



Beyond Medicalization: Midwives & Maternity Care in America

Roots



About the Jewish Healthcare Foundation



The Jewish Healthcare Foundation (JHF) is a public charity that offers a unique brand of activist philanthropy to advance healthcare innovation, advocacy, collaboration, and education in the interest of better population health. To accomplish its goals, JHF created three supporting organizations—the Pittsburgh Regional Health Initiative (PRHI) in 1998, Health Careers Futures (HCF) in 2003, and the Women's Health Activist Movement Global (WHAMglobal) in 2017. Together these organizations develop and manage programs, research, training and grantmaking to advance the quality of clinical care and health of populations. JHF is also the fiscal agent for State HIV/AIDS funding in Pennsylvania. We are funded by public and private sources, and the JHF endowment. For more information, please visit www.jhf.org.

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Preface

In April of 2018, the Jewish Healthcare Foundation led an educational discovery tour to Australia. We chose the destination with deliberation, searching for models of maternity care that were exemplary in producing successful results for mother and baby, especially in preventing mortality. Australia maintains a comprehensive system of care that delivers on good outcomes. On the other hand, the United States has the highest rates of maternal death in the developed world, with particularly dangerous outcomes for women of color. Participants sought answers to the critical question: what could we do that we aren't doing now?

In Australia, the definition of a "successful" pregnancy goes beyond "a live baby and mother leave the hospital." The Australian system provides care from preconception to successful family adjustment postpartum.

Careful, standardized assessments at various stages of pregnancy, including after the birth, trigger automatic interventions for mothers and infants at risk. By a woman's 20th week of pregnancy, additional wrap-around support, such as social welfare or mental health services, are available as needed. These assessments also help assemble a birth team with the appropriate expertise. Parental training and mental health assessments are built into all childbirth classes, given in the home or in a group care setting.

We learned something else. Much of Australia's maternal health care is anchored by midwives. Some work in hospitals or birth centers, where they are integral members of the obstetrical team. Others may go into the home to prepare for a new arrival, to support lactation, and to help parents apply the appropriate attachment and care behaviors that ensure good child development. As the International Year of the Midwife unfolds, we have many questions.

Although the U.S. spends twice as much on maternity care as Australia, we don't deliver the same safe care. Why did midwives virtually disappear in the U.S. even as they became fully integrated into the United Kingdom and European systems of maternal health? Why hasn't access to the most advanced medical technologies and scientific/pharmaceutical inventions improved outcomes for American women? What does the evidence tell us about ensuring American women experience healthy pregnancies, births, and babies? And, is it time to redefine a successful pregnancy and take a more comprehensive approach?

This *ROOTS* examines America's approach to pregnancy and delivery beginning in the 19th century. We do this with the greatest respect for the obstetricians and neonatologists who daily save the lives of mothers and infants. The U.S. has advanced significant medical innovations that have improved outcomes for



many of the most dangerous complications. However, this publication questions the standard use of some of the same procedures, especially when evidence suggests women neither need nor uniformly benefit from them.

The American entrepreneurial spirit ignites a desire and sparks the ingenuity to solve serious healthcare threats—and consumers add fuel to this fire. Americans demand a quick fix and the newest intervention. When ill or in pain, they implore their practitioners to “make me well.” A PBS special tells how, during the 1918 Influenza, frightened citizens tried any random home remedy. “It’s an American characteristic. We have to do something, even if it’s wrong.”

However, are we as eager to explore the unintended, negative effects of new interventions? Is the inclination to do more rather than less potentially harmful? And does our fee-for-service payment system provide a disincentive to remove medications, to halt certain surgical practices, to examine the efficacy of new technologies when the evidence suggests limited return on investment or even lost revenue?

Midwives approach childbirth from a decidedly naturalist, minimalist persuasion. In this Year of the Midwife, we consider what was lost when America separated midwives from the birth experience. Is it time for public health leadership, the medical establishment, schools of health professions, and our specialty societies to examine different models—approaches that offer the right care, under the right circumstances according to the level of risk—that are healthy for all women? This *ROOTS* starts the conversation.

Karen Wolk Feinstein, PhD

President and CEO
Jewish Healthcare Foundation

Introduction

In 19th century America, a married woman had no legal identity apart from her husband. He controlled the household's money and property, even what she brought to the marriage. Husbands were permitted to use physical force, and though divorce was legal by mid-century, it meant severing property rights—a sure path to poverty for most women.

And yet, despite women's relative vulnerability, the essential act of bringing life into the world remained within their domain. In this private space, the midwife played an essential but supportive role. She attended births, caught babies, and stood 'with women' as they labored.

Beginning in the late 19th century, childbirth in America changed radically, and with it, the role of midwives. The increasingly influential medical establishment promoted a modern and more hygienic birth experience. Beginning with the upper classes, women became patients of physicians, who were renowned for using the newest lifesaving procedures. The popularity of medical professionals grew unabated, and by the 1970s, nearly all births occurred in hospitals.

At the same time, credible evidence began to accumulate that some surgical, technological, and pharmaceutical interventions produced unequal and sometimes dangerous outcomes. Despite the reduced risks in complicated childbirth, many interventions were deployed with limited evidence of their benefit for the majority of women. These practices form the foundation of maternity care in the United States.

In the past three decades, the U.S. tracked a radically divergent trajectory in maternal health from its peers. By date of publication, the U.S. has the highest rates of maternal morbidity and mortality in the developed world, with women of color bearing an unequal share of the burden.

This *ROOTS* examines whether the U.S. erred in promoting the decline of the midwife, and what that suggests about the American health system overall. The first three sections examine the history of childbirth from the turn of the 20th century, weaving together the disparate forces that set the country's outlier status. Section IV explores features of the most successful models of care, which are intended to spark inspiration. The last section discusses tactical solutions to create a system where every woman can access comprehensive and continuous care.

SECTION I.

From Home to Hospital: The Decline of Midwifery. Section I describes the decline of midwifery in the United States from roughly 1900 to the 1940s, replaced increasingly by the nascent field of obstetrics. Early hospital interventions did not always achieve better results than midwife-assisted childbirth. After American success in World War II, the public crowned "scientific medicine" a national ideology, even when underlying evidence didn't justify all practices.



SECTION II.

The Woman as Patient: The Medicalization of Childbirth. As women's birth experience became increasingly medicalized, the contemporary crisis in maternal mortality escalated, particularly for women of color. This preoccupation with surgical solutions also obscured the need for equally important behavioral, social, and developmental support.



SECTION III.

Women Activists Push Back: Reclaiming Their Bodies. Even as women lost control of their own birth experiences, a crescendo of dissent grew to challenge the medicalized status quo. Section III describes women's efforts to learn about their own bodies, while rediscovering natural childbirth, breastfeeding, and ultimately modern midwifery.





SECTION IV.

A New Model of Care: But Only New for

America. As the American healthcare system continues to pursue technical solutions, the most successful countries employ multiple strategies to create an integrated system of maternal health providers. With the U.K., Australia, and the Netherlands as case studies, this section identifies key characteristics of a comprehensive perinatal care model.



SECTION V.

Toward Comprehensive Maternity Care in the United States. This section focuses on actionable strategies to improve maternity care in the U.S., from behavioral changes to professional education, policy reform, consumer empowerment, and new payment models. It discusses the critical role of midwives, particularly in their potential to produce better birth outcomes.

Throughout, we are grateful for the insights gleaned from interviews, TED talks, and podcasts by the following midwives, nurses, physicians, mothers, and grandmothers. Highlighted throughout this *ROOTS*, their experience greatly enriched our study.

Midwives: **Abigail Aiyepono, Ginger Breedlove, Jatolloa Davis, Kitty Ernst, Ina May Gaskin, Patricia Harman, Susan Heinz, Jalana Lazar, Ruth Watson Lubic, Ebony Marcelle, Ann McCarthy, Emily McGahey, Diane Parkin, Ann Tive, Professor Saraswathi Vedam**

Mothers & Grandmothers: **Gilli Mendel, Stephanie Pell**

Nurses: **Sara Shaw, Alice Zelkha**

Physicians: **Sonya Borrero, Elizabeth Stifel**

SECTION I.

From Home to Hospital: The Decline of Midwifery

“ The midwife has been a drag on the progress of the science and art of obstetrics. Her existence stunts the one and degrades the other. For many centuries she perverted obstetrics from obtaining any standing at all among the science of medicine.”

-Dr. Joseph DeLee, 1915



Gustave Joseph
Witowski. "Pioneer
birth scene." (1887).

Beginning slowly in the mid-19th century, doctors started to replace midwives as the primary caretakers of birth. Underlying this shift were broad societal changes across the United States. Millions of Americans moved from rural to urban areas, and millions more moved from foreign countries, creating a life separate from family and culture. Networks that embedded midwives within the fabric of communities irreparably ruptured, and Americans began looking toward a 'modern' approach to childbirth.

The first to shift from midwives to doctors were middle- and upper-class women. Nearly all U.S. midwives were European or descendants of African slaves, and it became unfashionable to employ working-class or foreign-born midwives. However, rapidly assimilating immigrants soon joined the women of privilege, favoring modern American ways over traditional health practices.

At the turn of the 20th century, about half of births took place at home with midwives. By the late 1930s, three-quarters of American women delivered their babies in hospitals, although midwife-assisted home births were more common among Black women. Born in 1924, Jimmy Carter was the first American president delivered in a hospital.

Amplifying these trends, public health nurses and obstetricians joined forces in a campaign to eliminate midwives. In a bid for more scientific care, midwives were criticized in medical journals as "ignorant, dirty, and dangerous." The attacks were equally imbued with racism when directed against the grand (or granny) midwives of the American south. As midwife Emily McGahey explains, "There was a time in the U.S. when the midwifery profession was marginalized by the medical profession, almost into oblivion. These characterizations have a racial undertone, given that most midwives at this time were people of color." The attacks undoubtedly also reflected the overarching bias of the day, that childbirth – and health care more generally – was too important to be left to women."

"There was a time in the U.S. when the midwifery profession was marginalized by the medical profession, almost into oblivion. These characterizations have a racial undertone, given that most midwives at this time were people of color."

- Emily McGahey, CNM

By the time World War II crowned technology as America's signature prowess, midwives in the U.S. were virtually obsolete. By contrast, European countries in this era began fully integrating midwives into their healthcare systems, even as hospital births became more popular.

Rates of maternal and infant mortality were equally divergent, and various data sources from 1914 to the mid-1930s indicate that American mothers and babies suffered more in the nascent healthcare system than in the care of midwives.

Joseph DeLee & the Development of Modern Obstetrics

As women increasingly gave birth in hospitals, nobody did more to shape their experience than Dr. Joseph DeLee. Often called the father of modern obstetrics, DeLee sought to make obstetrics/gynecology a legitimate medical specialty. Born in 1869, he wrote landmark obstetric textbooks and introduced advances like the portable infant incubator and the fetoscope.

Most telling for the medicalization of childbirth, DeLee initially believed that complications should be prevented *preemptively* by medical interventions. He commonly recommended delivering the baby with forceps, anesthetizing all women in the second stage of labor, and conducting routine episiotomies in most, if not all labors. While life-threatening complications were rare, his approach represented "prevention" for all. In one of his most famous articles "The Prophylactic Forceps Operations," published in the *American Journal of Obstetrics & Gynecology* in 1920, DeLee describes obstetrics as important for "relieving pain, supplementing and anticipating the efforts of Nature, reducing the hemorrhage, and preventing and repairing damage." For DeLee, childbirth was a pathology, which he described as a "painful and terrifying experience."

Initially, physicians and hospitals resisted adopting DeLee's interventions. To prove the merit of his methods, DeLee founded the Chicago Lying-in Hospital in 1895, later known as the Chicago Maternity Center (CMC).

DeLee was convinced that bringing hospital practices into the homes of women would enable him to "teach students and doctors how to do good routine obstetrics [even] in the poorest hovel." At CMC, doctors and nurses learned aseptic techniques, not surgical interventions. Although delivering on kitchen tables, laboring women were shaved, given an enema, and attended by masked, gowned, and gloved nurses and doctors. It was standard for CMC doctors or



Portrait of
Joseph DeLee.
Northwestern
Memorial Hospital
Archives.

nurses to stay with a woman throughout her labor, even as the practice became more unusual in hospitals.

DeLee was not distinguished by his consistency. He initially declared that women would not make good obstetric physicians, though a woman became the founding director of his esteemed CMC. Of greater importance, DeLee eventually softened his insistence on routine obstetric intervention, warning obstetricians in 1916 "not to make labor a surgical operation." It was too late. In the 1920s, hospitals and doctors began adopting DeLee's interventions in earnest.

Science without Evidence



Despite the increased medicalization of childbirth, scant evidence supported the model's success. In fact, CMC's founding medical director Dr. Beatrice Tucker published a 1937 *American Journal of Public Health* article showing that the center's infection and mortality rates were far lower than in Chicago hospitals where DeLee's medical interventions had become routine. In the 1930s, national infant mortality rates were almost four times higher than at CMC, despite the center's impoverished clientele.

As is true today, in the early 1920s U.S. maternal and infant mortality rates ranked among the worst in the developed world. A study published in the 1922 *American Journal of Public Health* attempted to address this disparity, focusing on the differences between births attended by midwives versus doctors. Contrary to his initial assumptions, the author concluded that midwife-attended births were associated with *lower* maternal and infant death rates, in addition to lower puerperal (childbirth) fever death rates. The findings were true even for higher-risk first births and even after eliminating from his study women who had died from puerperal fever due to miscarriages and abortions. In fact, immigrants birthing with midwives had better outcomes than native-born Americans, while wealthier women birthing with doctors had worse outcomes than poorer women birthing with midwives. His summation is telling: "We admit it is difficult to square these facts with our general impressions. Perhaps our impressions are wrong."

Taken from Kate Dawley's 2003 article, the following table provides a summary of data available from this period. In Newark, Philadelphia, and in the states of Alabama, Kentucky, and Virginia, significantly more women died when attended by doctors than by midwives.

Maternal Mortality per 10,000 Live Births in Selected U.S. Cities 1914-1930

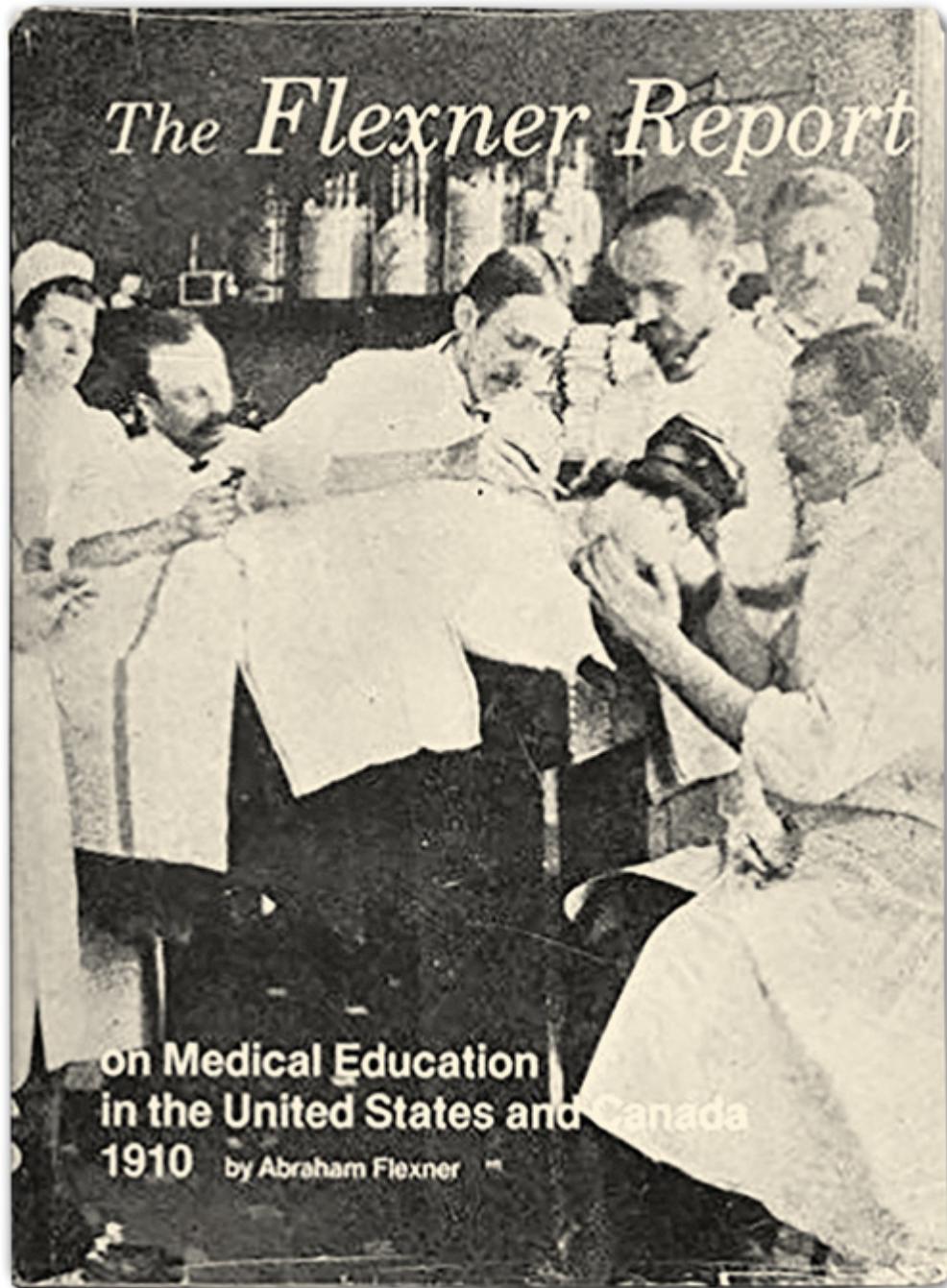
	Deaths per 10,000 live births	
	Physician-attended	Midwife-attended
Newark 1923	87	22
Philadelphia 1914-1930	74.6	8.5
Alabama, Kentucky, Virginia 1927	111	51

The reasons for inferior physician outcomes were numerous. One primary consideration is that hospitals in this era did not control bacterial transmission. Hospital sanitation had been a subject of research since the 1850s, when Harvard anatomist Oliver Wendell Holmes and Hungarian-born Ignaz Philipp Semmelweis separately recognized that infection was a source of childbirth fever.

