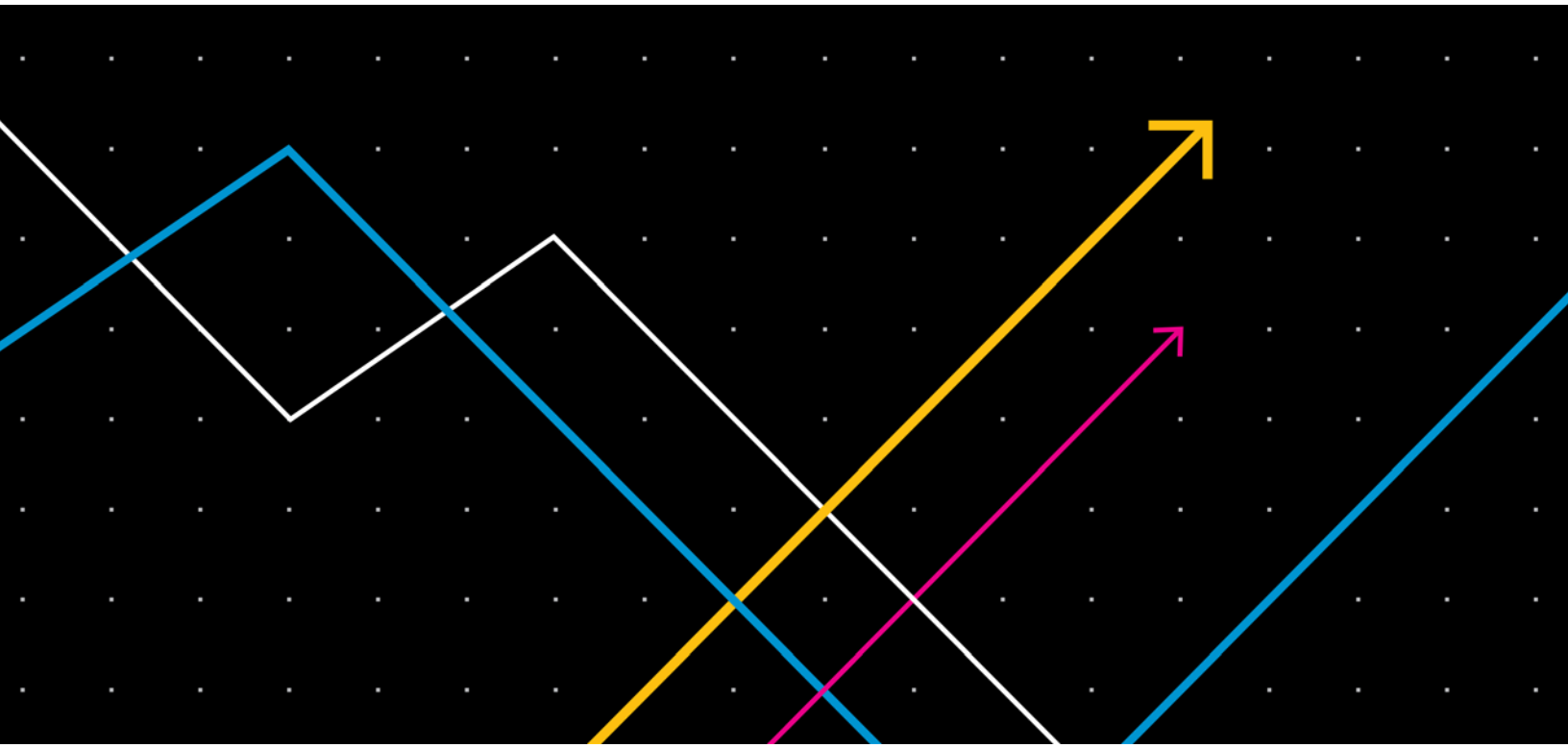

RESEARCH REPORT

Building and Supporting a Black Midwifery Workforce in Oklahoma

Findings and Recommendations from an Expedited Review

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Executive Summary

Oklahoma's maternal health system is in crisis. Mothers in Oklahoma are at a higher risk of dying before, during, or after giving birth than mothers nationwide. Between 2017 and 2019, Oklahoma recorded 23.5 maternal deaths per 100,000 live births (OSDH 2021); this compares with a national average of 20.1 maternal deaths per 100,000 live births in 2019. The maternal mortality rate for Black mothers in Oklahoma stood at 40.8 per 100,000 live births in the same period, meaning Black mothers were 1.6 times more likely to die from pregnancy-related conditions than white mothers (OSDH 2021). Oklahoma also experiences severe maternity care provider shortages, with obstetricians sometimes seeing as many as 50 patients a day and more than half of counties having no birthing hospitals, birth centers, or maternity care providers.[1]

