certifications.[17]

International definition of a midwife: The midwife is recognized as a responsible and accountable professional who works in partnership with women to give the necessary support, care, and advice during pregnancy, labor, and the postpartum period; to conduct births on the midwife's responsibility; and to provide care for the newborn and the infant. This care includes preventative measures, the promotion of normal birth, the detection of complications in mother and child, the accessing of medical care or other appropriate assistance, and the carrying out of emergency measures. The midwife has an important task in health counseling and education, not only for the woman but also within the family and the community. This work should involve antenatal education and preparation for parenthood and may extend to women's health, sexual or reproductive health, and childcare. A midwife may practice in any setting, including the home, community, hospitals, clinics, or health units.[18]

The International Confederation of Midwives Global Standards for Midwifery Education (2021) require a direct-entry (non-nurse) program be 36 months and 18 months for a post-nursing provider. Regardless, enrollment time must be sufficient for students to acquire the knowledge, skills, and behaviors to be a competent midwife.[19]

ACME, Accreditation Commission for Midwifery Education; *CM*, Certified Midwives; *CNM*, Certified Nurse-Midwives; *CPM*, Certified Professional Midwives; *MEAC*, Midwifery Education Accreditation Council.

[a] The ACME and MEAC are authorized by the US Department of Education to accredit midwifery education programs and institutions.

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brief explanation of the types of midwifery certifications and regulations in the United States. These variations in midwifery preparation and licensure are distinct characteristics of the US practice environment. In 2018, a consensus document was developed by 7 US midwifery organizations to guide individual states in developing model midwifery legislation and addressing education variations.[20]

The role of midwifery in team-based care, collaboration, and teaching

A key to effective midwifery practice and enhancing outcomes is membership within a nonhierarchical healthcare team, where each member, including the individual being served, has a distinct and crucial role to play.[21] In 2011 (reaffirmed 2021), the American College of Obstetricians and Gynecologists (ACOG) and the American College of Nurse-Midwives (ACNM) published a joint statement on practice relationships.[22] It states that "[obstetricians and gynecologists] and CNMs [and] CMs are experts in their respective fields of practice and are educated, trained, and licensed independent clinicians who collaborate depending on the needs of their patients." They assert that "quality of care is enhanced by collegial relationships characterized by mutual respect and trust, professional responsibility and accountability, and national uniformity in full practice authority and licensure across all states."[22] When this team is coordinated and philosophically aligned, the birth experience and outcomes are improved for the childbearing person.[23] Although most births are uncomplicated with limited need for intervention when complications arise, midwives are educated to identify, manage, and/or consult with their physician partners.[12]

Midwife-physician collaboration exists along a continuum, including births attended independently by midwives, births managed in consultation with a physician, and births attended primarily by a physician with a midwife acting as a consultant on the normal aspects of care. There are several models of midwifery care in the intrapartum setting. However, there is mounting evidence that models, which prioritize continuity of care, are associated with the best outcomes and the greatest satisfaction as individuals are familiar with the same providers across all care settings.[24–26] Midwives work in collaboration with physicians, but their practice arrangements may vary. For example, midwives may manage an independent practice and hire collaborating physicians, they may be employed by a physician-owned practice, or they may work within a health system or institution that hires both midwives and physicians.

A recent national study of obstetricians and midwives identified 4 areas crucial to strong collaboration.[27] These included developing trust and respect and effective communication, acknowledging individual variation in practice and the need for clear guidelines, and balancing autonomy. Furthermore, collaboration is optimized when the regulatory environment allows midwives to work to the full scope of their educational preparation.[28,29]

In addition, midwives act as educators in the intrapartum setting for nurses, midwives, and physician trainees in obstetrics and family medicine.[30] As experts in the birth process, this education provides a strong foundation in evidenced-based practices that optimize physiological birth. Midwifery involvement in resident education also provides an early foundation for successful collaboration as physicians in training learn about the midwifery philosophy and collaborative approach to care.[31] This learning is enhanced when midwifery students and residents learn alongside each other. In a recent survey, most midwives expressed a desire to be involved in resident education, especially in educational models that provide dedicated teaching time through faculty appointments while allowing them to maintain continuity with their caseloads.[32]