Semmelweis began his search to understand why birthing women attended by doctors were dying at more than twice the rate of women attended by midwives in the same Vienna hospital. According to his observations, the primary difference was that doctors also performed autopsies, carrying lethal infections from corpses to laboring women. His recommended solution of handwashing and instrument sterilization almost instantly improved women's survival odds, but neither Holmes nor Semmelweis managed to convince physicians to continue the practices. In fact, it would take the better part of a century before handwashing was considered an essential infection control practice.

Further, standards for training physicians were far from uniform. When Abraham Flexner wrote his eponymous report in 1910, 90% of physicians lacked a college degree. Moreover, it wasn't until the 1930s and 1940s that hospitals initiated obstetric residencies and defined the qualifications needed to deliver babies.

It is noteworthy that the Flexner report precipitated the closures or mergers of many medical schools, including nearly all those devoted to teaching women and minorities. As a result, the percentage of women among medical school graduates dropped from 5% to 2.9% by 1915. By 1930, only a single women's medical school remained.



Flexner, Abraham. "The Flexner Report: On Medical Education in the United States and Canada." (1910).

Evaluating historical data, the Centers for Disease Control and Prevention (CDC) concluded in 1999 that maternal deaths were more likely to be associated with hospitalizations and abortions.

"Inappropriate and excessive surgical and obstetric interventions (e.g., induction of labor, use of forceps, episiotomy, and caesarean deliveries) were common and increased during the 1920s. Deliveries, including some surgical interventions, were performed without current sterile standards. As a result, 40% of maternal deaths were caused by sepsis (half following delivery and half associated with illegally induced abortion) with the remaining deaths primarily attributed to hemorrhage and toxemia."

- CDC, *Achievements in Public Health, 1900-1999: Healthier Mothers and Babies*

Finally, a 1933 White House Conference on *Child Health Protection, Fetal, Newborn, and Maternal Mortality and Morbidity* demonstrated the link between poor aseptic practice, excessive operative deliveries, and high maternal mortality. Infection was linked to surgical procedures, which was in turn linked to maternal deaths. The report also pointed out that as more babies were born in hospitals, infant deaths from birth injuries increased by 40% to 50% between 1915 and 1929.

The Public Health Revolution

Beginning in the late 1930s and 1940s, maternal and infant mortality did significantly decline. The improvements, especially in rates of infant mortality, were partially due to public health practices like improved sanitation in cities. Safer blood transfusions for treating hemorrhages have also been cited as contributing to better maternal outcomes.

Additionally, the discovery of antibiotics like sulfonamide (1937) and penicillin (discovered in 1928 but not widely used until the 1940s) prevented childbirth fever, the primary cause of maternal deaths. Across the western world, maternal deaths plummeted after 1937. As the New York Times reported in 1944, these gains were inappropriately attributed to the decline of midwifery.

DeLee both fueled and rode the 20th century's full-throated endorsement of scientific advancement. By the 1950s, scientists were increasingly seen by the American public as the preferred experts on the human body. In the heady days following the American victory in World War II, a uniquely American ideology of technological innovation began to dominate all measures of societal progress.

Indeed, as obstetricians/gynecologists became better trained in the 1950s, they began to provide excellent medical care for women experiencing rare but life-threatening complications. These interventions were responsible for ongoing, although slower declines in maternal mortality from the 1950s through the 1990s.

The extent to which women themselves supported medical advances is evident in personal decisions, such as using infant formula. Mothers knew exactly how much food their infants were receiving, and they could regulate and organize feeding schedules as never before. Sanitizing devices were also viewed as superior in hygiene and safety. It would take years of research before the benefits of breastfeeding overtook its convenience, with particularly important changes in developing countries where poor water quality made powdered formulas potentially dangerous.

Miss Corbin Says Proper Care Can Bring New Reduction

New York City saw the lowest maternal mortality rate ever recorded in 1943 with 2.1 deaths per a thousand births. Miss Hazel Corbin, general director of the Maternity Center Association, announced at the twenty-sixth annual meeting of the organization that the number can be cut by two-thirds again.

This number represents a reduction of two-thirds of the deaths of mothers in childbirth compared to ten years prior. Miss Corbin said that the rate should be reduced to virtually nothing.

Mrs. Shepard Kreh, president of the association, praised the progress, especially given the increased birth rate, overtaxed hospitals and shortages of doctors and nurses in New York City.

"The midwife has practically disappeared from the New York metropolitan area," said Dr. George W. Kosmak, editor of *The American Journal of Obstetrics and Gynecology*. "In 1932 there were 863 licensed midwives conducting about 10 per cent of the deliveries."

"By 1943, despite the increase in the number of births in New York, there were less than 150 licensed midwives, conducting under 1 percent of the total deliveries."

A sample article from the 1940s.

SECTION II.

The Woman as Patient: The Medicalization of Childbirth

“ It frightened me to death because these women [around me as I labored] were all ... yelling, screaming, and I heard one attendant say, If you don’t keep quiet, I’m going to walk out of here and leave you alone.”

-Marian Tompson, describing her birth experience in the 1950s



Courtesy Carl Iwasaki.
Getty Images.

By the 1950s, the United States had become the world's undisputed superpower. The hyper-medicalization of American health care was fueled and reinforced by the country's technical superiority in the second World War—in the early decoding of enemy messages, in the reinvention of military weaponry, and above all, in the deployment of the atomic bomb. It was easy to equate science and technology with progress and superiority.

In 1950, 88% of women birthed in hospitals; by 1960, that number rose to 97%. With this shift, women arguably became disempowered patients, the passive recipients of the latest in medical care. Their role as engaged decision makers in where, how, and with whom they delivered disappeared almost entirely.

For women of this era, the modern hospital presented a sterile, safe environment. A woman typically labored without her partner or loved-one's presence, giving birth on her back with legs in stirrups. Births were often observed by a gathering of medical students and interns, present at the most intimate moments. The care team was lead by a physician, who typically made every decision including whether to induce labor or perform a caesarean section. As in DeLee's kitchens, women were shaved and given an enema.

Many women were scheduled for general anesthesia or a combination of medications that induced what was called 'twilight sleep,' which increased the need for forceps to aid the delivery. Mothers often woke hours after their babies arrived. For women of racial, linguistic, and ethnic minorities, the experience could feel especially demeaning.

Standard Medical Obstetrics Practices

In the U.S., much of what would become the standard battery of childbirth procedures emerged in the 1950s. While various new technologies and interventions grew in complexity, evidence of efficacy and safety was limited. Medical interventions in childbirth picked up speed until childbirth without *any* interventions became the exception in hospitals, even in vaginal births. While interventions can be medically necessary, many procedures were introduced with limited evidence of their benefit to most women. Below is a sketch of medical obstetric practices that are commonplace in American hospitals, though their outcomes are mixed.

A New Voice

Kitty Ernst began her illustrious career working as a nurse-midwife at the Frontier Nursing Service in rural Kentucky in 1951. She went on to train midwives as a Columbia University faculty member and was the president of the American College of Nurse-Midwives in the early 1960s and again from 2007-2008.



As Ernst recalls, *"I was a student nurse during the time when [amnesia-inducing] scopolamine and heavy sedation were given to laboring women to help them forget their pain. Some of the women became disoriented with the medication and were restrained with bed rails and/or a straitjacket to prevent them from hurting themselves. The obstetrician was called at the last minute, and nurses turned their focus to assisting the obstetrician and positioning the woman in the delivery room, flat on her back with her legs up in stirrups on what could be an operating table. Since the medication often made it impossible for the woman to give birth, the baby, also drugged, would be pulled out with forceps and taken to the nursery for observation until mother and baby sobered up."*

Labor Induction

Modern labor induction involves rupturing the amniotic sac and administering a drug called Pitocin (a synthetic version of the naturally occurring oxytocin) to initiate early, or in some cases, scheduled uterine contractions. Pitocin was first produced in 1953 and was immediately used for elective, non-emergent inductions. In his 1955 study of 1,000 elective inductions, obstetrician Edward Bishop found that 2.6% of women and 6.2% of fetuses experienced a complication. To define the conditions under which an induction could be performed safely, he developed the Bishop Score, a points-based system still used to assess the readiness of the cervix for birth.

Over time, more and more births have been artificially induced. Some prescribed reasons for artificial induction include slow labor, fetal distress, lack of amniotic fluid, and pre-labor rupture of membranes. However, inductions are also scheduled for the convenience of the doctor or pregnant woman.

The use of inductions became so common that the number of infants born at less than 39 weeks of gestation (full term is 40 weeks) increased by nearly 60% between 1981 and 2006, reaching a high of almost one in four vaginal births in 2010. Labor induction is not a benign intervention. According to the American College of Obstetricians and Gynecologists (ACOG), inducing labor increases the risk of infection in the mother or fetus, and can contribute to the risk for uterine rupture, caesarean birth, and fetal death.

Caesarean Section

The term caesarean section purportedly derives from a myth that Julius Caesar was cut out of his dying mother's abdomen, as was standard Roman practice in his time. The story is improbable, for his mother likely served as his political adviser in later years. Still, a caesarean section (C-section) is by any definition major surgery. Costing about twice as much as a vaginal birth, C-sections have become increasingly common in the past several decades. In 1970, only 5% of American children were born by caesarean section. Today, about one-third of American births are performed via C-section, a rate three times higher than recommended. In the one decade from 2000 to 2010, the rate increased by 46%. Even among low-risk pregnant women, the rate rose from 18% in 1997 to almost 27% by 2013. Moreover, there is great variation in C-section rates from hospital to hospital.

Currently, caesareans are done almost automatically when mothers are pregnant with more than one fetus, when a woman's previous birth was a caesarean, when the baby is in a breech position (head facing up), or when there are signs of fetal

distress (see Fetal Monitoring below). But they are also done in many other circumstances, influenced in part by the fear of legal action.

In addition to risks associated with any major surgery, C-sections carry a four times higher risk of blood clots, hemorrhage, bowel obstruction, bladder damage, and infection. There are also indications that women who have delivered by C-section are less likely to breast feed and may be at increased risk of depression and post-traumatic stress.

In practice, C-sections beget C-sections. Each surgical birth increases the risks of rare but serious complications in subsequent vaginal deliveries—presenting dangers to both the mother's and infant's life. These risks include uterine rupture, placenta previa (in which the placenta covers the opening to the cervix), placenta accreta (in which the placenta adheres abnormally to the wall of the uterus), and placenta abrupta (in which the placenta detaches from the uterine wall).

With heightened risk levels, the practice of delivering subsequent babies vaginally (called VBAC—for Vaginal Birth After Caesarean) nearly stopped. Of women delivering a first child by caesarean, only 13.3% deliver a subsequent child vaginally. That may be changing. ACOG has recently argued that vaginal births after caesareans are associated with fewer complications and are therefore safer than elective repeat C-sections.

Fetal Monitoring

As with many other medical interventions, fetal monitoring plays a complicated role in the story of childbirth in America. On the one hand, the ability to determine whether the fetus is experiencing distress can initiate life-saving interventions. On the other, the inexact science of interpreting signals from the fetus has undoubtedly contributed to unnecessary C-sections, forceps deliveries, and other interventions risky to both mother and baby.

While efforts to listen to the fetal heartbeat began several hundred years ago, the first fetal stethoscope (or *fetoscope*) was invented in 1917 by David Hillis while working at Joseph DeLee's Chicago Lying-In Hospital. In a method called intermittent auscultation, DeLee recommended listening to the fetal heart beat every 30 minutes during early labor, increasing to every three to five minutes as the labor progresses.

Although intermittent auscultation (IA) was used for more than forty years, it wasn't until 1968 that a study examined its actual impact—just a few years before it was phased out in most births. The authors concluded that the practice was not a "reliable ... indicator of fetal distress," except in extreme cases.

The first prototype electric fetal monitor was developed by Dr. Orvan Hess in 1957. A six-and-a-half-foot-tall machine recorded electrical cardiac signals from the fetus. Eventually, continuous electronic fetal monitors (EFMs) would simultaneously record uterine contractions and fetal heart rate. With a device strapped to the mother, monitoring can be done externally (using a Doppler device) or internally (by attaching a spiral wire to the fetus through the mother's vagina).

Continuous EFM was introduced in hospitals in the 1970s without evidence from clinical trials. In fact, uniform terminology and standards for EFM use were not firmly established by ACOG until 1997, more than two decades after the technique was introduced. Despite significantly limiting the ability of a laboring woman to move, the use of EFM rose steadily from 45% in 1988 to 74% in 1992. Today, 90% of all labors use EFM, under the assumption that it reduces risk of fetal complications including cerebral palsy, one of the most common childhood motor impairments associated with birth trauma.

ACOG refuted this conclusion in 2009, writing, "There is an unrealistic expectation that a 'non-reassuring' fetal heart rate (FHR) tracing is predictive of cerebral palsy." The report continues, "The false-positive rate of EFM for predicting cerebral palsy is extremely high, at greater than 99%." A 2017 review comparing EFM to IA found no difference in low APGAR scores, Neonatal Intensive Care Unit admissions, perinatal deaths, or development of cerebral palsy.

On the other hand, EFM is associated with an increased number of operative vaginal deliveries (vacuum or forceps) and C-sections. Perhaps most disturbingly, even as EFM rates rise, there has been limited consistency among obstetricians in their interpretation of results. For example, one study cited in a 2005 ACOG report asked four obstetricians to examine 50 EFM results. The doctors' interpretations aligned only 22% of the time. Further, when the doctors were asked to look at the same reports two months later, they interpreted 21% of the results differently.

Epidurals

In the 1950s, many women received a combination of morphine and scopolamine which induced a pain-free 'twilight sleep.' As the decade progressed, more opted for a single-shot spinal block, reducing pain in the lower body during labor. Epidural analgesia gained traction in the 1970s as a variation to the spinal block, and by the 1980s, it was part of standard obstetric care (although epidurals are used less often by Black women and women with a high school education or less). Today, between 60% and 70% of women receive an epidural during labor. It is noteworthy that regional anesthesia, like epidurals, is used less frequently in other countries. For example, epidurals are used in only about one-third of labors in England.

Like all interventions during birth, there are advantages and disadvantages to mother and baby. Epidurals slow labor, which can increase the need for Pitocin to stimulate contractions and interfere with a woman's ability to push in the final stages of labor. In such cases, there is increased need for forceps or vacuum to assist delivery. Moreover, while some recent studies indicate that epidurals are not related to rising C-section rates, others cast doubt. A 2014 Australian study of more than 200,000 women pregnant with a single fetus in the head-down position and with no prior C-sections were 2.5 times more likely to have a C-section following an epidural.

Today, elevated risks for both mother and baby mean that general anesthesia is reserved only for unanticipated, emergency C-sections.

Mechanical extraction

Use of a vacuum extraction device to deliver babies in distress was documented as early as 1705. The practice, developed to minimize harm that can occur with forceps, was popularized in Sweden in the 1950s and became standard in European countries by the 1970s. Although forceps remain a mainstay of the obstetrical toolbox, by 1992, vacuum-assisted deliveries outnumbered forceps deliveries in the U.S. ACOG reports that only about 3% of vaginal deliveries involve forceps or vacuum extraction, but a 2006 study published in the *American Journal of Obstetrics and Gynecology* found a variable range of 1% to 23% of deliveries across the nation.