Seven in 10 pregnancy-related deaths in Oklahoma were found to be preventable, suggesting that improving access to and the quality of maternity care could help lower the risk of death among new mothers (OSDH 2021). Evidence shows that women with healthy pregnancies who receive care from midwives, which includes patient-centered and holistic care that promotes natural birth, have better maternal and infant outcomes at a lower cost than women who receive traditional physician- and hospital-based maternity care (Attanasio, Alarid-Escudero, and Kozhimannil 2019; Sandall et al. 2016; Vedam et al. 2018). However, access to midwifery care in Oklahoma is limited, especially for populations most at risk for poor maternal health outcomes. Currently, Oklahoma has roughly 2 midwives for every 1,000 births, and most of them are white.[2] More than half of all births in Oklahoma are covered by Medicaid, but midwives attend less than 3 percent of these births (MACPAC 2020).[3] Expanding and diversifying the midwifery workforce could help address maternity care provider shortages and improve access to high-quality, evidence-based, and culturally effective maternity care.

We conducted a review of publicly available information and key informant interviews to examine the feasibility of launching a midwifery education program in the state focused on training Black midwives. Our findings indicate that midwifery in Oklahoma does not have broad recognition and support from the public or the medical establishment. If the ultimate goal of the midwifery education program would be to improve Black maternal health and reduce racial disparities in outcomes, then Oklahoma stakeholders could consider the following actions:

- Engage Black families, midwives and birth workers, and obstetricians/gynecologists to identify challenges to optimal maternal health, improve understanding of the midwifery model of care, and facilitate collaboration between physicians and midwives to create an integrated maternity care system that centers the needs and preferences of pregnant women.

- Raise public awareness about the root causes of maternal health disparities and build broad support for midwifery as an evidence-based model that can improve maternal and infant health outcomes.
- Conduct a midwifery workforce study to identify challenges Oklahoma midwives experience in education, training, and practice to inform workforce development policies and strategies.
- Promote access to the midwifery model of care in Medicaid by expanding coverage of community-based midwives and removing barriers to providing care in birth centers.
- Create a scholarship program to recruit and support Black student midwives, including by providing mentorship, academic support, and clinical training support. Create a program that provides stipends, guidance, and training to preceptors who train student midwives.
- Center equity in all aspects of a new, state-based midwifery education program—from administration, to admissions, to curriculum—to promote a diverse and inclusive academic environment and train culturally effective, antiracist midwives.
- Nurture a homegrown, diverse health care workforce by making equitable investments in public education and supporting interventions for Black students to strengthen their academic preparedness and reduce financial and other barriers to nursing and medical education.
- Measure program effects by investing in data collection and the analytic capacity of the midwifery education program. Data can help with efforts to inform program improvements, monitor student well-being, and support sustained investments in the program.

A midwifery education program alone is unlikely to succeed in addressing the maternal health crisis in Oklahoma without broad buy-in and support for the midwifery model of care from the medical establishment, state officials, health care payers, and the public. To create successful and sustainable pathways to midwifery education and practice in Oklahoma, we suggest a multipronged strategy that includes stakeholder engagement and education, policy changes to promote a supportive practice environment and access to midwifery care in Medicaid, and comprehensive supports for Black students in becoming midwives. These strategies should be refined, prioritized, and implemented in collaboration with Black families, midwives and birth workers, physician champions, and health care stakeholders.

Importantly, systemic racism affects many areas of life and drives underlying racial and ethnic inequities that affect women's health long before they become pregnant (Bailey, Feldman, and Bassett 2021; Gee and Ford 2011).[4] High-quality, respectful, and culturally and linguistically effective midwifery care may not improve health outcomes if systemic racial disparities persist in education, housing, income, community resources, and other aspects of life.