Midwifery and community birth settings

Although most CNM-attended births (94.1%) occur in hospitals, midwives are the primary care providers in out-of-hospital or community birth settings, including freestanding birth centers and at home.[33] Overall, <2% of US births occur in a community setting; however, this percentage has steadily increased. From 2004 to 2017, community birth increased by 85%, rising from 35,578 to 62,228, or 1 in every 62 births.[34] From 2019 to 2020 this percentage again increased as women and childbearing people sought to navigate healthcare disruptions caused by the COVID-19 pandemic, with planned home birth increasing 23.3% and birth center birth increasing by 13.2%.[35]

The ACNM and ACOG acknowledge that the safety of home birth is optimized when birth is attended by a licensed CNM or CM.[36] The safety of home birth is also increased when individuals are deemed to be low risk, using a systematic and evidence-based risk assessment. Furthermore, the safety of home birth is increased when there is an integration of home birth within the broader healthcare system, enabling seamless transfer to higher-level care as needed.[37,38] These requirements are found in countries where home birth is supported through national practice protocols and recognized and reported in the scientific literature as a safe option for both the childbearing person and the baby.[39,40] However, unlike many other high-income countries, these requirements are not consistently guaranteed in the United States. A 2020 review of birth settings in the United States, conducted by the National Academies of Science, Engineering, and Medicine (NASEM), reported that the relative risk (RR) of neonatal death is greater during home birth than during hospital birth, yet the magnitude of the difference is difficult to assess given limitations of the data. Similarly, maternal death and severe maternal morbidity are difficult to assess given that they are rare events, the number of home births is relatively small, and deficiencies in the data exist, which, when combined, lead to wide confidence intervals (CIs) and unstable estimates.

A 2016 analysis was conducted to investigate whether professional certification status or birth setting was more closely associated with the risk of

neonatal mortality in planned home birth than in hospital birth.[41] This study reported that in the United States between 2006 and 2009, neonatal mortality was statistically significantly lower among hospital births attended by midwives certified by the American Midwifery Certification Board (AMCB) (primarily nurse-midwives) (3.2 death per 10,000 live births; RR, 0.33; 95% CI, 0.21−0.53) than among home births attended by midwives who were similarly certified (10.0 deaths per 10,000 live births; RR, 1) or midwives who were not certified by the AMCB (13.7 deaths per 10,000 live births; RR, 1.41; 95% CI, 0.83−2.38). The difference in neonatal mortality was not statistically significantly different between certified and uncertified midwives at home (10.0 per 10,000 births vs 13.7 per 10,000 births; P=.2), thereby suggesting that factors inherent to the home environment and the healthcare system rather than certification status of the midwife need further investigation.[41]

Although no birth setting is without risks, as evidenced, in part, by the elevated rates of maternal and neonatal deaths in the United States, it is clear that childbearing people prioritize safety, respectful care, freedom of choice, and affirming relationships with their care providers and will seek out birth settings that are philosophically aligned with these priorities.[42] The recent increase in home birth may reflect the perceptions of women and childbearing people that giving birth outside the hospital will reduce harm and increase their opportunity for control and self-confidence. A review of studies that examined reasons for choosing home birth identified past negative hospital experiences, a desire to avoid interventions, need for choice and control, continuity of care, perceived comfort, and trust in birth.[43−46] A recent study of the experience of those seeking a vaginal birth after cesarean delivery (VBAC) found that some individuals chose home birth because they could not find a hospital that would allow a trial of labor.[47] Based on birth certificate data from 2010 to 2012, up to 30% of planned home births did not meet low-risk criteria as defined by clinical guidelines published by the ACOG and the American Academy of Pediatrics.[48] Further investigation into the risks and benefits of different birth settings and the priorities of childbearing people is warranted.

Midwifery in the international context

Midwifery is the standard of care in high-income countries with better maternal and neonatal outcomes than those found in the United States.[37,49] Furthermore, the United States stands out among peer nations for the comparative dearth of midwives and smaller overall maternity care workforce. In the United States, there are only 4 midwives and 11 obstetricians per 1000 live births (2018).[50] This contrasts with other high-income countries where the ratio of midwives to physicians is reversed. For example, in France, there are 30 midwives and 11 obstetricians for every 1000 live births, and in Norway, there are 53 midwives and 12 obstetricians for every 1000 births. In Australia, midwives consist of 91% of the maternity provider workforce, followed by Sweden where midwives consist of 84% of the workforce.[50]

The model of integrating midwives in these countries also frequently differs from that found in the United States. For example, in the United Kingdom, there is a midwife assigned to every childbearing individual, regardless of the risk status of the pregnancy.[51] When the risk status elevates, the team expands to include midwifery plus the appropriate specialty, including, but not limited to, obstetrics and pediatrics.[52] An ethnography conducted at a large tertiary hospital in the United Kingdom demonstrated that high-risk teams reflected "a mix of maternal-fetal medicine specialists and midwives who worked together to address complex clinical care with education geared toward normalizing the pregnancy and birth as much as possible."[53] Although this model exists within some institutions in the United States, it is not the national standard of care.