Episiotomies

ACOG reports that between 53% and 79% of women will sustain a laceration in childbirth. Although usually not serious, a few of these lacerations can be severe, injuring the anal sphincter. Repairs can range from a quick application of surgical glue to placing numerous stitches. An episiotomy is a surgical incision in the perineum used to ease the baby's birth. By performing an anticipatory episiotomy, the theory was that a more severe and jagged perineal laceration could be avoided.

Although episiotomies were first described in 1742, they were introduced in the U.S. by Dr. Joseph DeLee in 1920. DeLee argued that allowing 'natural' childbirth frequently resulted in damage to the woman and her child, making intervention obligatory. "If you believe a woman after delivery should be as healthy [and] anatomically perfect as before ... then you have to agree [that] labor is pathogenic." More than 80 years after the practice was introduced,

research shows that risk factors for severe laceration include not only forceps and vacuum extraction, but episiotomy itself. In 2006, this finding led ACOG to amend an earlier recommendation favoring routine episiotomy, noting, "Current data and clinical opinion suggest that there are insufficient objective evidence-based criteria to recommend episiotomy, especially routine use of episiotomy."

Despite these findings, the practice is still common. In May 2019, *USA Today* analyzed births at 553 hospitals around the country. While the recommended rate for episiotomy is about 5% nationally, reporters found that 30% to 40% of women delivering vaginally in New York, Nevada, Texas, and West Virginia Hospitals had episiotomies. By contrast, rates in Washington state were lower than 4%.

The Intervention Cascade

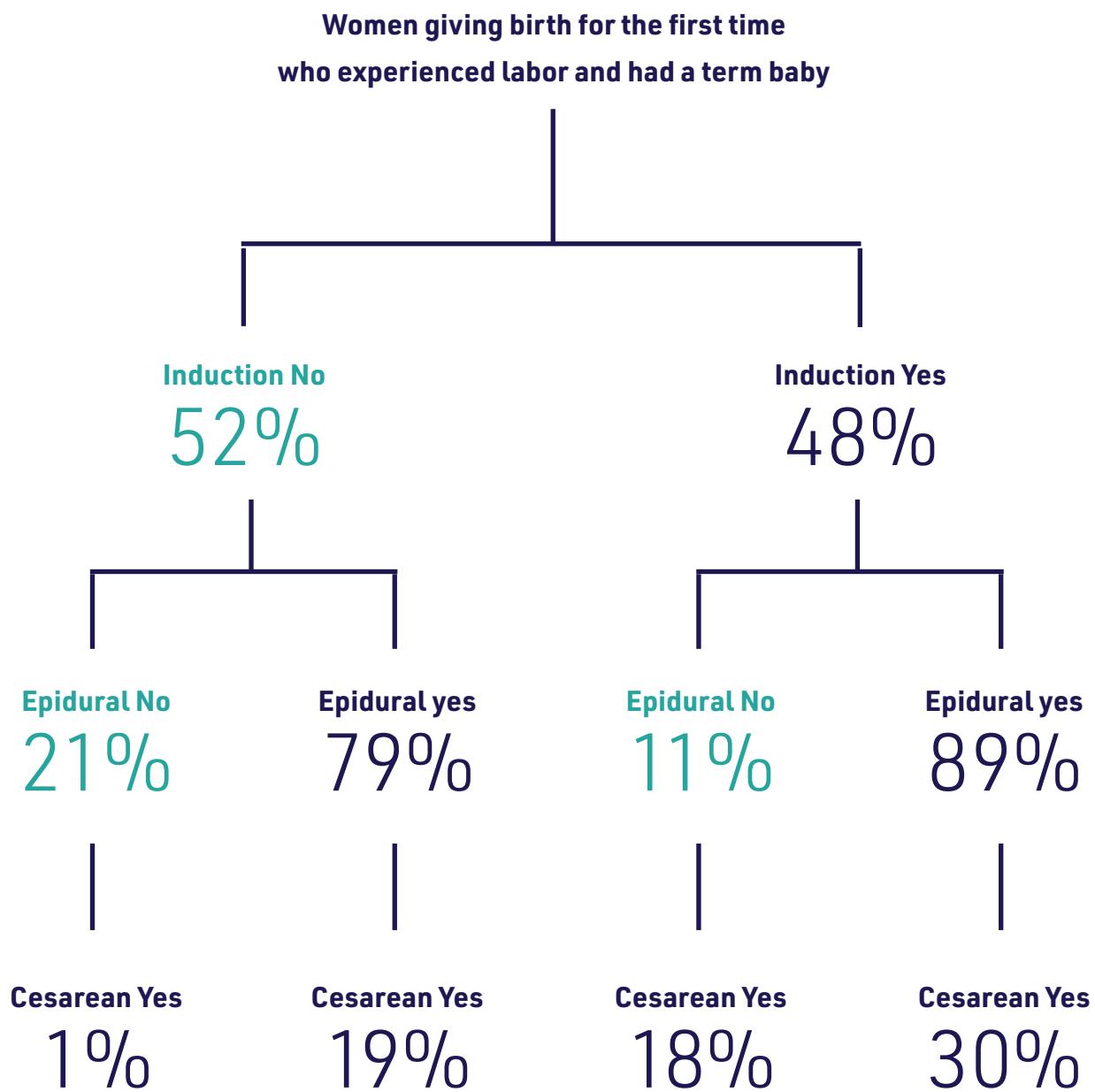
Each of these interventions poses a level of risk to mothers and babies. There is evidence that milk supply may be affected by Pitocin, that the baby's microbiome may be less diverse if not delivered vaginally, and that mother-baby bonding may be affected by various birth interventions. Saraswathi Vedam, professor of midwifery at University of British Columbia, believes the plethora of medical interventions common in American hospitals are mutually reinforcing. "As countless mothers have asserted, one procedure leads to another," Vedam describes.

A 2018 survey of more than 2,500 women in California found that first-time mothers that were artificially induced have a higher need for pain blocks (89% vs. 79%), which was in turn associated with more C-sections (30% vs. 19%). What develops is an intervention cascade, a series of procedures which increases the need for further procedures. As reported by Eugene Declercq and his colleagues, this survey found that just one in 20 women had births that began naturally and ended without interventions of any kind. Nearly 20% who had labor induction or epidurals ended up having a C-section, and 30% who had both labor induction and an epidural ended up with C-sections. The intervention cascade is depicted in the following diagram, used with the Dr. Declercq's permission.



Professor Saraswathi
Vedam, PhD,
University of British
Columbia

The Intervention Cascade



Base: Women giving birth for the first time, who experienced labor and had a term baby (n=841)

p < .01 for difference in cesarean rate by whether had induction and epidural

Note: In this group, which included 80% of women giving birth for the first time, the overall epidural rate was 84% and overall cesarean rate was 22%

The U.S. is a dangerous place to have a baby

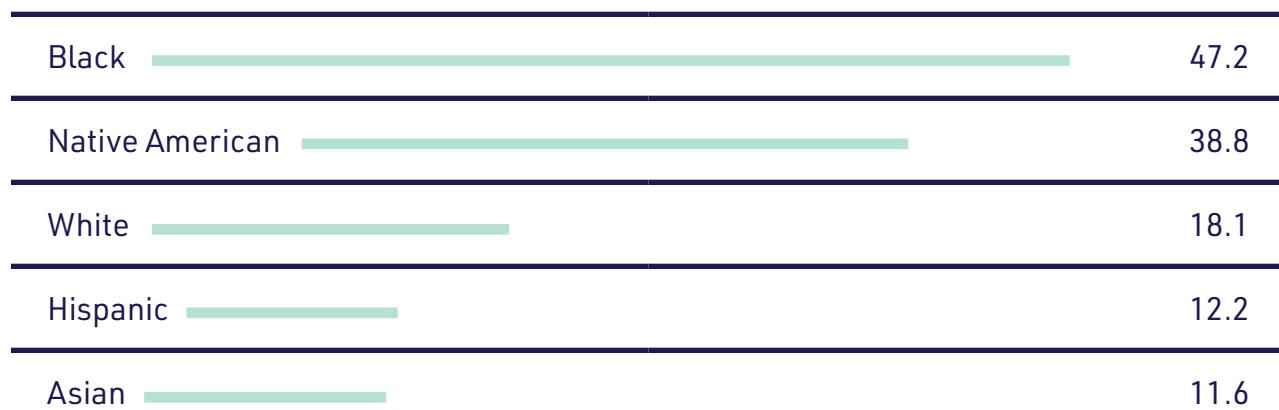
The combined effect of routinized medical interventions, inadequate primary care, and unequal treatment for women of color has created a crisis in maternal and infant mortality. According to the Centers for Disease Control & Prevention (CDC), 700 women die annually from pregnancy-related complications, and an additional 50,000 are injured. Between 2007 to 2016, there were 6,765 pregnancy-related deaths within a year of pregnancy.

Which American Women are Dying

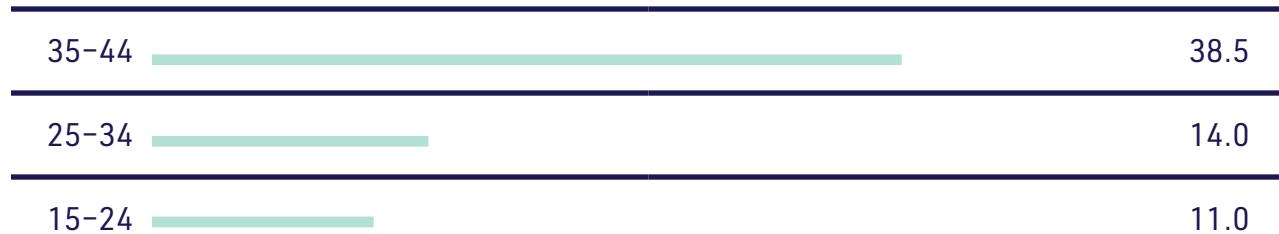
Black women are 2.6 times as likely to die due to a pregnancy-related cause as white women. Older women also face greater risk.

U.S. deaths per 100,000 live births 2011–2015

Race/ethnicity



Age

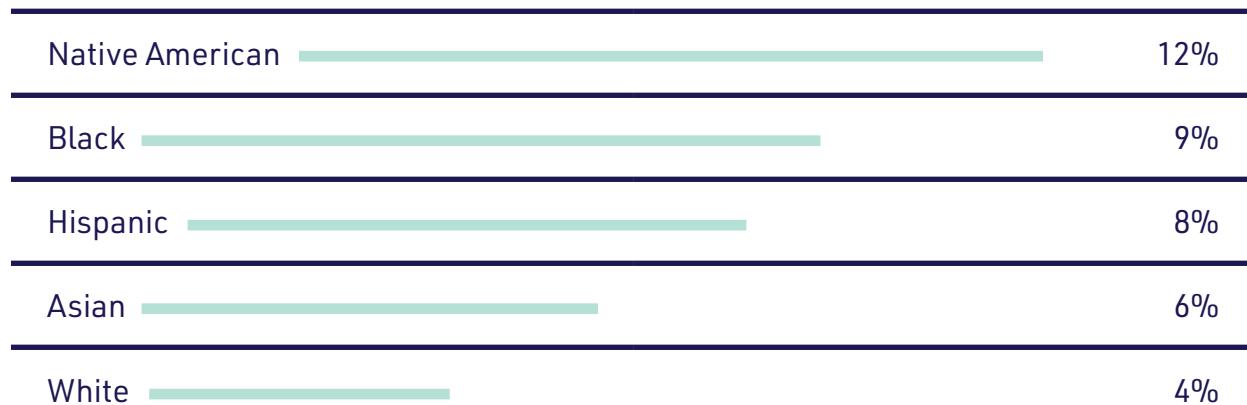


Sources: Monica Serrano, National Geographic; "Trends in Maternal Mortality: 1990 to 2015," WHO; "Building U.S. Capacity to Review and Prevent Maternal Deaths"; America's Health Ratings.

Access to Prenatal Care

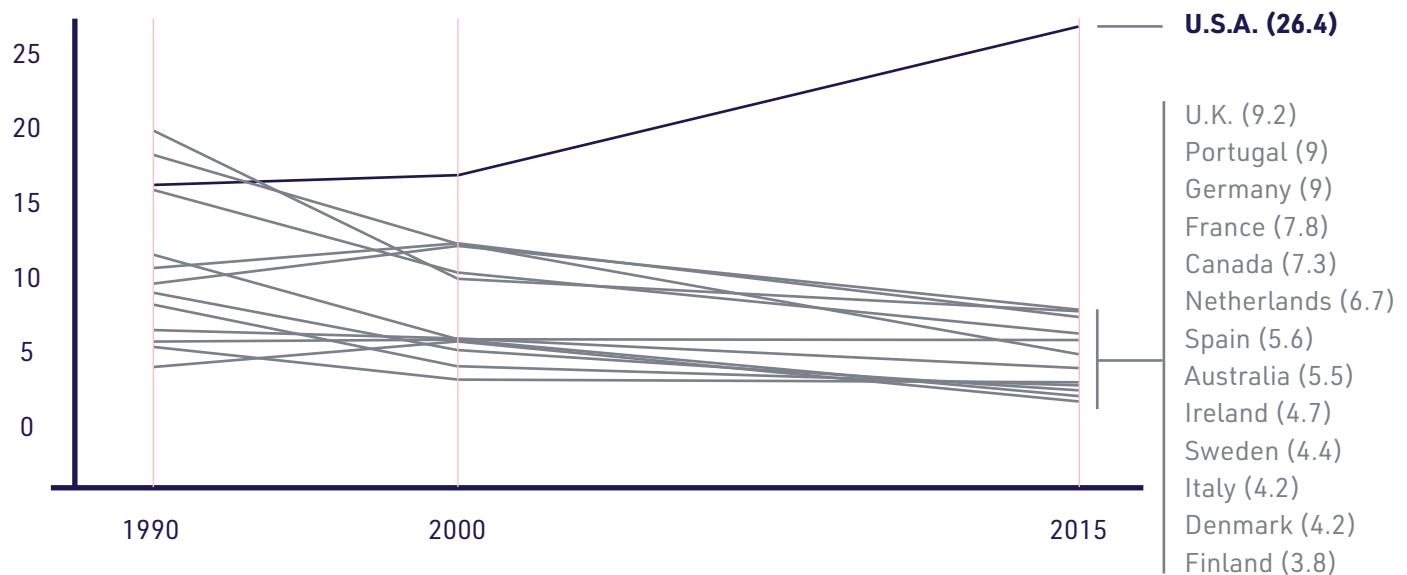
Women with no prenatal care at all are up to four times more likely to suffer a pregnancy-related death.

Women with no care or only third-trimester care



Further, these rates of mortality and morbidity have actually worsened since 1987. Though the U.S. is the most expensive place in the world to have a baby (the cost for normal pregnancy and childbirth in the U.S. has tripled since 1990 to about \$30,000), mothers are more likely to die here than in any other developed country. Worse, the U.S. is the only country in which the death rate for mothers is rising. According to research published by *The Lancet Global Health* in 2015, the U.S. has 26.4 deaths per 100,000 live births, compared to 9.2 in England and even fewer in other developed countries. By contrast, costs in the U.K. for a normal delivery in 2016 were \$2,300.

Maternal deaths per 100,000 live births by Country

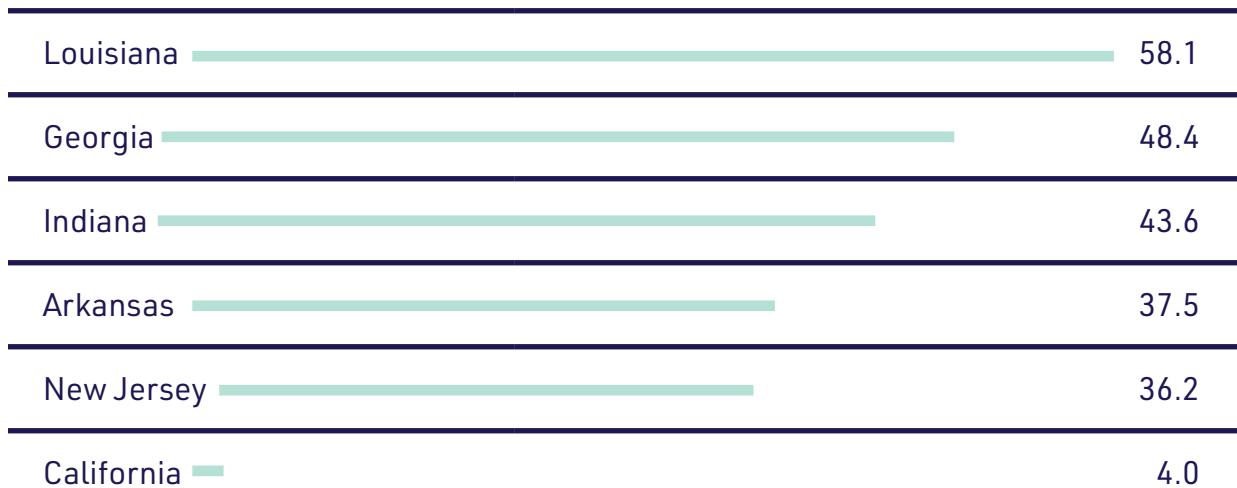


Women are not equally at risk across the United States, with significant variation from state to state. Between 2011 and 2015, the average number of maternal deaths was 20.7, a number which obscures both higher and lower outliers alike. At least 60% of maternal deaths are believed to have been preventable.