Building and Supporting a Black Midwifery Workforce in Oklahoma

Introduction

Racial disparities in maternal and infant health are a critical concern in the US. In 2020, the national maternal mortality rate was 23.8 deaths per 100,000 live births, increasing from the rate of 20.1 deaths in 2019 and vastly exceeding such rates in other high-income countries (Declercq and Zephyrin 2020; Tikkanen et al. 2020). More than two American women die from pregnancy-related complications each day.[5] However, these outcomes do not affect all people the same. Black women[1] are two to three times more likely to die from pregnancy-related complications than white women.[6] In addition, infants born to Black women and other women of color[2] have higher mortality rates than infants born to white women (Pruitt et al. 2020).[7]

These alarming outcomes also occur in Oklahoma. According to the Centers for Disease Control and Prevention, Oklahoma consistently ranks among the worst states for maternal death in the US.[8] Between 2017 and 2019, Oklahoma recorded 23.5 maternal deaths per 100,000 live births; this compares with a national average of 20.1 maternal deaths per 100,000 live births in 2019.[9] Furthermore, Black Oklahoma women are 1.6 times more likely to die before, during, or after giving birth than white women.[10] Babies born to Black mothers in Oklahoma are more than two times more likely to die within the first year of life than babies born to white mothers.[11]

Multiple factors contribute to poor maternal health and racial disparities in outcomes, including systemic issues such as limited access to health insurance and high-quality health care, unmet social needs, and implicit bias among health care providers (Creanga et al. 2014; Hall et al. 2015; Petersen et al. 2019). In Oklahoma, access to maternity care is particularly concerning. More than half of Oklahoma counties are "maternity care deserts" because they lack birthing hospitals, birth centers, or maternity care providers.[12] About 7 in 10 pregnancy-related deaths were found to be preventable in Oklahoma,

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[*] In this report, we use "women" and "mothers" as shorthand for all people who might need pregnancy, birth, and postpartum care. We recognize some people who become pregnant and give birth do not identify with these terms, and we remain committed to using respectful, inclusive language.

[†] We use "people and communities of color" to refer to all nonwhite populations, including American Indian/Alaska Native, Asian American and Pacific Islander, Black/African American, and Hispanic/Latinx populations. We recognize that this term may not resonate with all people in these groups, and we remain committed to using respectful, inclusive language.

suggesting that improving access to and the quality of maternity care could improve maternal health and lower mortality rates.[13]

Encouraging evidence shows that the midwifery model of care improves outcomes and could help address racial and ethnic disparities in maternal and infant health (box 1; Renfrew et al. 2014; Sandall et al. 2016). The central premise of the midwifery model of care is that pregnancy and birth are normal experiences that rarely require medical intervention. Accordingly, midwives are trained to engage and support pregnant and postpartum women through relationship building, education, counseling and monitoring, and hands-on assistance before, during, and after birth.[14] In contrast to obstetricians, midwives spend more time on average with pregnant and postpartum women during visits, provide individualized education and counseling on pregnancy and other health-related matters, and offer culturally sensitive, holistic care in which women are engaged in shared decisionmaking (Hill et al. 2018).[15]

BOX 1

Evidence on the Benefits of the Midwifery Model of Care

Compared with obstetrician-led care, studies have found that midwifery-led care for women with low-risk pregnancies results in

- higher rates of normal and physiologic birth, vaginal delivery, vaginal births after Cesarean section, and breastfeeding;[a]
- lower rates of Cesarean sections, preterm births, low-birth-weight infants, and neonatal deaths;[b] and
- lower health care costs[c] and higher patient satisfaction with care.[d]

Notes: [a] Saraswathi Vedam, Kathrin Stoll, Marian MacDorman, Eugene Declercq, Renee Cramer, Melissa Cheyney, Timothy Fisher, et al., "Mapping Integration of Midwives across the United States: Impact on Access, Equity, and Outcomes," *PLOS ONE* 13, no 2. (2018): e0192523, https://doi.org/10.1371/journal.pone.0192523.
[b] Vedam et al, "Mapping Integration of Midwives across the United States."
[c] Laura B. Attanasio, Fernando Alarid-Escudero, and Katy B. Kozhimannil, "Midwife-Led Care and Obstetrician-Led Care for Low-Risk Pregnancies: A Cost Comparison," *Birth* 47, no. 1 (2019): 57–66, https://doi.org/10.1111/birt.12464.
[d] Jane Sandall, Hora Soltani, Simon Gates, Andrew Shennan, Declan Devane, and Cochrane Pregnancy and Childbirth Group, "Midwife-Led Continuity Models versus Other Models of Care for Childbearing Women," *Cochrane Database of Systemic Reviews*, no. 4 (2016): CD004667, https://dx.doi.org/10.1002%2F14651858.CD004667.pub5.