In high-income countries where midwives predominate within the maternity care workforce, differences in maternal and neonatal outcomes are also notably different. In 2017, the maternal mortality ratio in all other high-income countries was 10 deaths per 100,000 live births or below, whereas, in the United States, it was 17 deaths per 100,000 live births.[54] In 2020, the United States had the highest neonatal mortality rate in this group of high-income countries at 3.5 deaths per 1000 live births.[54] Expanding the midwifery workforce is increasingly cited at policy and practice levels as a strategy to improve maternal and neonatal outcomes.[55,56] Although the percentage of births attended by midwives has increased over the last 2 decades,[57] in 2020, midwives attended only 10% of the 3,613,647 births in the United States.[34]

The evidence for midwifery care

Midwifery globally

The 2014 *Lancet Series on Midwifery* (/https://www.thelancet.com/series/midwifery) was authored by a multidisciplinary global group of 35 specialists representing health systems analysts, demographers, statisticians, epidemiologists, health service researchers, social scientists, health economists, specialist midwife researchers, service user advocates, public health and policy experts, and clinical experts, including midwives, obstetricians, pediatricians, and other related professionals.[58−61] An extensive review of 13 metasyntheses of women's views and experiences (229 studies), 461 Cochrane reviews of practices, and 7 high-quality systematic reviews of the workforce (114 trials) revealed 56 outcomes that were improved by midwifery care. Maternal and newborn morbidity and mortality rates and fetal loss were reduced. There were fewer preterm births and low birthweight infants, reduced interventions in labor, improved psychosocial outcomes, increased birth spacing and contraceptive use, increased breastfeeding initiation and duration, shorter hospital stays, improved referrals, and increased attendance by a known midwife.[59]

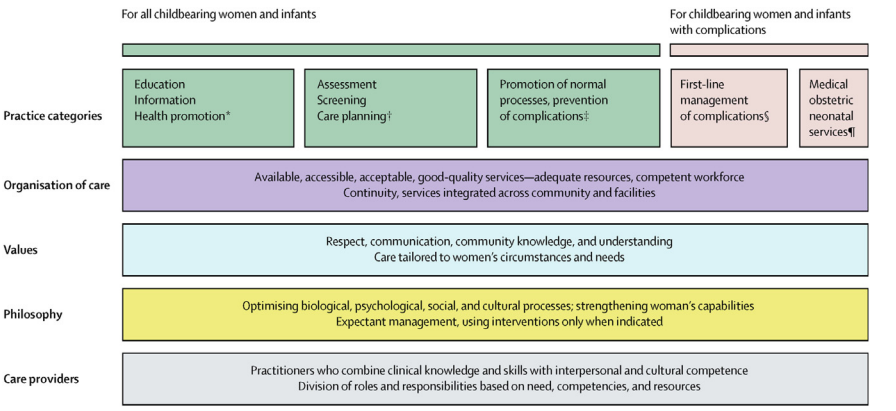
Of note, 2 other studies in the *Lancet Series on Midwifery* reported on strategies to improve global maternal and neonatal outcomes. Homer et al[61] estimated the number of maternal, fetal, and neonatal deaths that could be averted using the Lives

Saved Tool in the 78 low- and middle-income countries that accounted for 97% of the maternal mortality rate and 94% of the neonatal mortality rate. This tool, developed by the Institute for International Programs at Johns Hopkins Bloomberg School of Public Health, enables estimation of the effect of scaling up maternal, newborn, child health, and nutrition interventions in low- and middle-income countries. Their modeling showed that 82% of maternal deaths could be prevented with universal scaling up of midwifery care that included family planning.[61] Van Lerberghe et al[60] provided a case study analysis of countries with a history of reducing high maternal mortality for 2 decades. They identified 4 key elements related to their success: establishment or expansion of service networks, removal of financial barriers, action on quality care, and investment in midwives.[60]

Finally, the series presented an evidence-informed Quality Maternal and Newborn Care Framework outlining care components that all childbearing women and their newborns should have access to in their healthcare (Figure 1).[59] The scope of midwifery practice encompasses the entire continuum of care presented in the framework, excluding the small percentage of emergency services provided by medical, obstetrical, and neonatal consultants. Key components of this framework are the integration of care across communities and facilities, appropriately resourced and trained providers, and the philosophy and values on which care is premised. All components are important to consider when aligning a healthcare team to meet the needs of the childbearing family.