Not only are women dying, but an increasing number are experiencing 'near misses' related to their pregnancies or births. Severe maternal morbidity includes unexpected labor and delivery outcomes that result in significant short- or long-term consequences to a woman's health. Potential outcomes may be life-threatening conditions such as acute myocardial infarction, pulmonary embolism, sepsis, and hemorrhage. These near misses are becoming more common. The CDC found that severe maternal complications and harm increased by 45% between 2006 and 2015 (from 101.3 to 146.3 instances per 10,000 delivery hospitalizations).

In 2019, a *USA Today* investigation publicized rates of maternal deaths and harm in some of the worst performing states. For states like California that have taken extraordinary measures to prevent maternal mortality, positive results indicate potential models of success.

Maternal Deaths (per 100,000 live births)

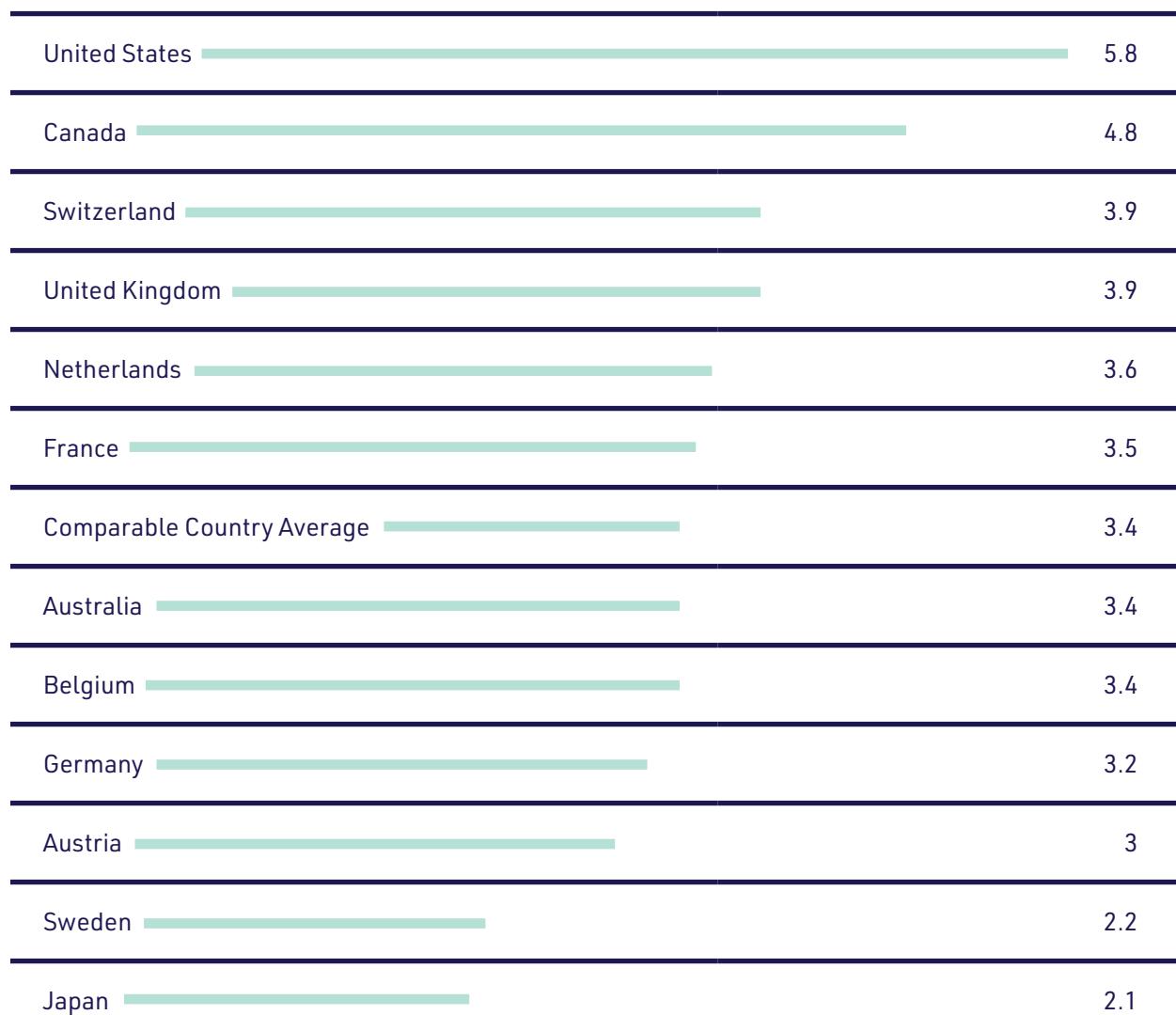


Source: Alison Young. *USA Today*. "Deadly Deliveries."

The Mother and Baby Connection

Infant mortality rates in the U.S. have also declined more slowly than in other developed countries. According to the *Peterson-KFF Health System Tracker*, the current national average is 5.8 deaths within the first year of life per 1,000 live births, while the comparable average for other developed countries is 3.4—even adjusting for the inclusion of infants born before 22 weeks gestation in some U.S. data. Further, the U.S. infant mortality rate fell by 16% between 2000 and 2017, as opposed to a decline of 26% in comparable countries.

Infant mortality per 1,000 live births, 2014

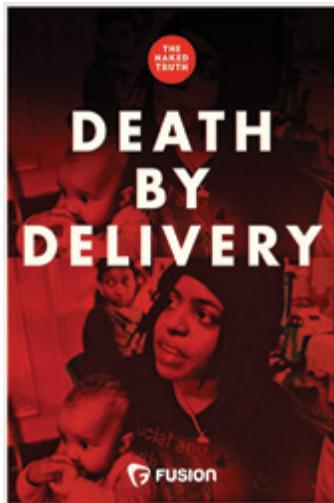


Comparable countries are defined as those with above median GDP per capita in at least one of the past 10 years.
Canadian data estimated from 2012

Source: Kaiser Family Foundation analysis of data from OECD (2017), "OECD Health Data: Health status: Health status indicators," OECD Health Statistics database.

These averages conceal painful disparities. African American babies die before their first birthdays at a rate of 11 per 1,000 births—twice the rate of white, Asian, or Latinx babies. This is true regardless of their mother’s income or education. While infant mortality rates have slowly declined since 2006, of the deaths in 2017, 40% have occurred within 24 hours and 66% within 27 days of birth. Further, infant mortality varies by state, from a high of almost 9 per 1,000 births in Mississippi to a low of 3.7 in Massachusetts.

Crisis in Families



Nelufar Hedayat investigates the crisis of maternal mortality for Black America in this documentary (2017).

The statistical averages in the U.S. obscure the devastation experienced by African American families. Black women are four times more likely to die during pregnancy and childbirth than are white women, and twice as likely to experience severe morbidity. At 40.8 deaths per 100,000 live births, Black women’s outcomes mirror some of the worst performing states in the U.S.

Black women also have the highest rates of preterm birth and low birth weights—the two leading causes of infant death. As a result, Black babies are twice as likely to die as white infants. The CDC reports that the disparities between Black and white mothers and their infants have only become wider over the past 100 years. In the early 20th century, African American women were twice as likely to die of pregnancy-related complications as white women. Today, that difference has doubled.

Access to care, quality of care, and underlying chronic conditions like hypertension, diabetes, or heart disease explain part but not all of these disparities. In fact, these risks affect Black women (and their babies) no matter their education, income, or neighborhood, pointing to the impact of structural racism on health. This concept hypothesizes that the cumulative impact of psychosocial, economic, and environmental stressors, including direct exposure to racism, wear down the body and increase a variety of health risks. Public health researcher Arline Geronimus was the first to document an effect she called *weathering*. By age 49 to 55, Geronimus found that Black women are more than seven-years-older biologically than their white counterparts, measured in the length of the protective telomeres on the ends of chromosomes, a marker of aging.

The lived experiences of women lend credence to this view. *The Giving Voice to Mothers Study* (2019) found that one-in-six American women report experiences of mistreatment by healthcare providers during childbirth. Reported experiences include being shouted at or scolded, having requests for help ignored or unreasonably delayed, threats related to the withholding of treatment, and

violations of physical privacy. Though this average is unacceptable, there are striking differences by race. Women of color were twice as likely as white women to report that a healthcare provider ignored a request for help. Hispanic and indigenous women were also twice as likely as white women to say that a healthcare provider shouted at or scolded them.

The Maternal Health Crisis in Rural America

It is not unrelated that Black women and women living in rural communities have higher maternal mortality rates. Often, they are the same women—20% of the rural population are African American (about 10 million people). According to a 2017 *Health Affairs* article, almost half of U.S. counties don't have a single practicing obstetrician-gynecologist. In 2004, 45% of rural counties had no hospitals with obstetric services, a figure that jumped to 54% by 2014. In total, the closures of rural hospitals have affected 2.4 million women of reproductive age. It is noteworthy that hospitals were more likely to have closed in counties where residents were most likely to be Black, and in states that opted not to expand Medicaid under the Affordable Care Act.

Conclusion

Today's hospital maternity wards look very different than their 1950s counterparts. Some hospitals have transformed sterile labor and delivery rooms into 'homey' birthing suites, and many allow family members to be present during labor and delivery.

Although nicely-appointed rooms and relaxed policies about family participation signal progress, the childbirth experience is still highly medicalized even under low-risk, unexceptional circumstances. Emergency medical interventions have saved the lives of many women, but birth has still become more dangerous over the last few decades, particularly for women of color.

If mothers are dying at higher rates than in any other developed country, if 60% of these deaths are preventable, and if some routine interventions lack rigorous trials, the inescapable conclusion is that birthing in America needs closer inspection.

What does a "healthy" maternity-care system look like in nations that have achieved superior outcomes? The coming sections will explore some approaches, in hopes that the U.S. will consider adopting features from successful models.

SECTION III.

Women Activists Push Back: Reclaiming Their Bodies

"There is absolutely no evidence that it is harmful to children if their mother's health, well-being and autonomy, and control of her own destiny is maximized by work outside the home."

- Betty Friedan



Rosa Parks at the March on Washington for Jobs and Freedom (August 28, 1963). Courtesy Bob Adelman.

Beginning in the late 1950s, difficult birth experiences fueled a crescendo of voices questioning medicalized childbirth and its emotional and physical toll. Women began pushing back, transforming their personal stories into a new kind of activism. Different organizations—formal and informal—empowered women to make informed decisions about their bodies.

These women joined a chorus of other grassroots movements surging in the 1960s, including the Civil Rights, Anti-Poverty, Anti-War, and Women's Movements, as well as the Patient Empowerment Movement. Each questioned institutionalized authorities and supported disruption in the interest of public good. Medical abuses were revealed and reviled, including the treatment of mental illness and developmental disabilities. Research also identified pharmaceuticals prescribed without sufficient study of toxic side effects on the fetus, such as Thalidomide and other fertility and anti-nausea drugs.

Concurrent developments reduced women's economic vulnerability and dependence. Married women gained access to birth control pills in the mid-1960s, and abortion was legalized in 1973. With better control over family planning, women increasingly pursued higher education and jobs outside the home—such as becoming doctors. Thanks to the National Women's Organization's successful class action lawsuit in 1970, American medical schools were forced to enroll women. Within five years, the number of women in medicine tripled.

It wasn't surprising then that women began to demand autonomy over their own bodies. Activists across the country questioned the need for anesthesia and a surgical team to deliver a healthy baby, and evidence supported their challenge. Women created organizations that advocated for breastfeeding, non-medical pain management, and the accompaniment of family members during childbirth. At the same time, women were more attentive to their own sexuality, and ultimately, to the course of their own lives.



Women's March in Washington, DC. Peter Keegan, Getty Images.

Rediscovering Women's Bodies

In the 2010 edition of their seminal work *Witches Midwives & Nurses*, authors Barbara Ehrenreich and Deidre English noted that, "As girls, the women of our generation had grown up thinking of their reproductive organs as the unmentionable region 'down there.' ... We were beginning to suspect that women had not always, in all circumstances, been so disempowered with respect to their own bodies and care."

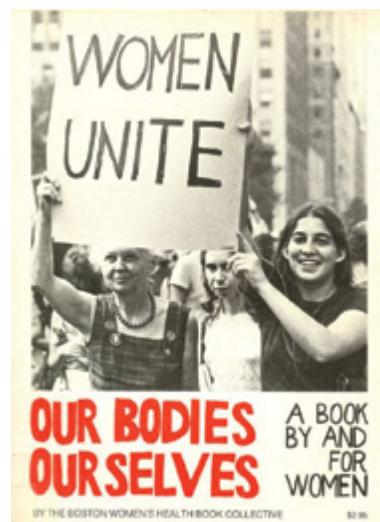
After meeting at a women's liberation conference in Boston, in 1969 a group of women began sharing how they lost control of their own bodies. They had stumbled upon an immense knowledge and power gap, and the group organized a series of courses to teach themselves and other women the basics of their bodies. The lectures were packed as women learned, often for the first time, about anatomy, female sexuality, menstruation, birth control, pregnancy, and menopause.

Ultimately known as the Boston Women's Health Collective, the group's instructive illustrations challenged the taboo against exploring or depicting the female body. Their 1973 book, *Our Bodies, Ourselves*, is a bible on female health and sexuality, having sold four million copies in 31 language. The manual is still printed with updated material.

The ripple effects were felt across the spectrum of women's health issues. For example, women began to talk openly about previously taboo subjects like breast cancer. Until the 1980s, the primary treatment for breast cancer was a radical mastectomy, a procedure associated with disfigurement and embarrassment. Women were reluctant to disclose their cancer, not even to their children and friends. Two people—a bereaved sister and a Pittsburgh surgeon enamored with randomized control trials turned the tables.

Fulfilling the promise she'd made to her sister before her death from breast cancer two years earlier, in 1982 Nancy Goodman Brinker founded the Susan G. Komen Breast Cancer Foundation. Its goal was to end breast cancer forever. A year later, she launched the Foundation's signature event, *Race for the Cure*. The response was overwhelming. In its first race, some 800 participants took to the streets of Dallas to declare their pride as survivors and demand a cure.

As women made their voices heard, new evidence supporting alternatives to radical mastectomies emerged. In 1985, a Pittsburgh surgeon published two articles in the *New England Journal of Medicine* that definitively proved that lumpectomy—a less disfiguring surgery—was an equally effective treatment for many women.



The original coursebook from the Boston Women's Health Collective (1973).

Eventually, more than a million people in more than 140 cities around the world would gather for the annual Mother's Day *Race for Cure*, many wearing the pink cap of survivors. With newfound visibility, research funding, clinical trials, and social support steadily increased, allowing women to make informed decisions with multiple treatment options.



Seattle launched their first Race for the Cure in 1993. Courtesy Susan G. Komen Puget Sound.

A New Voice

Physicians didn't uniformly welcome these changes. As a labor and delivery nurse, **Alice Zelkha** witnessed a doctor responding to a mother who requested a 'natural birth.' When the mother cried out, he said, 'Well you said you wanted a natural birth.' This was 1974. Zelkha went on to attend home births in Boston as part of a team that also included midwives.



Rediscovering Natural Childbirth

Born in Berlin in 1914, Elizabeth Bing fled Nazi Germany to become a hospital physical therapist in England. During her duties, she observed the increasing use of anesthesia and 'twilight sleep' in birth. She states in her New York Times obituary, "What I saw I disliked intensely. I thought there must be better ways."

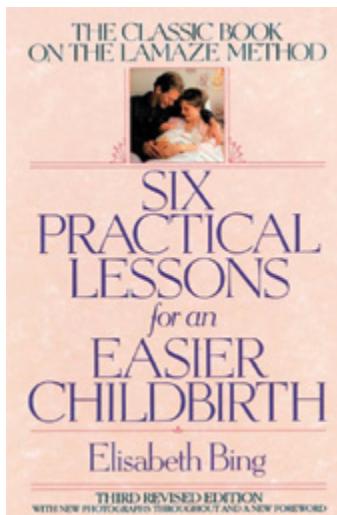
Concurrently, several prominent men were rediscovering non-medical techniques for reducing pain during childbirth. In 1933, British obstetrician Grantly Dick-Read proposed techniques for conquering fear, which he hypothesized worsened pain during childbirth. In a similar vein, in 1947 Robert Bradley developed the Bradley Method (known also as husband-coached childbirth) after observing non-human mammals laboring on his family farm.