Adding to this evidence, a 2016 Cochrane Review of more than 17,000 women in a wide variety of settings examined midwife-led continuity models vs other models of care for childbearing women.[26] The review included both low-risk individuals and those at high risk of pregnancy complications who were not currently experiencing problems. All studies in the review were from high-income countries, primarily the United Kingdom and Australia. The authors reported high-quality evidence that midwife-led continuity of care models, in which a midwife or group of midwives provide care from pregnancy, through birth and the postpartum period, has benefits for the childbearing woman with no adverse effect compared with other maternity care models that are not midwife led. They found that women in midwife-led models consistently received fewer interventions, including fewer epidurals, episiotomies, and instrumental birth. They were more likely to experience a vaginal birth, and there was a 16% reduction in fetal loss and neonatal death. The midwife-led model was more cost-effective, including prenatal care and hospital care, and had higher rates of patient satisfaction. There was no reported increase in adverse outcomes.[26]

FIGURE 1
Quality Maternal and Newborn Care Framework components[59]



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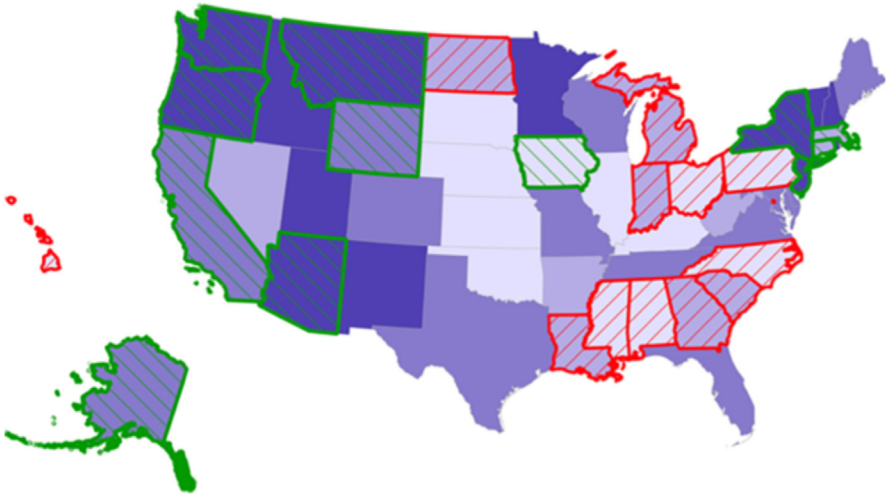
Midwifery in the United States

There is evidence to support that strong integration of the midwifery workforce in the United States is associated with improved outcomes.[62] Midwifery integration, defined as the environment in which midwives work, including their scope of practice, autonomy, governance, and prescriptive authority, was evaluated by Vedam et al.[61] This team organized a multidisciplinary task force to develop a scoring system for the integration of midwifery across each of the 50 states. The scoring system also considered restrictions on midwifery practice that can affect safety, quality, and access to maternity providers across birth settings. When midwifery integration scores and health outcomes were compared, higher integration scores were associated with significantly higher rates of spontaneous vaginal delivery, VBAC, and breastfeeding and significantly lower rates of cesarean delivery, preterm birth, low birthweight infants, and neonatal death. Higher midwifery integration was also associated with lower rates of race-specific neonatal mortality. Their findings suggested that greater integration of midwives within the healthcare system could lead to improved health benefits for Black infants given the reduced rates of neonatal mortality and preterm birth, along with increased rates of breastfeeding associated with greater access to midwifery care.[62] Figure 2 shows the relationship between midwifery integration with neonatal outcomes as reported in this study. Deeper shades of purple represent higher midwifery integration, and lighter shades represent lower midwifery integration. Green outlines show lower rates of neonatal mortality, and red outlines show higher rates of neonatal mortality. Other outcomes can be accessed at the Birth Place Lab (https://www.birthplacelab.org/mapping-collaboration-across-birth-settings/).