Finally, in 1951 French obstetrician Fernand Lamaze began recommending breathing and relaxation techniques that became known as the Lamaze Method. Lamaze himself had observed midwives while in the Soviet Union.

Drawing on these newly rediscovered approaches, Bing co-founded Lamaze International in 1960 to promote 'educated' childbirth. She was instrumental in reintroducing natural childbirth to American women. By 1971, 400,000 American women were opting for unmedicated births.



Founder of Lamaze International
Elisabeth Bing.



Courtesy
Bantam Books.

Rediscovering Breastfeeding



One of six founders
of La Leche League
Marian Tompson.

The glamorization of scientific progress was evident in a number of highly effective marketing campaigns, especially for infant formula. The precisely calculated mixtures came to be seen as healthier, more civilized, and more predictable than relying on breast milk. Research has since illustrated that infant formula is a poor substitute for the health and emotional benefits of breastfeeding, but in the 1950s, educated women considered it old-fashioned. Consequently, rates of breastfeeding dramatically declined, from approximately three-quarters of women in the early 20th century to just 18% by 1956. Marian Tompson wanted to change that. Together with six other white middle-class Roman Catholic women (they had 53 children between them), Tompson founded La Leche League (LLL) in 1956.

Tompson herself was deeply influenced by her own birthing experience, in which she declined medications to induce 'twilight sleep.' As reported in Kline's 2019 history of midwifery, Tompson recalled, "[T]he doctor was a little unhappy because, he reminded me, if I was knocked out, he could just slip in those forceps and have that baby out in a minute." Kline's description of Tompson's experience continues: "The actions of the hospital staff included throwing a sheet over her head (since women were knocked out for delivery, [nurses] were used to just concentrating on the other end), strapping her wrists to the delivery table, and whisking her baby off to the nursery as soon as she was born."

The LLL founders were convinced that better support for women would encourage breastfeeding and in turn, breastfeeding would benefit both child and mother. Beginning in the 1960s and continuing until today, multiple studies demonstrate not only the psychological benefits of breastfeeding, but for the child, lower risks of common childhood illnesses and lower rates of diabetes, leukemia and obesity. Mothers experience lower rates of postpartum bleeding.

To this day, LLL aims to destigmatize breastfeeding through the use of mother-to-mother communication and support. Today, more than 80% of American mothers at least attempt to breastfeed their infants, although significant disparities exist between rates for white women (75%) and Black women (59%).

Rediscovering Midwifery

As women started sharing their stories, they began to understand the loss in their childbirth experiences. Supported by a growing body of research, American women challenged the pervasive view that safety lay solely in the hands of hospitals and doctors. In doing so, they built on the foundations laid by two influential, if small, groups of midwives—the grand or granny midwives and the new nurse-midwife. Both would inform the slow reemergence of midwifery in the latter half of the 20th century.

The Grand Midwives

Beginning in the late 1930s and 1940s, midwives in the American South were an accepted solution to the limited number of doctors and hospitals. In many states, community elders attended the births of African American women—and many poor white women.

Known with respect and affection as grand (or granny) midwives, these community elders often caught thousands of babies over the course of their careers. Most were traditional midwives, which today might be referred to as a direct-entry or lay midwife. Lacking access to formal education, grand midwives typically learned their craft as apprentices, with some tracing their training back to their African communities of origin.

After about 1930, local health departments typically required licensure and physician oversight of various kinds. Although midwives were fast disappearing from urban areas, in the 1940s some Southern health departments actively recruited Black women to be trained as midwives in their own communities. For the segregated South, midwives removed the racial barriers to birthing in white hospitals, while also lessening the overall strain on understaffed health centers. For example, Arkansas trained 1,000 midwives to assist poor African American women in childbirth in 1946.

1,000 AS MIDWIVES

The State Board of Health in Arkansas is training 1,000 midwives in modern methods of childbirth until the doctor shortage is alleviated in the Black neighborhoods.

"It is the best thing we can do to meet a pressing problem," Dr. T. T. Ross, State health officer, said. "We are not trying to keep the midwife, but with a high birth rate in the rural areas of Negro sections and few doctors, it is our only solution until adequate doctors are available."

The training is administered by a trained public health Negro nurse midwife and county health nurses. The material is organized, and midwives are trained in the simple things they need to do. They learn danger signs, and in such an emergency they are directed to call a doctor.

Approximately seventy percent of all non-white births in Arkansas are attended by midwives. Health authorities decided to train the midwives to reduce the infant mortality rate in rural areas where the largest portion of the Negro population is located.

Dr. Ross hopes that within a few years there will be enough doctors so that every childbirth can be attended by a physician.

A sample article
from the 1940s.

The Last of the Grand Midwives



Grand Midwife holding

twins. (Early 1900s).

Courtesy State Archives
of Florida.

Motherwit An Alabama Midwife's Story

Onnie Lee Logan as told to Katherine Clark

"An amazing book. An amazing story. A heroic woman and the sister my mom became!" —ALICE WALKER



Courtesy Plume
Publishing.

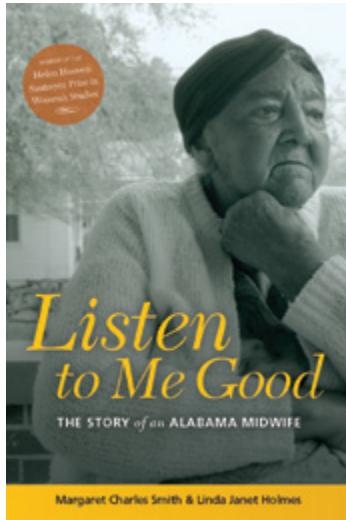
Born in 1910, it was clear from the start that Onnie Lee Logan would be a midwife. Logan was the daughter and granddaughter of midwives. Her grandmother had practiced midwifery as a slave. As a widowed mother, Logan had to supplement her midwifery income with part-time work as a maid. Nearly 20 years after catching her first baby, she received a permit to practice, as eventually required by Alabama law. Her autobiography recounts her methods for preventing lacerations and the need for stitches. Logan taught families about birth and childcare and helped with whatever was needed in their homes after the child was born. In her almost 50 years in practice, Logan delivered all the babies in the predominantly Black communities of Mobile, Alabama, and also trained many other midwives (including Mary Coley; see below). When Alabama outlawed lay midwifery in 1976, Logan was permitted to continue until 1981, when she was informed that her license would not be renewed. She famously remarked that, "They're not going to stop me from doing the gift that God give me to do. I don't be going there on no license. I be going there as a friend to help that husband deliver his baby." Onnie Lee Logan died in 1995.

ALL MY BABIES A MIDWIFE'S OWN STORY



A training film for the Georgia Health Department, directed by George Stoney (1951).

Mary Francis Hill Coley lived in Georgia from her birth in 1900 to her death in 1966. In 1930, she began training as an apprentice to Onnie Lee Logan and continued to catch more than 3,000 babies in her more than 30 years of work. A posthumous recipient of the Georgia Women of Achievement award, Coley was also an advocate for the health of Georgia's Black population. After delivery, she offered help to new families that included cooking, cleaning, and taking care of other children. Coley is perhaps best known as the midwife featured in a 1952 documentary *All My Babies: A Midwife's Own Story*, produced by the Georgia Health Department to train other midwives. The film was also used throughout the American South and elsewhere in the world, distributed by UNESCO and the World Health Organization.



Courtesy of the Ohio State University Press.

Born in 1906 in Eutaw, Alabama, Margaret Charles Smith began assisting with births from an early age, catching her first baby when she was only five years old. Much of Smith's early knowledge about birth and health came from her grandmother, who had arrived from West Africa as a slave in the mid-19th century. Smith began formal midwifery training in her late thirties. In 1949, she received a permit to practice in Green County, Alabama, becoming one of the first licensed midwives in the country. Over the course of her 35-year career, Smith delivered over 3,000 babies throughout rural Alabama, never losing a mother during childbirth. In 1976, Alabama outlawed traditional midwifery, but despite this, like Onnie Lee Logan, Smith was permitted to practice until 1981 due to her skills and reputation. *Listen to Me Good: The Story of an Alabama Midwife*, written with Linda Janet Holmes, is her autobiography. Margaret maintained her family farm until shortly before her death in 2004 at the age of 98.

Nurse-Midwives



Founder of Frontier Nursing
Service Mary Carson
Breckenridge.

In addition to the grand midwives, a small group of public health nurses began to advocate for midwifery training as early as the 1920s. Primarily white and middle-class, these women were motivated to improve health care for poor and minority families. As Kitty Ernst, one of the founding nurse-midwives of the modern era, observed, "Nurse-midwifery in the United States began with services to the poor or the new immigrants from countries where midwifery was the norm."

Two schools opened to educate the new nurse-midwife. The most prominent training institution was Frontier Nursing Service in Kentucky, founded by Mary Carson Breckenridge in 1925. Breckenridge trained women who were already nurses to become midwives, and she is considered by many to be the mother of rural health care in the United States. Initially, all of her students were sent to England to learn midwifery, itself a reflection of the differences between the U.S., British, and European systems.

In addition to catching babies, the nurse-midwives of Frontier provided family health services and perinatal care to poor women and families in rural Kentucky. Frontier's outcomes were superb. An article published in the *American Journal of Clinical Nutrition* in 2000 reports that the maternal mortality rate for the women birthing with Frontier nurse-midwives between 1925 and 1937 was some 10 times lower than for women birthing with hospital physicians either in the nearby city of Lexington or in the U.S. as a whole.

When the dangers of World War II prevented Breckenridge from sending nurses abroad, she opened the Frontier Graduate School of Midwifery and Family Nursing in Kentucky.

COURTESY MILWAUKEE JOURNAL

MILWAUKEE SENTINEL

MILWAUKEE, WISCONSIN, SATURDAY, A. M.

WISCONSIN PRESS
WISCONSIN JOURNAL

Mounted Nurses Carry Aid to Mountain Folk

Often Brave Blizzards on Horseback to Reach Backwoods Patients, Speaker Tells Convention Here.

Speaking on horseback into a microphone at a 400-seat auditorium here, Mrs. Mary Workman, mounted nurse, told the Wisconsin Nursing Service of America convention yesterday that she and others in her organization have often braved blizzards on horseback to reach backwoods patients.

This is just one of the many points made by Mrs. Workman, director of the Wisconsin Nursing Service of America, during her address yesterday. Mrs. Mary Workman, director, has been a member of the Wisconsin mounted organization of the Wisconsin Nursing Service of America since 1932.

She said that mounted nurses are particularly popular in rural areas in mountainous regions where no roads or distant trails exist.

WORKING IN AREA.

The greatest portion of many territories and mountain regions of the country are sparsely populated and "out there," she said. "The only way" mounted nurses can reach these men and women would be to ride horses, she said.

As a result, she said, the mounted nurses have become indispensable private doctors to the people in the area.

"Until we established our service," said Mrs. Workman, "the mountain folks of eastern Colorado were without medical help. There was not a single medical practitioner in the state. The people who live there would never have seen a doctor, would never have seen any kind of proper medical care."

ALWAYS ON CALL.

The Pioneer Nursing Service, founded in 1933 with a three-room office in Milwaukee, now has more than 1,000 members.

Wage Revision



Courtesy of Frontier Nursing University Archives.



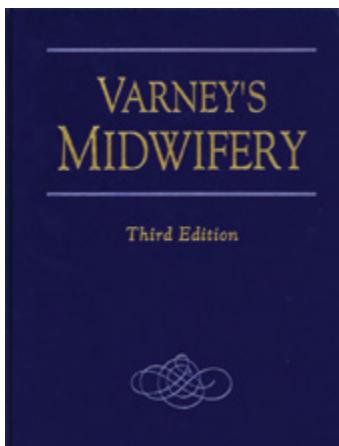
Nurse-midwives on horseback. Courtesy of Frontier Nursing University Archives.

The Lohenstine Clinic opened in New York City in 1931, becoming the second school for nurse-midwives. Even in parts of the U.S. where nurses and/or traditional midwives were permitted to serve poor women, this early group of practitioners remained small. By 1972, Georgia refused to recertify midwives, despite their decades of experience. In 1976, Alabama stopped licensing midwives, even nurse-midwives with a college degree. Similarly, in 1978 the New Jersey legislature proposed that nurse midwives could only practice in hospitals under a doctor's supervision.

The Birth of Modern Midwifery

By the early 1970s, the number of women seeking to learn midwifery was growing, whether by training as a nurse or through more traditional education. While unlicensed practice poses significant regulatory issues, it was seen at the time as a response to crisis. Poignantly, this revival occurred precisely as states outlawed the practice of traditional midwives, forcing the remaining grand midwives to attend their last births.

Traditional/Lay Midwifery



Courtesy Jones & Bartlett Learning.

Traditionally, women learned midwifery by becoming apprentices to experienced midwives. As this chain of transmission broke, women who wanted to attend births outside of hospitals began training by themselves. However, very little information was available to the would-be midwives of the modern era. Two texts in particular were most apt to be included among a midwife's supplies.

At the end of World War II, Dr. Leo Eloesser wrote a midwifery manual for rural women in China. In an effort to address a severe shortage of doctors and high infant and maternal mortality rates, the book covered sanitation, disease, fetal development, labor and delivery, and post-partum care in a train-the-trainer model. It wasn't until 1980 that Helen Varney published *Varney's Midwifery* (currently in its 6th edition). Both had multiple illustrations and instructions for non-hospital home births.

Among the most prominent of the early revivers of traditional midwifery was Ina May Gaskin. Settling in Summertown, Tennessee in 1971, May founded one of the most famous out-of-hospital, midwife-assisted birth centers in the world. Since then, the midwives at the Farm Midwifery Center have caught more than 3,000 babies.



Courtesy Milwaukee Sentinel.

LEO ELOESSER
EDITH J. GALT AND ISABEL HEMINGWAY

PREGNANCY,
CHILDBIRTH AND THE NEWBORN

A MANUAL FOR RURAL MIDWIVES



THIRD ENGLISH
EDITION

INSTITUTO INDIGENISTA INTERAMERICANO

Niños Héroes, 139

MÉXICO 7, D. F.

1973

Midwifery training manual
published by Dr. Leo Eloesser.

Nurse-Midwifery Redux



Logo for the first modern midwifery conference in 1978.

The 1950s saw the further development of nurse-midwife training. From the two training programs of the early 1900s, universities like Yale, Columbia, and Johns Hopkins opened nurse-midwifery programs. With the exception of the much older Frontier Nursing School in Kentucky, most nurse-midwives practiced in medical settings with physician oversight. Though still small in number, they nevertheless established the American College of Nurse-Midwives in 1955 to standardize education and training programs. Despite the popularity of the Women's Movement, there were no more than 70 nurse-midwives in the 1960s and 1970s.

At times, conflict arose amid the ranks of the new midwives. The importance of midwives having a nursing degree has been a point of contention until today, fueled by differences in regulatory practices across the country. Historian Wendy Kline points out that the very existence of lay midwives may have "pushed states to permit licensure of nurse-midwives (as the lesser of two evils)." While the midwifery portion of training is similar for nurse-midwives and certified midwives, the nursing degree was a kind of medicalization that women explicitly sought to avoid.

Even within midwifery, practitioners preferred hospital over out-of-hospital births. As Kline notes, this resulted in a "clear hierarchy" among midwives, "even at the point of licensure." She records that, "The first midwifery conference held in 1978 ... surfaced conflict around variations in standards for midwifery education—standards that are still debated between midwives who support birth in hospitals vs. non-hospital settings."

Attending only about 10% of births today, midwives are not yet integrated into maternity care for American women. Compared to their roles in other countries, American midwives are also limited to a narrower range of responsibilities for which they receive payment.

A New Voice

Elizabeth Stifel, a family physician and founding Medical Director of The Midwife Center for Birth & Women's Health in Pittsburgh, recalls her experience as a family physician, seeing patients and teaching in a hospital residency program in the 1970s. "At that time, there was a fairly strong movement in Pittsburgh to have women's voices heard. They were interested in having an impact on how women were treated when having babies.

I was equally very interested in how doctors were interacting with women around birth and so began volunteering to work with women's groups on how to talk to doctors – how to get them to pay attention to what a woman wanted. It's very hard to do that when you have a very medicalized system for giving birth." The women's community began working on creating a birth center and approached Dr. Stifel to be their founding Medical Director. "I had no idea what a Medical Director did," she recalled. "But, after a lot of thought (because in Pittsburgh it would have been a threat to my license if they had a major problem), I agreed." Her leadership paved the way for making the Pittsburgh Midwife Center a beloved institution and now the largest birth center in the U.S. As she describes, one of the primary advantages for birth centers is the so-called normalcy of the care. "Healthy, low-risk people need one kind of care. High-risk people need something else. Then there are most women who are in-between. If you have all in the same practice, you end up with a muddy, mid-level care. That's one of the tremendous advantages of having a birthing center. Midwives are experts in normal labor and delivery because that's what they study. Obstetricians are trained very differently."