Of note, 2 studies that aimed to analyze the association between medical centers in the United States with and

FIGURE 2
Integration of nidwifery in the United States[62]



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without midwives on the maternity care team reported significant findings for both low-risk nulliparous women[63] and low-risk parous women.[64] Both retrospective cohort studies were based on data from the Consortium on Safe Labor. Low-risk nulliparous women who gave birth at medical centers with midwives on the maternity care team (n=7393) were 74% less likely to have their labor induced, 75% less likely to receive oxytocin augmentation, and 12% less likely to deliver by cesarean than their counterparts at medical centers without midwives on the maternity care team (n=6982). Only 0.3% of all births included adverse neonatal outcomes and thus were too infrequent to be modeled.[63] Similarly, among low-risk parous women, those who gave birth in medical centers with midwives on the maternity care team (n=12125) were 85% less likely to have labor induced, 36% less likely to have a primary cesarean delivery, and 31% more likely to have a successful VBAC than their counterparts who gave birth in medical centers without midwives on the maternity care team. There was no significant difference in neonatal outcomes (n=8996).[64]

A recent report funded by the Center for Medicare and Medicaid Innovation at the Centers for Medicare & Medicaid Services investigated outcomes in birth center births in the United States. This report came from the Strong Start for Mothers and Newborns initiative, which was funded under the Affordable Care Act and aimed to improve outcomes for Medicaid and Children's Health Insurance Program beneficiaries. This initiative provided 3 forms of enhanced services in 32 different states (midwifery model-based birth centers, group prenatal care, and maternity care homes). An analysis of data from this initiative compared birth and cost outcomes for Medicaid beneficiaries who participated in the Strong Start initiative and received care within the birth center model with matched Medicaid beneficiaries who received standard care, not in birth centers. The 2 cohorts were matched on the basis of linked data from Medicaid claims and encounters, Medicaid eligibility, and birth certificates. Participants who received care in midwifery-led birth centers (n=3,432) were less likely to deliver by cesarean delivery (17.5% vs 29.0%), less likely to give birth to a preterm infant (6.3% vs 8.5%), less likely to have a low birthweight infant (5.9% vs 7.4%), and more likely to have a successful VBAC (24.6 vs 12.5%) than the comparison group (n=325,647). The average cost expenditure for delivery was 21% lower in the birth center model (n=1853) than in the comparison group (n=114,194).[65]

Declercq et al[66] conducted a secondary analysis of the *Listening to Mothers in California* survey based on 1421 of 2539 English- or Spanish-speaking participants who gave birth in a hospital in California between September 1, 2016, and December 15, 2016, and who identified either a midwife or an obstetrician as their birth attendant. Participants who were attended by midwives were less likely to report a variety of birth interventions and more likely to report they felt encouraged by staff in making decisions about their care. Each intervention investigated varied significantly by provider in both adjusted and unadjusted models. Having a midwife was associated with lower rates of attempted labor induction or augmentation, use of pain medications or epidural analgesia, or receiving intravenous fluids. Individuals who received care from midwives were more likely to be well educated and privately insured than those attended by physicians. The authors acknowledged potential selection bias from individuals who seek midwifery care specifically because they desire a birth with fewer interventions and from the possibility that individuals with higher-risk pregnancies (and therefore higher need for intervention) would be more likely to be cared for by obstetricians. The second factor is addressed (but not eliminated) by selecting individuals who had only vaginal deliveries.[66]

Midwifery and health system challenges in the United States

We have provided an overview of the practice of midwifery and evidence associated with its implementation. This section will describe some of the challenges for the profession of midwifery within the sociocultural context of maternity care in the United States. This includes a description of outcome disparities, the workforce, and barriers to midwifery practice.