Birth Centers: Alternatives to Hospital Births



Ruth Watson Lubic, CNM, EdD established the first freestanding birth center in the United States.

The same activism that fueled the rediscovery of breastfeeding also led to a search for non-hospital birth alternatives. Kitty Ernst recalls, "Women seeking an alternative to the medicalization of childbirth turned to the consumer driven education movements like Lamaze and La Leche League for natural childbirth and a return to breastfeeding their infants. Hospitals and physicians were slow to respond to these movements, and the rate of home birth, sometimes unattended, began to rise."

These trends undoubtedly influenced Ruth Watson Lubic's efforts to establish the Maternity Center Association in New York City in 1975—the first freestanding, legal birth center run by nurse-midwives. Having achieved excellent outcomes for its primarily middle-class white women, Lubic opened another center in a low-income Bronx community. She used a subsequent MacArthur Fellowship ("Genius Award") to establish The Community of Hope Family Health & Birth Center in a Washington D.C. neighborhood with the region's worst birth outcomes. With support from Thomas Gaiter, MD and Howard University Hospital, the center has become a model of co-location, providing a full range of family health and support services, a thriving child care center, and WIC services, in addition to midwife-assisted perinatal and birth care.

Birth centers provide healthcare services to women encompassing preventive care, pre-conception, and perinatal care, including birth. Generally, birth centers restrict their care to women with low-risk pregnancies, but recent research also suggests that birth center midwifery care may also reduce the likelihood that women will have high-risk pregnancies.

One large national program looked at outcomes for 46,000 mothers and their babies who received care from midwives at birth centers. According to the Center for Medicare & Medicaid Innovation (CMMI), the goal of the *Strong Start* program was "to test and evaluate enhanced prenatal care interventions for women enrolled in Medicaid or CHIP who were at risk for having a preterm birth." Many women in the pilot groups were considered high risk (e.g., 21% had a previous pre-term birth; 42% had symptoms of depressions and/or anxiety; more than a third were obese and an addition 26% were overweight; 20% had a prior pre-term birth). Outcomes for women seen in one of the following groups were compared: (1) maternity care homes (enhanced prenatal care offered by an interdisciplinary team); (2) group prenatal care (provided primarily by practices that were part of hospital systems); and (3) care with midwives at birth centers. Those seen at birth centers had lower costs relative to similar Medicaid beneficiaries and better birth outcomes, including lower rates of preterm birth, fewer low birthweight babies, more vaginal births after caesarean sections, and fewer caesarean sections.

Today, the American Association for Birth Centers reports that there are more than 345 freestanding birth centers in the U.S. Their numbers grew by 76% since 2010, and in 2016, almost 20,000 babies were born at birth centers.



'Celestial Weaving Girl' by Lucas Stock
at the Pittsburgh Midwife Center.

Conclusion

Starting slowly in the 1950s and accelerating into the late 1960s, advocates began to change the birth experience for American women. Clearly, their activism hasn't (yet) reduced the general medicalization of birth, nor has it driven down rates of maternal morbidity and mortality. But the seeds of change planted in the 1950s ultimately brought about a critical transformation in women's health assertiveness, supported by doctors who empowered them to choose among options, including natural childbirth and birthing centers. Even the obstetrical medical specialty society ACOG endorses midwives as an acceptable alternative for delivery under normal circumstances. The nation may indeed be looking backwards to find the future.



Women's March in D.C. (2017).
Courtesy Polly Irungu.

SECTION IV.

A New Model of Care: But Only New for America

“ It’s not hard to muster the political will to look at infant deaths. Somehow, it’s a little less universal to look at mothers as well. It’s a political reality: As soon as women become pregnant, they become vessels for the baby, rather than people who have value on their own.”

- Abby Koch, Senior Research Specialist, Center for Research on Women and Gender at the University of Illinois

Women activists can celebrate a glass half-full and a glass half-empty. They achieved much in giving women broader options to birth as they choose. However, if the history of social movements is a guide, women will have to be confident, informed, and sometimes strident to overcome routine medical care.

The practice of maternity care teams, including the use of midwives, social workers, and doulas (professionals who offer mental, physical, and emotional support during pregnancy and after birth) face other challenges—resistant payment systems, scope-of-work restrictions, and an overall shortage of trained and certified professionals. Above all, the United States lacks a comprehensive approach to pregnancy. In other nations, universal coverage emphasizes interventions to address social, emotional, and financial needs as appropriate, dramatically reducing maternal and infant mortality.

Despite improvements in technology and pharmacology, some adverse outcomes are best addressed through basic changes in policy and practice. Those reforms begin by redefining a “successful pregnancy” to include women’s and family needs from pre-conception through an infant’s first months of life.

In a majority of states, Perinatal Quality Collaboratives (in Pennsylvania, the PQC is staffed by the Jewish Healthcare Foundation) offer hope in this regard. Heeding national and international data, representatives from multiple birth sites collaborate to create enhanced systems integrating the most effective medical practices along with appropriate emotional, financial, and social supports.

	Maternal Mortality (estimated 2017 rate, per 100,000 live births)	Neonatal Mortality (estimated 2019 rate, per 1,000 live births)
Netherlands	5	2.1
Australia	6	2.3
United Kingdom	7	2.6
United States	19	3.5

<https://data.unicef.org/topic/maternal-health/maternal-mortality/>
<https://data.unicef.org/topic/child-survival/neonatal-mortality/>

Where universal health coverage and national health systems exist, it may be easier to standardize and direct resources to best-practices. Equally notable, wherever comprehensive, affordable, and “rational” systems are designed, midwives are an integral part of maternity care. The question is, why?

In the numerous interviews undertaken for this publication, several common themes emerged that might answer the query. In structuring this section, observations have been grouped based on the Midwives Model of Care™, a set of four principles which define essential characteristics of the best models of care. These features are fundamental to countries with the most successful maternal health systems and form the backbone of recommendations for a broadened approach to birth in the U.S.

Treating Pregnant Women and the Family Unit

The first element of the Midwifery Model of Care is *monitoring the physical, psychological, and social well-being of the mother throughout the childbearing cycle*. Typical maternity care in the U.S. focuses primarily on the medical dimensions of pregnancy and birth. Physicians provide crucial interventions when a pregnancy exhibits specific complications. As highly skilled surgeons, they are most valuable in dealing with emergent conditions. But for many pregnant women, even those with significant social, psychological, or financial challenges, physicians are the only point of contact. This creates stress for both the patient and the doctor.

By contrast, in most developed countries, the first and often primary point of contact for pregnant women is a midwife. Midwives provide continuous coaching, assessment, and observation, including home visits throughout the perinatal period. In sum, midwives can spend more time with each woman.

Speaking about a woman’s first hour-long prenatal visit, midwife Jatolloa Davis insists, “I can’t take care of this human being growing inside of you if I don’t know all of you, and so I’m asking about where you grew up, what you do for a living, who is your partner, who is going to be your birth person, your other kids, your other births. Tell me about your family history, tell me about whether you have a history of depression, anxiety, abuse. These are all going to help me make a care plan for you.”

Visits like this allow midwives to understand women’s larger life circumstances. Her living situation, income, and employment all influence the success of her pregnancy, and the ultimate health of her family. “If you want to get pregnant at any point, you need to talk about what’s happening in your body before that. You



Midwife
Jatolloa Davis, CNM.

can't focus on the human being growing inside you if you are taking care of your mom on her sick bed," asserts Davis. "That's going to affect the way that you labor and what happens as the child develops."



Clinical Director
of the Midwife
Center for Birth and
Women's Health
Ann McCarthy, CNM.

Like birth centers around the country, The Midwife Center for Birth and Women's Health in Pittsburgh provides their clients whatever is needed for support. Ann McCarthy, Midwife & Clinical Director, notes, "We partner with Mobile Moms, a Diaper Bank, and work to ensure clients have access to healthy food. We aren't just about medical outcomes. We look at social indicators: Is the client depressed or anxious? Do they have adequate social support? We offer home visits and work with the Nurse-Family Partnership. We can and do affect health outcomes by looking at the whole picture."

Midwives view their role as *enabling*. As Kitty Ernst explains, "People ask me how many 'deliveries' I have done, and I say three: my children. If you want to know how many women I attended and cared for ... that's the question. The mother delivers, not the midwife. And a mother needs someone to encourage, support her, tell her she can do it." For a midwife, a mother "owns" her birth experience. Ruth Watson Lubic, one of the founding nurse midwives in the United States, describes the difference most succinctly. "Midwives *attend* women while they give birth. Obstetricians *deliver* women." This psychological support can also be provided by doulas, mental health professionals, and varying types of community health workers.

Weaving a System of Integrated Care

The second element of the Midwifery Model of Care is *identifying and referring women who require obstetrical attention*. As in Australia and the Netherlands, midwives like Davis conduct risk assessments that trigger an array of medical, psychological, social, and economic supports.

Standardized, regular risk assessments are an essential part of an integrated system that allows midwives, nurses, and obstetricians to provide seamless care for the duration of a pregnancy. In the Netherlands, midwives use a list of 124 medical indications to assign all women to risk categories during pregnancy. Women in the low-risk category receive care from midwives and can deliver in the hospital or at home.

Medium-risk women will be seen by an obstetrician but can still elect to be attended by a midwife. While they are not required, they are strongly encouraged to deliver in a hospital. High-risk women must be attended by an obstetrician and must deliver in a hospital.

Rather than structuring care around rare medical complications, risk analyses assure that each woman receives the amount of needed care. As former Medical Director of the Pittsburgh Birth Center Dr. Elizabeth Stifel notes, "Healthy, low-risk people need one kind of care. High-risk people need something else. Then there are most women who are in-between ... Midwives are experts in normal labor and delivery because that's what they study. Obstetricians are trained very differently."

In instances when midwives are the primary maternity care providers, they should be able to seamlessly connect to, collaborate with, and transition care to other experts. Such 'warm handoffs' lower the stress for women who know that their care will ultimately be provided by those who work in collaborative teams that include advanced medical expertise if needed.

While there is still a long way to go, more midwives in the U.S. are joining hospital childbirth teams and may even take the lead for uncomplicated deliveries. States like New Mexico, ranked high in its integration of midwives, provide other compelling midwifery models. Recalling her experience as a midwife in Las Cruces, Emily McGahey describes, "I worked at a community health center where a truly collaborative system of midwives, physicians, and even a pediatric practice worked together within the same building."



Midwife
Emily McGahey, CNM.

"I worked at a community health center where a truly collaborative system of midwives, physicians, and even a pediatric practice worked together within the same building."

- Emily McGahey, CNM

Caring Before, During, and After Pregnancy

The third element of the Midwifery Model of Care is *providing the pregnant woman with individualized education, counseling, and prenatal care, continuous hands-on assistance during labor and delivery, and postpartum support.*

Recommended prenatal visits in the U.S. begin between the 8th and 10th week of pregnancy, and typical postpartum follow-up happens once, six weeks after birth. But a healthy pregnancy begins before conception, and for some women, continues well into the year following birth. From birth control to pre-conception counseling, midwives support women in planning for, experiencing, and returning to routine following pregnancy, even as their family unit has dramatically changed. This expansive view of birth provides multiple opportunities for midwives to organize care around each woman's specific needs.

Susan Heinz, CNM, DNP, Director of the Corvallis Birth & Women's Health Center in Oregon, notes that, "Probably the biggest deficit in this country's maternity care is around postpartum care ... We discharge her from the hospital and then don't see her again until her six-week visit where we say ... 'OK, you're healed now ... Where is the process of supporting families as they become parents, as they expand their families, as they learn about themselves and each other and their child?'"

To accommodate these needs, some midwives in other countries have developed specialized skill sets in areas such as lactation counseling, psychological assessments and support, and mother-infant bonding and child development.

The consequences of losing contact with new mothers after birth are serious. A March 2019 *New York Times* opinion piece on postpartum depression (which affects about one in nine women) provides a window into an American woman's birth experience: "Pregnant women are often pickled in horror stories about birth, then subjected to unnecessarily intrusive care ... One in three wind up with major abdominal surgery. Then they are sent home with a newborn, typically without support."



Director of Corvallis Birth
& Women's Health Center
Susan Heinz, CNM.

"Where is the process of supporting families as they become parents, as they expand their families, as they learn about themselves and each other and their child?"

- Susan Heinz, CNM

Of further concern, according to 2015 data, "a quarter of women return to work in two weeks ... and most won't see their doctor again for six weeks."

The American College of Obstetricians and Gynecologists (ACOG) agrees that the 6-week follow-up is arbitrary. Instead, ACOG recommends team-based postpartum care, beginning with at least a blood pressure check in three to 10 days, contact with the mother at three weeks after childbirth, and a comprehensive postpartum visit covering a range of health, mental, physical, and social health issues at a time appropriate for each woman.

ACOG's *recommended* approach is largely standard in other developed countries, and often includes a home visit. For example, comprehensive postpartum support is available to all women in the Netherlands, where maternal mortality rates are one-fifth of U.S. rates.

In a February 2020 interview on the *Midwifing America Podcast*, Susan Heinz notes, "Every woman, every woman, regardless of where or how she gave birth... received six hours of home visits for seven days." The midwife attends the initial home visit, but additional birth assistants also do everything from laundry to shopping to meal preparation. Assistants might even take other children to the park. Successful systems may also include lactation consultants, doulas, peer counselors, community health workers, and psychologists as part of the continuing care team.

Similarly, guidance from the U.K.'s National Health Service informs new mothers that midwives will make a plan for home visiting until the baby is at least 10 days old. As the University College London Hospitals (UCLH) explains to women who've just given birth, "Midwifery care may apply for the whole or part of the postnatal period. In the absence of any physical, emotional, social, or psychological risk factors or concern, it is anticipated that women will be discharged to the care of the GP and Health Visitor [nurses or midwives with additional public health training] by day 10-14 following birth ... If everything is well with you and your baby and depending on the type of birth you've had, you will normally be discharged home between 6-24 hours after birth to the care of the community midwifery team, who will continue to support you in your own home. The first community postnatal visit will be done by a midwife in your home who will discuss and agree upon a date for further visits."

All told, U.K. mothers receive at least five "universal home visits" from late pregnancy until a developmental assessment when a child reaches two years of age. Usually these visits are in the home, but parents may also be invited to join groups run by the health visitor. As a 2017 *ProPublica* report concludes, "the average mother in the U.K. receives more comprehensive and consistent care, ranging from earlier prenatal appointments to closer monitoring after she gives birth, than does her American counterpart."

Beyond Medicalization: Minimizing Intervention

The final element of the Midwifery Model of Care is its dedication to *minimizing technological interventions*, allowing labor to proceed naturally. In a 2018 PLOS One report, researchers found that in U.S. states with greater integration of midwives, women were more likely to experience spontaneous vaginal births and vaginal births after caesarean. Such states also had significantly lower rates of caesarean sections, as well as fewer preterm births, low birthweight infants, and neonatal deaths.

As described above, *Strong Start* evaluated outcomes for low-income women who were supported by midwives at birth centers. Women cared for by midwives experienced significantly fewer interventions, lower rates of preterm birth, fewer low- birthweight babies, fewer caesarean sections, and more vaginal births after caesarean sections.

Similarly, a 2013 article in *The Journal of Midwifery & Women's Health* details a study following 15,574 women planning to give birth at one of 79 midwife-led birth centers. The research compared their outcomes to those of similar, low-risk women who received prenatal care in other settings. For those who began labor at a birth center, C-section rates were 6% compared to 25% for similar, low-risk women who delivered in hospitals. Additionally, 93% of women at the birth center had a spontaneous vaginal birth (i.e., no induction)—double the average for low-risk women.

Multiple approaches will be needed to improve the experience and safety of pregnancy and birth in America. However, the U.S. can learn from countries that incorporate a broad team of physical, social, and emotional support professionals into primary women's health and maternity care.

Midwives, Maternal Mortality, and Women of Color

An especially daunting challenge for the U.S. is improving outcomes for women of color, who currently face the highest rates of maternal mortality and morbidity. On the one hand, many Black women have health problems that should make physician-attended hospital births safer. On the other, Black women are dying in hospitals with standard obstetric care. For many, a midwife birth is not an alternative.

The challenge of getting midwives to at-risk Black women can be seen through the eyes of midwife and naturopathic physician Abigail Aiyeola. A first-generation Nigerian-born American, Dr. Aiyeola points out that she was present at many births before attending a single Black woman. The barriers are significant. She notes, "I am part of two professions, out-of-hospital midwifery and naturopathic medicine, that are both privileged professions that are not covered by insurance. And many Black women are already risked out of midwifery care. Just being a Black woman in the U.S. raises my risk levels. But the women who are risked out of home and birth center midwifery care are also being risked out of *hospital* midwifery care—by obesity, high blood pressure, and diabetes."