Disparate childbearing outcomes

According to the Centers for Disease Control and Prevention, based on data from the National Vital Statistics System, the maternal mortality rate for non-Hispanic Black women in 2020 was 2.9 times higher than the rate for non-Hispanic White women (55.3 vs 19.1 deaths per 100,000 live births).[67] During the COVID-19 pandemic (from 2019 to 2020), the rate of maternal death increased significantly for non-Hispanic Black women and Hispanic women, but not for non-Hispanic White women.[68] Given disparately high rates of adverse pregnancy-related outcomes for Black, indigenous, and people of color (BIPOC),[67] it is imperative to understand how quality of care contributes to racial disparities.[69] A 2021 national study reported that BIPOC individuals were less likely to experience high-quality perinatal care that was respectful and that supported autonomy in decision-making.[70] Factors contributing to experiences of low-quality care included hospital birth (vs home birth), feeling pressured to have interventions, and having an instrumental birth.[70] In contrast, those who had a midwife provider were greater than 3 times more likely to experience high-quality perinatal care. Continuity of care with a known midwife has been shown to reduce fear and perception of labor pain while increasing perceived control, information, and participation in decision-making.[71] Addressing these interpersonal dimensions of care may be particularly important for empowering BIPOC individuals and improving disparate perinatal outcomes. Diversifying the perinatal workforce to increase the opportunity for culturally congruent care is also a crucial priority.[72,73]

Threats to the United States maternity care workforce

Over half of all US counties lack a maternity care provider, resulting in significant maternity care deserts that leave women and childbearing people without ready access to care.[74–77] Although midwives attend a small percentage of births compared with obstetricians,[57] they are more likely to serve populations at risk of poor pregnancy outcomes because of demographics or social determinants of health. For example, although midwives attend 10% of births nationally, they attend births in one-third of rural hospitals.[78] A survey of 2405 US midwives found that 50% reported serving people of color, 29% cared for adolescents, 27% cared for immigrants, and 16% cared for individuals who were uninsured.[79] A 2021 report from the Massachusetts Health Policy Commission found that midwives were more likely to attend births that were covered by Medicaid than by commercial insurance.[80] Similarly, a 2017 report from the California Board of Registered Nursing found that more than 70% of CNMs in California cared for underserved clients.[81] These findings, along with evidence of lower cost; lower rates of intervention, such as cesarean delivery and episiotomy; and high patient satisfaction, have led to recommendations from many state and federal bodies to increase the US midwifery workforce as a means to improving access in underserved communities, addressing disparities, and improving outcomes at an affordable cost.[55,80]

Barriers to midwifery practice

Although there is ample evidence supporting the integration of midwifery, this can prove challenging when the healthcare team or healthcare system is philosophically misaligned. For example, burnout among midwives is high when they practice in environments that do not support the midwifery model of care.[82] In contrast, relationships with the individuals for whom they care and other members of a supportive healthcare team contribute to job satisfaction for midwives.[83,84] Simply hiring a midwife does not equate with fully embracing the midwifery model of care, which prioritizes the time needed to develop these relational aspects of care and to center the patient's experience.

Maternity care teams, composed of nursing, midwifery, obstetrics, and pediatrics, may not share the same approach to care. Staffing ratios may also limit the ability to provide optimal person-centered care. Intrapartum settings may not fully incorporate models in which the childbearing family knows their provider well and is supported in healthcare decision-making.[85,86] A recent US study measured the experience of respectful perinatal care and autonomy in decision-making among 2138 women. Of note, 1 of 6 women (17.3%) reported "mistreatment," including being scolded, feeling ignored, having requests refused, and having forcible procedures without consent. Reports of mistreatment varied by birth setting: 5.1% of respondents who gave birth at home reported mistreatment, whereas 28.1% of those delivering in the hospital reported mistreatment. Furthermore, mistreatment varied by race and socioeconomic status (SES): 27.0% of women of color with low SES reported mistreatment compared with 18.7% of White women with low SES.[86] Standard hospital practices often include care that is "invisible" or so common it is typically neither consented nor perceived as potentially injurious yet has the potential to cause harm and does not support a philosophy that promotes undisturbed, physiological birth. This includes things, such as amniotomy to speed labor regardless of labor progress, frequent cervical examinations to assess labor progress even when no management decision rests on the findings of the examination, or giving birth in a supine position that compresses the pelvic outlet and may go against an individual's desired birth position.[87] Although providers of any discipline, including physicians, midwives, and nurses, may be involved in obstetric harm, these practices contradict the philosophical underpinnings of the midwifery model of care and the priorities of protecting and promoting undisturbed physiological labor and birth.