Other countries are more flexible about access to midwifery care as an adjunct to medical oversight for high-risk women. In fact, although midwives attend nearly all low-risk pregnancies in the U.K., they also increasingly attend women planning caesareans for medical reasons as part of medical teams. The National Health Service (NHS) plans to phase in specific improvements that will enable women, especially women experiencing high-risk pregnancies, to receive midwife supportive care through delivery. The NHS is responding to multiple studies indicating that a "long-lasting relationship with a midwife can reduce premature births and the need for medical intervention" during labor for women with complex needs, including poverty.

This is not to suggest that midwives are the sole solution to the racial and ethnic disparities in U.S. birth outcomes. However, in countries like the U.K., outcomes are consistently better for any woman with common complications such as pre-eclampsia and hemorrhage (caused from high blood pressure), regardless of race or ethnicity.

The midwives interviewed for this publication believe that Black midwives in particular can improve birth outcomes for Black women. They emphasize the importance of being supported by providers who are more likely to understand the full life experience of the women they serve.



Dr. Abigail
Aiyeola, ND, LM.



Midwife Ebony Marcelle is the Director of the Birth Center at the Community of Hope in Washington, DC. In a 2019 interview for the podcast *Birthing America*, she explained, "Black folks need to see people that look like them taking care of them. That doesn't mean that someone else can't take good care of them. What I'm asking for is, if you aren't a person of color, be aware of how you are presenting information. Is it culturally aware? Are you using trigger words? Are you harming this woman or someone in her family with your interactions?"

Jatolloa Davis concurs. "Having a patient of color in front of me, it matters to them that I look like them. Because we walk the world in the same way. You understand what I'm going through, that level of stress that I'm feeling on a day to day basis. Representation matters everywhere."

Certain care policies can also help. For example, one of Marcelle's first changes upon becoming director was to see late patients. Especially working with women who have transportation problems and housing issues, the policy creates continuous access to care. She recounts, "I would hear women say, 'No matter how late I am, my midwife always sees me.' That means so much to me. The reason for the lateness is important to know. It was an opportunity to home in on caring for these women in a different way."

Direct of the Birth
Center at the
Community of Hope
Ebony Marcelle, CNM.

Conclusion

The importance of providers who listen, who empower, and form bonds with women even after birth, may be important in achieving parity of birth outcomes in the U.S. For the most vulnerable populations, these extended support systems may prove especially critical.

"If you aren't a person of color, be aware of how you are presenting information. Is it culturally aware? Are you using trigger words? Are you harming this woman or someone in her family with your interactions?"

-Ebony Marcelle, CNM

SECTION V.

Toward Comprehensive Maternity Care in the United States

“ *Birth is not only about making babies.
Birth is about making mothers.*”

- Barbara Katz Rothman, PhD

Searching for the causes of and solutions to the maternal mortality crisis in the U.S. led to comparing differences in countries where outcomes were much better—from Australia to the Netherlands to the U.K. One obvious feature stood out: In each case, midwives were fully integrated healthcare professionals with primary responsibility for women’s maternity care.



Photo by 东旭 王.

In exploring the reasons for the disappearance of midwives in the U.S., the nation could be seen embracing complex medical interventions, technology, and drug discovery over biological processes. This has played out in the treatment of multiple conditions and often without sufficient evidence.

For example, in the 1930s through the 1950s, Americans captivated by the intense energy released from splitting the atom sought to use the new tool to treat illness. Tonsillitis became a target. Many children had their tonsils radiated to correct childhood ear, nose, and throat infections that could be outgrown. Within a few years, as children moved into adulthood, this method had tragic results as radiated tonsils led to thyroid and thymic cancers. During that same period, many surgical tonsillectomies were performed where the condition didn’t justify the risks from surgery and general anesthesia.

Thalidomide, a sleep-inducing drug was prescribed for the nausea that accompanies pregnancy; women gave birth to children with missing limbs. Infant formula was favored over breastmilk—even for women who could have successfully breastfed, depriving babies of valuable immunities and putting infants in the developing world at risk. Hospice advocates fought for an alternative to ending life in a sterile Intensive Care Unit. Now patients can choose how they die and pass in the comfort of their own homes with friends and family.

What can be learned? Interfering with natural bodily processes should be done with great care and compassion, evidenced by strict clinical trials, and with a high regard for what can cause harm. Additionally, changing routine processes must often come from outside the medical establishment. The grassroots movements that reinstated breastfeeding, natural childbirth, and midwifery belong to the women activists, whose work is far from done.

This *ROOTS* continues the conversation. What are the outcomes of countries that directly question common assumptions in the U.S. system? Is it time to reinstate the midwife as a full and consequential member of the maternity team? In this Year of the Midwife, should the U.S. remove barriers to a more comprehensive approach to childbirth?

The recommendations below focus on solutions to grow and sustain American midwifery based on the experience and practices highlighted in this *ROOTS*. Currently, only about 10% of U.S. births are attended by midwives, but states

vary widely. In Alaska, 27% of births are attended by midwives, whereas in Arkansas, the number is just 1%. By contrast, in European countries, midwives on average attend 40% or more of all births and provide additional services for even more.

The Beginnings of Universal Maternal Health Coverage

Before turning to suggested reforms, it is important to note that the crisis of maternal mortality cannot be solved by midwives alone, nor by policies that enable them. Changes in broader healthcare regulation, payment, and practice are also essential to creating a comprehensive system of maternal care. So too are broader social reforms to address structural inequality and systemic racism.

Short of adopting national healthcare coverage, the U.S. can at least protect and extend expanded Medicaid eligibility. At present, Medicaid provides insurance for nearly half of all U.S. births. A February 2020 analysis published in the journal *Women's Health Issues* finds that maternal mortality is significantly lower in states that have expanded Medicaid eligibility.

In the upcoming election, much talk will focus on a new 'public option' plan. It is important that the new plan offer flexible benefits for maternity care, covering beyond routine medical procedures.

While all hospitals have been affected by a storm of challenges from falling birth rates to rising costs of birth, low Medicaid reimbursement has driven the closure of obstetric units in hospitals and entire regional hospitals. A 2017 article in *Health Affairs* found that more than half of rural counties had no hospitals with obstetric services in 2014. These are often located in states with large Black populations. In fact, 20% of the rural population, or about 10 million people, are African Americans—exactly the women at greatest risk.

As an *American Academy of Family Physicians* editorial in October 2019 suggests, solutions should include coverage for broader referral networks to social, housing, financial, and psychological services, in addition to addiction treatment centers and telemedicine consultations.

Finally, it is critical to extend Medicaid coverage to mothers beyond 60 days postpartum; only half of maternal deaths occur within the first 42 days postpartum. ACOG is actively lobbying for the reform. Currently, only California has a start-date for added coverage. Pennsylvania is among 12 other states actively considering the rule change (i.e., pending legislation, waivers, or governor/budget proposals).



"Save rural hospitals from Medicaid cuts."
Source: Afagen.

Develop Robust Maternal Mortality Review

Health disparities in the U.K. are probably lower because every woman has access to free, standardized health care and prescriptions through the National Health Service. Equally critical though are national policies aimed at continuously improving quality. U.K. obstetricians follow standardized and regularly updated procedures for managing pregnancy and birth complications—information that is also available online to women as well.

Perhaps most importantly, in the U.K. and Australia maternal deaths are treated with great seriousness—not only as a tragedy, but as a prevention opportunity. Describing the U.K.’s robust inquiries into maternal deaths, writer and physician Kate Womersley notes in her 2017 *ProPublica* investigation that such reports focus not on assessing blame or determining financial liability, but rather on discovering practices that could have saved women’s lives.



MBRRACE-UK is a collaboration led from the National Perinatal Epidemiology Unit (NPEU) at the University of Oxford.

These in-depth confidential assessments, run by MBRRACE-UK (Mothers and Babies: Reducing Risk through Audits and Confidential Enquiries in the United Kingdom), were introduced in the U.K. after World War II by British physicians who were impressed with the U.S. system. Results are published once every three years and include data on every maternal death that occurred during pregnancy through six weeks after birth, with additional discussion about maternal deaths that occur up to a year after delivery.

When any woman dies, the delivery unit responsible for her care (physicians, nurses, and midwives alike) are mandated to submit a full report. The findings are recorded as cases, including details on what caused and what could have prevented the death. The human tragedy is emphasized by the report’s insistence that the number of children who lost their mothers be included. These findings are reviewed for root causes by volunteer doctors and midwives, who can then recommend mandated changes in care.

To ensure that new protocols are being implemented, a Care Quality Commission visits birthing units to ask doctors and midwives about their activation. Units also practice new protocols, engage in simulated emergencies, and update veteran physicians. Residents and interns wishing to become ob-gyns must be able to answer questions on the MBRRACE inquiry on their qualifying exams. When a spike in fatalities occurs in Australia, the health system activates a SWAT team, engaging a wide range of local health professionals to identify practices to lower the surge. ACOG offers best practice recommendations for mortality investigations, but these are voluntary.

Three Kinds of Midwives:

50 Different States

Throughout history, a recurring objection to midwifery has revolved around training. Is it adequate? Are there standards? Who licenses these professionals? Complexity can become a roadblock as each of 50 states has its own rules and laws governing midwifery. Even the nationally recognized Certified Nurse Midwife designation confers different levels of practice privileges depending on the state. Here is a brief taxonomy of midwifery in America today.

Certified Nurse-Midwife (CNM)

CNMs are advanced practice nurses, registered both as nurses and as midwives. It can take up to eight years of education to become a CNM—four years in a baccalaureate program, one year in a nursing program, and up to three years studying midwifery. CNMs are eligible to become licensed in any of the 50 states. In half of U.S. states, they can operate their own independent practices with full autonomy and the ability to write prescriptions. *An additional seven states allow independence.*

Finally, in 19 states (including Pennsylvania), CNMs must enter into a written agreement with a collaborating or supervisory physician as a condition for licensure, reimbursement, hospital credentialing, and clinical privileging. The agreements specify exactly what actions, interventions, or therapies require the general or direct supervision of the physician. Most CNMs practice in hospitals. Medicaid reimbursement for CNM care (but not other kinds of midwives) is mandatory in all 50 states, though reimbursement rates vary widely. Private insurance reimbursement is mandatory in most, but not all states.

Certified Midwives (CM)

CMs are certified by the American Midwifery Certification Board and educated in midwifery at the graduate level. While they must meet exactly the same clinical competencies and take the same exams as CNMs, they are not required to become nurses. CMs are legally allowed to practice in fewer than 10 states.

Certified Professional Midwives (CPM)

CPMs, sometimes called direct-entry midwives, may or may not attend an accredited midwifery program and may or may not meet the same clinical competencies as a certified nurse-midwife or certified midwife. CPMs must have a high school degree or equivalent and complete a certifying exam that differs from the CNM/CM exam. There are two paths to become a CPM. In one path, a CPM may apprentice with a midwife and complete a Portfolio Evaluation Process (PEP). Alternatively, a would-be CPM may attend one of a very few accredited CPM programs in the U.S. Both routes would qualify a candidate, if approved, to take the North American Registry of Midwives exam. CPMs are required to have the knowledge and experience to attend deliveries in out-of-hospital settings, like homes and freestanding birth centers. As of October 2019, CPMs are licensed to practice in 35 states.

National Midwife Credentialing and Certification



Dr. Ginger
Breedlove, PhD,
CNM.

In most of Europe, Australia, and New Zealand, there is national agreement on the educational and clinical standards midwives required to practice. It is noteworthy that midwives need not be nurses in many of the surveyed countries.

By contrast, confusion reigns around who can serve as a midwife in the United States. In some states, midwives require a nursing degree; in others, they do not. In some states, midwives are required to be licensed to practice, but not in others. Not only is this dizzying, but it hampers confidence in midwives among consumers and physicians alike.

For example, Certified Nurse-Midwives (CNMs) and Certified Midwives (CMs) take the same national board midwifery exams and pass the same clinical competencies, although only CNMs are *also* registered nurses. Despite the equivalence in their midwifery training, CNMs are currently licensed to practice in all 50 states, but CMs in less than 10. On the other hand, Certified Professional Midwives (CPMs) require just a high school degree or equivalent and may apprentice with a single midwife then take an exam. Many therefore do not gain their education through an accredited program.

There are also significant variations in the conditions under which midwives may practice. While the Affordable Care Act requires that Medicaid cover the services of CNMs, states vary whether their Medicaid program covers non-nurse midwives. Moreover, Medicaid reimbursement of CNMs is widely discrepant by state, with some reimbursing only 65% of the physician rate and others reimbursing at 100%.

Finally, states vary in the degree to which they grant authority to CNMs to practice independently. However, in 19 states, including Pennsylvania, CNMs must enter into a written agreement with a collaborating physician. According to the American College of Nurse-Midwives, the agreement must specify exactly what actions, interventions, or therapies require the general or direct supervision of a physician. Seven states permit autonomy but require a collaborative agreement with a physician for the purpose of prescribing medications.

As one Pennsylvania nurse-midwife noted, collaborative agreements can pose barriers to women's access to midwives. For example, if the physician isn't comfortable with the midwife providing long-acting contraceptive care, then the midwife can't provide that service. Similarly, if a birth center wants to provide pediatric care, it needs a pediatrician willing to provide a collaborative agreement. Finding physicians willing to sign such agreements becomes harder outside larger cities where there are fewer doctors, limiting women's access to critical primary care.

Luckily, there are other models of education to emulate. Australian midwives receive standardized training from accredited schools in one of two programs. The three-year undergraduate Bachelor of Midwifery training does not require a nursing degree, requiring instead that half of the educational time be spent in clinical placement. The other track is to complete a full three-year Bachelor of Nursing, then take an additional 12 to 18 months of training in clinical midwifery. This streamlined approach ensures that all midwives have standardized training.

The Netherlands has similar requirements. All midwives must complete a four-year Bachelor's degree in Midwifery at one of four direct-entry (i.e., non-nurse) midwifery colleges. In both countries, midwives can practice independently, and their services are reimbursed by insurance.

The scope of practice and various roles that midwives can perform are confusing for health professionals, policymakers, payers, health systems, consumers, and would-be midwives. As noted by Ginger Breedlove, PhD, CNM, and past president of the American College of Nurse-Midwives, "the title 'midwife' in the U.S. has multiple meanings. That does not help efforts to promote, scale up, and sustain the profession."

National standards should be implemented to address the confusion. There may be merit in following the minimum standards proposed by the International Confederation of Midwives (ICM), a non-governmental organization representing midwives and midwifery around the world. Breedlove herself has submitted a proposal to the Uniform Law Commission which may move us in the right direction.

The goal should be to place women at the center of care models that institutionalize comprehensive perinatal care. National certification and uniform title usage for pathways to midwifery make it more likely that midwives can practice to their full scope, make independent decisions (and be accountable for them), receive equitable compensation, and access adequate resources.



The World Health Organization has designated 2020 as the International Year of the Nurse and the Midwife in honour of the 200th anniversary of Florence Nightingale's birth.

Expand Access to Birth Centers

The findings from the Center for Medicare and Medicaid Innovation's (CMMI) evaluation of the *Strong Start* program suggest that birth centers, even for higher-risk women, produce positive outcomes. There is also evidence that the costs for women insured by Medicaid are much lower. A 2014 *Urban Institute* study found that Medicaid could save \$11.6 million per 10,000 births per year (in 2008 dollars). If even a quarter of Medicaid births took place at a birth center in 2018, Medicaid could save more than one billion dollars per year.

And yet, the costs of building such centers and the lack of public financing remain an impediment to their growth, as does the unwillingness of some private insurers to cover care in birth centers.

Integrate Midwives in Comprehensive Healthcare Teams



Previous sections have discussed the importance of standardized and comprehensive risk assessments. They not only trigger an array of needed non-medical supports, but they help identify the appropriate team for a woman throughout her pregnancy and postpartum period. Ideally, midwives should be part of collaborative care teams, though they may also work in independent practices. This ensures that even women with medical conditions like high blood pressure or diabetes—those who might be 'risked out' of midwifery delivery—can receive both the medical expertise of a physician and the care continuity of a midwife during pregnancy, birth, and beyond.

Sonya Borrero, MD, Professor of Medicine and Director of the Center for Women's Health Research and Innovation at the University of Pittsburgh, underscores the importance of more seamless teams: "Integrating midwifery into comprehensive care models would allow for re-orientation towards wellness, less instrumentation/ intervention, a leveraging of therapeutic human relationships, and more agency in childbirth—all of which are important in their own right—without evidence of worse outcomes and likely at much reduced cost."

Her views are echoed by ACOG. In June 2018, ACOG and the American College of Nurse-Midwives updated a 2011 joint statement concerning practice relationships between obstetrician-gynecologists and CNMs and CMs. The statement advocates for collaborative practices and team-based care between OB-GYNs, CNMs and CMs. Importantly, it notes that OB-GYNs and CNMs/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." It further affirms the commitment of both organizations "to promote the highest standards for education, national professional certification, and recertification, and the importance of options and preferences of women in their health care."