Finally, the trend toward medicalization of labor and birth presents challenges to midwives who are educated to minimize intervention unless medically indicated.[13,88] This includes interventions, such as the overuse of continuous external fetal monitoring, which is not associated with improving neonatal well-being but is associated

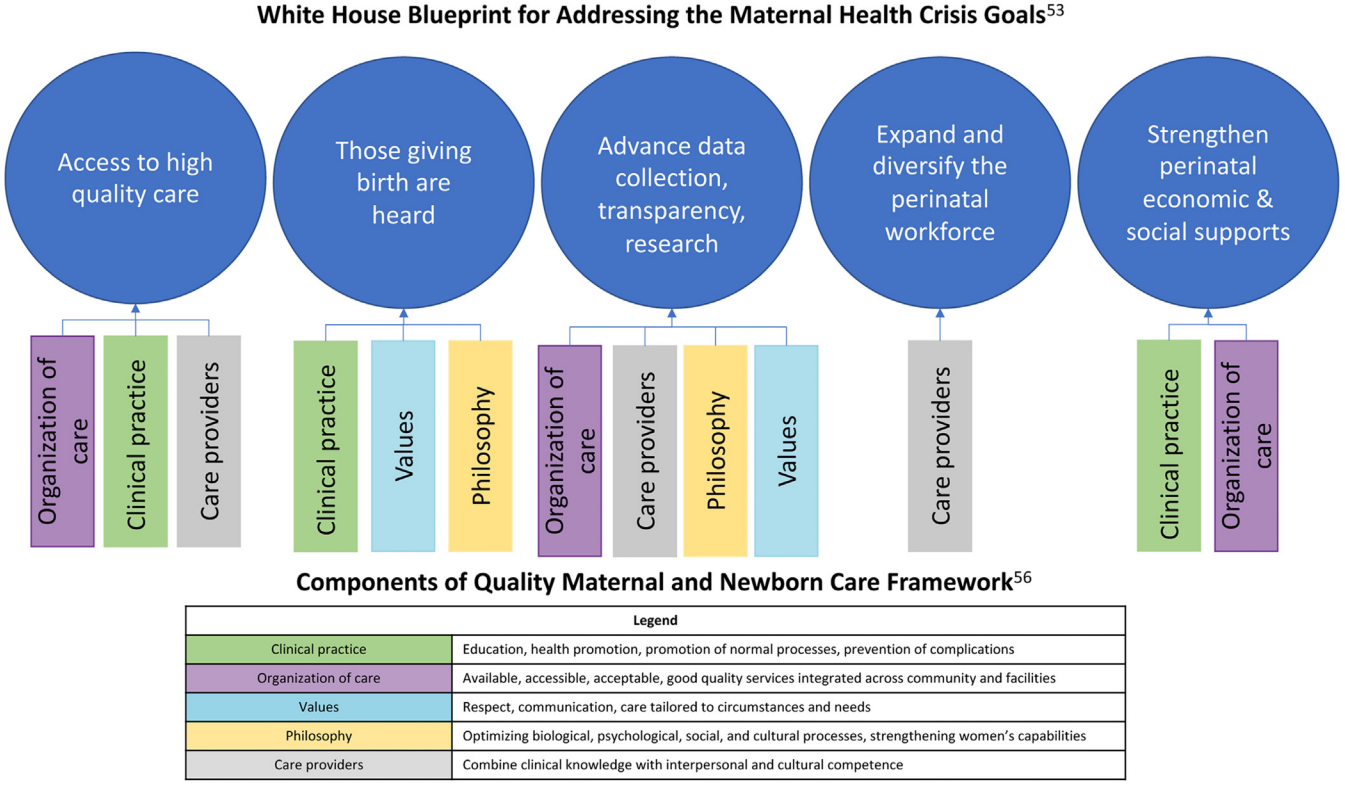
with an increase in cesarean and instrumental vaginal deliveries.[89] Moreover, there is an increasing trend toward induction of labor[90] since the 2018 A Randomized Trial of Induction Versus Expectant Management trial.[91] This study did not fully report on care models across the 41 sites included and did not investigate women's qualitative experience of the care they received. However, despite these and other limitations, it has rapidly changed practice in many hospitals.