Better integrated systems also assure that transfers from one level of care to another are conducted with maximum respect for the health and safety of the laboring woman. Research by Vedam and her colleagues published in 2014 has called for implementing clear national transfer guidelines across disciplines.

Wider adoption of *Smooth Transitions*, a Washington state-based quality improvement program enhancing the safety of these hospital transfers, could be of great value. Managed by the Foundation for Health Care Quality, the program works with community midwives, hospital providers and staff, and EMS personnel to build a collaborative model of care for women who choose out-of-hospital births. The aim is to improve communication and collaboration between community midwives and hospital providers, while also decreasing practitioner liability.



Courtesy Ebony Marcelle.

Provide Tuition and Cost-of-Living support for Midwives of Color

A 2014 article in the international *Lancet Global Health* journal suggested that "increasing collaboration by integrating midwives into healthcare systems could potentially prevent more than 80 percent of maternal and infant deaths." Historically marginalized women, particularly those subject to systemic racism, could especially benefit from a dedicated and skilled advocate during pregnancy, birth, and in the postpartum period. And yet, the barriers to recruiting, training, and retaining midwives of color are myriad and help explain why Black women make up approximatively 5% of nurse midwives and fewer among midwives overall.

Recruiting women of color to become midwives is enormously challenging. Not only does the most accepted credential require eight years of training and enormous tuition costs, but the work itself involves wildly variable work hours.

As Dr. Aiyeola notes, "Often times a person, especially in underserved communities, may not have the resources to go into a midwifery program. It requires years of study, coursework, financial resources and clinical training. And it means being on call. If an aspiring midwife has children and doesn't have a vehicle to attend births, time to be on call, and so many other things—just to get through the program—that's an obstacle to becoming a midwife."

Nurse-midwifery training is long and involves adopting a lifestyle that can be difficult to manage with young children at home. The table below shows the cost of midwifery education that someone might pay living in or near the Jewish Healthcare Foundation's location in Pittsburgh. A nurse-midwife will require eight years of training for a bachelors, nursing, and midwifery degree. Perhaps it should be no surprise that there is a currently single practicing Black midwives in Pittsburgh.

University	Number of Credits	Total Tuition Cost	Mandatory Fees	Approximated Total
George Washington University	47 (52 RN to BSN)	\$65,565 \$72,540 (RN-BSN)	\$2,190	\$75,855* \$82,830* (RN-BSN)
University of Cincinnati	57	\$42,123	\$8,009	\$58,232*
University of Pittsburgh	102 (BSN-DNP only)	\$124,155	\$2,850	\$135,105*
Frontier University	64	\$38,400	\$4,080	\$54,180
Thomas Jefferson University	62	\$64,350	\$1,922	\$74,372*

* For a completed degree and estimated cost of living. Travel expenses only applicable to Frontier University. Part time tuition costs differ slightly.

Source: Prepared by Jewish Healthcare Foundation staff.

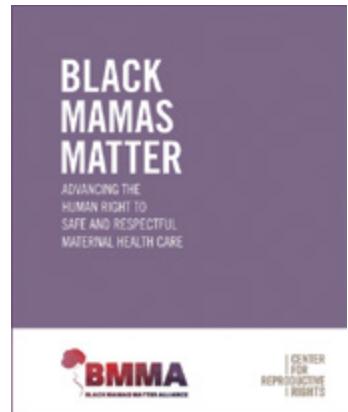
Racism has been identified as a contributor to poor outcomes in pregnancy, particularly as it influences healthcare providers' perception of patient's responses and symptoms. Some findings indicate that mistreatment at the hands of healthcare professionals is twice as likely to be experienced by Black women compared to their white counterparts. There is evidence that programs aimed at reducing prejudice and discrimination, as well as efforts to increase the health workforce diversity, can help to address racial and ethnic health disparities.

In its toolkit, the Black Mamas Matter Alliance (BMMA) suggests numerous approaches to increasing diversity in the health workforce—all of which apply to midwifery. These include “recruitment, scholarships and grants, housing or childcare assistance during training, mentoring programs, and state loan forgiveness programs.” Other important strategies include ensuring that insurers cover women’s health services provided by both licensed midwives and doulas

and supporting the further development and testing of new models of care like maternity medical homes.

Finally, community education is also important. Too often, Black women don't access midwifery care because they aren't aware of their options. "This was knowledge supposed to be passed down, but there's a lot of misinformation out there, and information that we don't have has been stolen from us," said Kendra Burrell, a doula in Alabama quoted in a 2018 Huffington Post article. "I thought midwifery was literally a white woman thing." It's a stunning contrast grand midwives in the South who were among the most skilled and most prominent in the 20th century.

Ebony Marcelle articulates the challenge clearly, "I would say to every single midwifery training program that has midwifery students of color—hold on to them like precious diamonds! Give them extra support ... They need it! They need it in order to survive and to get through [the training]. I'm talking to midwives who have been to clinical preceptorships where the patient has told the attending midwife, 'I don't want to ever be touched by her [the Black trainee].'"



Courtesy
Black Mama's Matter.

Parting Reflections

Returning midwives to their historic role of standing with women as they carry, bear, and nurse children is an alternative to what has become a highly medicalized system of birth in the United States. Given rates of maternal and infant mortality, it's a model worth pursuing.

It's important that payment systems have the flexibility to provide every pregnant woman with the services she requires for a successful outcome. A comprehensive approach with a team of caregivers, options for birthing, and support during the "fourth trimester" is long overdue. Within the entrepreneurial culture of American healthcare, change will first mean admitting, then challenging the financial incentives for providing highly medicalized care.

The final edits to this *ROOTS* are being completed as a new variation of an ancient cold virus has shuttered the largest and most advanced economy in human history and overwhelmed its hospitals and public health system. In so doing perhaps, this global pandemic is also giving us the opportunity to reflect on some of the most fundamental assumptions underlying medical care in America.

First, the virus calls into question deeply engrained notions about who is responsible for our health. We've been socialized to rely on the promise of technology and medicine's quick fixes—pills, surgeries, vaccines—and are less likely to avoid personal risks like alcohol, smoking and bad diets. And yet, as COVID-19 readily spreads, the most low-tech, personal actions, like handwashing

and social distancing, outperform high-tech medicine in protecting our health. Perhaps efforts to take personal responsibility for our health now will extend later to learning and making informed decisions about avoiding the risks of optional medical interventions and about selecting healthcare professionals who best meet our needs.

Second, for those who can access them, we have built highly effective and technologically-advanced hospital systems—stitutions that are now dangerous for women giving birth. As COVID-19 hits hospitals and consumes resources, women face the prospect not only of birthing without their relatives or even their partners, but of facing childbirth in buildings inundated with a highly infectious virus. The essential contradiction of healthy women using buildings designed for sick people won't go away when the virus is contained. The ongoing prevalence of superbugs and other infections, of crowded waiting rooms and harried staff all raise a necessary question: are hospitals the best places for low-risk births? Are there other settings that would improve the safety and wellbeing of mother and baby?

Since at least the mid-1800s, women in major urban areas birthed in special Lying-In Hospitals. Although initially used exclusively by poor women, eventually these specialty hospitals gave more women their own dedicated environment for labor, birth, and a much longer period of post-partum care (up to two weeks). These hospitals are gone now. Perhaps both the medical community and women themselves came to recognize that childbirth is not a pathology and didn't require two weeks of postpartum care. Nevertheless, their essential message—that childbirth is something special—needs to infuse new models of care.

Some have said that a society should be judged by how it treats its elderly. But a society can also be judged by the respect it gives to the simple act of bringing another person into the world. Central to the nation's success is the ability to help infants, women, and new families thrive as a unit.

Perhaps the way we interact with the promise of modern medicine should be guided not by a "if we have it, use it" mentality. Instead, in this International Year of the Midwife, we can step back and ask a fundamental question: if women were to design the perfect birthing experience, the best support before, during and after pregnancy, the most supportive healthcare professionals, and the ideal venue in which to deliver, would it look like the current U.S. system? If not, it's time to step back and redesign.

APPENDICES

Biographic Sketches



Abigail Aiyeola, ND, LM holds a Doctorate of Naturopathic Medicine and is a doctoral candidate in Applied Medical Anthropology at Oregon State University. She is a rising star with extensive experience in clinical practice, higher education, national board service, leadership, and advocacy. She serves on the board of The National Association to Advance Black Birth (NAABB), is a collaborator with the Black Mamas Matter Alliance, and the proud owner of Coochie Business™, a platform dedicated to normalizing conversations about women's sexual and reproductive health.



Sonya Borrero, MD, MS is a Professor of Medicine and Director of the Center for Women's Health Research and Innovation (CWHRI) at the University of Pittsburgh. She is also the Associate Director of the VA Center for Health Equity Research and Promotion (CHERP) and a staff physician in the VA Pittsburgh's women's health clinic. Dr. Borrero's work strives to advance reproductive health equity. Her research has specifically focused on understanding multilevel influences on contraceptive and pregnancy decision making in vulnerable populations in order to identify targets for interventions that will decrease women's risk for undesired pregnancy.



Ginger Breedlove, PhD, CNM is a certified nurse-midwife and a past president of the American College of Nurse-Midwives. In the fall of 2017, she formed Grow Midwives LLC, a consulting firm dedicated to build optimal maternity care practices by assisting systems, physicians, and midwives in a variety of settings. Dr. Breedlove served as a Nursing/Midwifery professor for 16 years during which she founded the Midwifery Specialty Track at the University of Kansas. She co-founded the first birth center in Kansas in 1979 and the first midwife practice in Kansas City in 1994. In 2016 she co-founded and serves as President of the March for Moms. In fall of 2018 she edited a best-selling book for first-time parents titled, *Nobody Told Me About That*.

Jatolloa Davis, CNM is a certified nurse-midwife. After graduating from the University of Pennsylvania, she worked as a full-scope midwife at The Midwife Center for Birth and Women's Health in Pittsburgh. Before leaving in the fall of 2019, Jatolloa completed the second summer of Birth Center U, a program she created to give high school students of color who were interested in medicine/midwifery/nursing opportunities to explore out-of-hospital birth and to shadow midwives/nurse practitioners. Jatolloa recently moved back to her hometown of Philadelphia where she works at Thomas Jefferson University Hospital practicing as a CNM providing prenatal and birth care primarily to health center clients.



Eunice (Kitty) Ernst, CNM is a certified nurse-midwife and graduate of Kentucky's Frontier School of Midwifery with a Master's degree in public health. A renowned visionary in the field of midwifery, Kitty has pioneered pregnancy and birth care advances for more than 40 years. Highlights of her career include: Early president of the American College of Nurse-Midwives, Director of the nurse-midwifery service and education program at Columbia Presbyterian Medical Center, and Director of the National Association of Childbearing Centers (NACC). She also helped to institute the Commission for Accreditation of Freestanding Birth Centers.



Susan Heinz, CNM is a certified nurse-midwife and director of Corvallis Birth & Women's Health Center in Oregon. Her midwifery emerged out of the 1970s feminist and women's reproductive rights movement and was informed by her doctoral work on midwifery in the Netherlands. Although experienced with home births, she became involved in hospital midwifery—agreeing that if women are going to birth in hospitals, then midwives should be with them. She opened the Corvallis Birth & Women's Health Center in 2016.





Ruth Watson Lubic, CNM, EdD is a certified nurse-midwife and an applied anthropologist who first became interested in midwifery after having a positive birthing experience, with her husband present at both labor and delivery which was unheard of in 1959. Lubic pioneered the role of nurse-midwives as primary caregivers in maternity care through the establishment of the first freestanding, legal birth center in the U.S. in 1975. Having achieved excellent outcomes for its primarily middle-class white women, she opened The Childbearing Center in Morris Heights in New York City which showed that the birth center model worked for *all* women. The success of these centers earned Lubic a MacArthur Fellowship ("Genius Award") which she used to establish a third birth center, The Family Health and Birth Center, in a Washington D.C. neighborhood with the region's worst birth outcomes. The center later achieved better maternal and child health outcomes than any other maternity care provider in the city. Among other awards, Lubic is an American Academy of Nursing *Living Legend* honoree.



Ebony Marcelle, CNM is a certified nurse-midwife and the Director of Midwifery at the Family Health and Birth Center in Washington, DC. Raised in southern California, Marcelle attended nursing school at Georgetown University and completed her training at the Midwifery Institute at Philadelphia University. Her position as Director of Midwifery marks her return to Community of Hope, where she was previously a midwife at the Family Health and Birth Center.



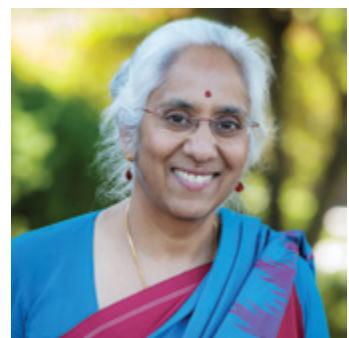
Ann McCarthy, CNM is a certified nurse-midwife and the Clinical Director of The Midwife Center for Birth & Women's Health in Pittsburgh. She has nursing and midwifery degrees from Marquette University in Wisconsin. After becoming a registered nurse, she volunteered at Holy Family Services Birth Center in Weslaco, Texas where she fell in love with out-of-hospital birth and working with the Hispanic population. She runs the Center's walk-in monthly program for Spanish-speaking women Con Mujeres.

Emily McGahey, CNM is a certified nurse-midwife. She worked as a labor and delivery nurse at a large tertiary care center before deciding to become a midwife at the University of New Mexico. Emily joined The Midwife Center for Birth & Women's Health in Pittsburgh in 2011 as the second Ruth Brexendorf Stifel Fellow and has been a full-time midwife there since 2012. She is active with the Pennsylvania Affiliate of the American College of Nurse Midwives, serving as President from 2012 through 2018. She currently Co-Chairs the Legislative Committee, assisting PA-ACNM in furthering midwifery through legislation, education, and advocacy. She is currently pursuing a Doctorate in Midwifery through Jefferson University.



Elizabeth Stifel, PhD is a retired family health physician who practiced at a Pittsburgh community health center. With an interest in how doctors interacted with women around giving birth, in the 1970s, as a volunteer, she spoke to women's groups about how to talk to doctors so that they would pay attention to what a woman wanted. These experiences brought her to the attention of the founders of The Midwife Center for Birth & Women's Health in Pittsburgh—a center that would become the nation's largest free-standing midwife-led birth center. Dr. Stifel became its founding Medical Director in 1983.

Saraswathi Vedam, PhD is Lead Investigator of the Birth Place Lab and professor of midwifery at University of British Columbia. Her scholarly work includes Changing Childbirth in BC, a provincial, community-based participatory study of women's experiences of maternity care; the Access and Integration Maternity Care Mapping Study on the impact of integration of midwives on outcomes; and the Giving Voice to Mothers Study that explores equity and access to high quality care among marginalized communities in the U.S. She developed three new person-centered quality measures including the Mothers' Autonomy in Decision Making (MADM) scale and the Mothers on Respect (MORI) index. She is currently PI of a 5-year CIHR-funded national research project to evaluate respectful maternity care across Canada. Professor Vedam has been active in setting international policy on place of birth, midwifery education and regulation, and interprofessional collaboration. She convened three national Home Birth Summits, and chaired the 5th International Normal Labour and Birth Research conference.





Alice Zelkha has been a Labor and Delivery nurse in New York, Boston, San Jose, Stanford and Mt. View, California. When in Boston in the mid-1970s, she became part of an innovative team attending home births. In retirement, she has volunteered as a doula at San Francisco General Hospital.

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In this Year of the Midwife, this *ROOTS* is dedicated to women who stand with women.

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Full citations are available on request.

Section I.

We are indebted to Wendy Kline and her 2019 book, *Coming Home: How Midwives Changed Birth*, Oxford University Press.

"poorest hovel" quote from Kline, Chapter 1, p.32.

Section II.

"it frightened me to death" – quoting Marion Thompson, from Kline, Chapter 1, p. 22.

"One thing leads to another" – quote from Saraswathi Vedam's 2013 TEDx talk, "Home or Hospital? Holding the Space for Human Birth." *TEDx Amherst College*, December 17, 2013.

Diagram of the Intervention Cascade (used with permission). Taken from Sakala C, Declercq ER, Turon JM and Corry MP. Listening to Mother in California – A Population Based Survey of Women's Childbearing Experiences. *National Partnership for Women and Families*. September 2018.

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Section IV.

Abby Koch quote from Laura Ungar's 2018 story, "Maternal

deaths: What states aren't doing to save new mothers' lives," published in the *Courier Journal*, September 20, 2018.

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'Celestial Weaving Girl' by Lucas Stock at the Pittsburgh Midwife Center

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