Discussion and recommendations

This article has provided a broad overview of US midwifery care during labor and birth and outcomes associated with this model. It is sometimes suggested that the explanation for excellent pregnancy outcomes for individuals receiving midwifery care is that midwives are more likely to care for low-risk women. However, the evidence does not support this hypothesis, as many of the populations for whom midwives care are considered at risk because of factors related to social determinants of health. Moreover, they frequently collaborate with physicians to manage high-risk pregnancies. A recent report commissioned by NASEM compared midwifery and perinatal outcomes across 4 countries with economic development similar to that found in the United States. This report provided insight into why excellent outcomes are associated with midwifery care within healthcare systems where midwives are the primary maternity care workforce.[49] The 4 countries (Australia, Canada, the Netherlands, and the United Kingdom) with lower rates of maternal mortality, low birthweight, and newborn and infant death identified 5 common factors, including, (1) affordable and accessible healthcare, (2) a maternity workforce that emphasized midwifery care and interprofessional collaboration, (3) respectful care and maternal autonomy, (4) evidence-based guidelines on place of birth, and (5) national data collections systems.[49] Moreover, this reinforced the findings of the *2014 Lancet Series on Midwifery*, which recommended that midwifery be available for all childbearing women and infants with focus on prevention, strengthening women's capabilities, supporting normal processes, and providing access to specialty care as needed through interdisciplinary collaboration.[59]

Considering the continuing increase in home birth, we suggest 2 issues to examine in the future. First, it is important to understand why individuals choose to give birth at home. If they believe that they cannot get the care they want in a hospital, then healthcare systems must assess how they provide care and whether they are meeting the patient's needs and develop strategies to

FIGURE 3
Alignment of the QMNC Framework and White House Blueprint[56]



Legend	
Clinical practice	Education, health promotion, promotion of normal processes, prevention of complications
Organization of care	Available, accessible, acceptable, good quality services integrated across community and facilities
Values	Respect, communication, care tailored to circumstances and needs
Philosophy	Optimizing biological, psychological, social, and cultural processes, strengthening women's capabilities
Care providers	Combine clinical knowledge with interpersonal and cultural competence

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meet those needs. Second, we need to improve the safety net for those giving birth at home, to create avenues for robust collaborations with obstetricians and to facilitate seamless transfer to a higher level of care when needed.

In alignment with the World Health Organization, we recommend that health systems evaluate their ability to provide respectful care that ensures freedom from harm, informed choice, continuous support, effective communication, and midwife-led continuity models.[92] Despite being a quality indicator, the experience of care for childbearing individuals often falls short of providing a "sense of personal achievement and control through involvement in decision-making."[92] All members of the maternity care team want the best outcomes for the people in their care. However, strategies for the best paths to care provision can be divergent.

In June 2022 the White House released a *Blueprint for Addressing the Maternal Health Crisis*.[56] We heartily endorse its recommendations and suggest that all maternity units use the White House Blueprint to assess how well they are meeting expectations. The 5 priorities include the following:

1. Increasing access to and coverage of comprehensive high-quality maternal health services, including behavioral health services
2. Ensuring women giving birth are heard and are decision-makers in accountable systems of care
3. Advancing data collection, standardization, harmonization, transparency, and research
4. Expanding and diversifying the perinatal workforce
5. Strengthening economic and social supports for people before, during, and after pregnancy.

The White House Blueprint calls for expanding and diversifying the perinatal workforce, including physicians, midwives, doulas, and community health workers, to implement best practices that support the needs and desires of those for whom we care. Building collaborative models of care that respect both the recipients of care and the maternity care team is crucial, along with evaluating the outcomes of our care. Figure 3 provides a conceptualization of the alignment between the components of the Quality Maternal and Newborn Care Framework and the White House Blueprint for Addressing the Maternal Health Crisis.

A key publication that all maternity care teams should consider implementing, in addition to what we have previously described, is the *Blueprint for Advancing High-Value Maternity Care Through Physiologic Childbearing* (2018).[93] Midwifery, medicine, and nursing together should examine evidence and discuss how to implement findings into policy and practice. This should be done thoughtfully and carefully and choosing changes with input from the healthcare team. Hearing and responding to the priorities of those receiving care is also a crucial part of this process. Even small changes can have wide and cascading effects as we collectively strive to improve our maternity care system.

Conclusion

In closing, we have described the role of midwifery in the intrapartum setting; US national and international evidences suggest that more fully integrating the midwifery model of care in philosophically aligned healthcare teams and institutions is a key strategy for addressing healthcare disparities and the maternity care crisis in the United States. Expanding the midwifery model of care would align the United States with peer nations that consistently demonstrate maternal and neonatal outcomes that are significantly better than those found in the United States. ■

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