Despite compelling evidence in favor of midwifery's efficacy, access to such care in the US is limited. The US has about 4 midwives per every 1,000 births, whereas other high-income countries have between 25 and 68 midwives per 1,000 births (Tikkanen et al. 2020; Vedam et al. 2018). Oklahoma has roughly 2 midwives for every 1,000 births.[16] Most US midwives, including those in Oklahoma, are white

and do not represent the communities most at risk for experiencing poor maternal and infant health outcomes (Serbin and Donnelly 2016). Furthermore, limited coverage, low reimbursement, and burdensome contracting with managed-care organizations constrain access to midwifery-led care for pregnant women enrolled in Medicaid (Courtot et al. 2020).[17] This is an important gap because Medicaid pays for more than 40 percent of births nationwide and more than half of births in Oklahoma (MACPAC 2020).[18]

Establishing a midwifery educational program in Oklahoma focused on training and supporting Black midwives presents an opportunity to expand access to the midwifery-led care model, which could lead to improvements in maternal and child health and reductions in racial disparities in maternal and infant health. This report draws on an expedited review of publicly available information and interviews with key stakeholders in Oklahoma and elsewhere to examine the feasibility of launching a midwifery education program in the state. To better understand the midwifery landscape, we examined the history of midwifery in the US, including challenges facing Black midwives, and the maternity care delivery system and role of midwifery in Oklahoma. We conclude with key considerations for promoting the midwifery model of care and establishing a pathway to education and practice for Black midwives and other midwives of color in Oklahoma.

Methods

We began the study in September 2021 by conducting an environmental scan of publicly available information about the social, political, and maternal health care contexts in Oklahoma. Scan topics included the maternal health care workforce regulatory and policy environments and delivery system, the education system, the root causes of disparities in maternal health outcomes, and educational and training pathways to midwifery. We also identified key barriers to midwifery education and practice and examined promising policies, initiatives, and midwifery training programs in other states that promote the recruitment, training, and practice of Black midwives.

Between October 2021 and February 2022, we conducted semistructured virtual key informant interviews with midwifery and maternal health stakeholders in Oklahoma and at the national level. We identified interviewees through professional networks and the recommendations of the study's project officer and other stakeholders. We interviewed 29 people, including policy experts, racial equity advocates, educators, midwives, doulas, nurses, physicians, and philanthropic funders. The interviews explored similar topics as the scan, including the maternal health delivery system; the midwifery education, certification, and practice environments; the accreditation process for midwifery programs;

and the challenges to and facilitators of developing and supporting the Black midwifery workforce. We took careful notes throughout the interviews, which we recorded and transcribed. The research team analyzed and synthesized data from the environmental scan and stakeholder interviews to identify common themes and key insights.

This study is a high-level, initial assessment of the Oklahoma maternal health care workforce, landscape, and policy environment. Because of the study's compressed time frame, our review of the relevant materials is not exhaustive. We interviewed a small number of stakeholders, so some experiences and perspectives, such as those of pregnant and parenting women, are missing. Our study also focused predominantly on the Black population, although we gathered some limited information relevant to Hispanic/Latinx and Indigenous populations in Oklahoma. Our findings and conclusions should therefore be interpreted with these limitations in mind.

Background

Developing a Black midwifery workforce requires one to learn from the complicated and inequitable history of maternal health care and midwifery in the United States. It is important to understand how midwifery went from being a dominant model of prenatal care to being almost extinct, and how the legacy of medicalization and oppression against women continues to pose challenges for reestablishing midwifery as a standard of care for all women with healthy pregnancies to this day.

History of Black Midwifery

Health care, including maternal and infant care, as it is currently practiced, sustained, and reimbursed, is largely built on a "professionalization" model dating back to the late 1800s and early 1900s. The obstetric and gynecological field was developed through the exploitation of enslaved Black women who were used as clinical and research subjects with no regard for their well-being (Ojanuga 1993). At the same time, the medical system sought to claim the field as its own (Layne 2020), and this philosophy began to destroy culturally and linguistically effective midwifery practices in Black and Indigenous communities. This professionalization flourished and spread within a segregated and unequal system of health care that has persisted through present times (Taylor 2019).

Midwifery-led care was a dominant model of prenatal care in the US until the late 19th century.[19] Most midwives, many of whom were Black, Indigenous, or immigrant women, relied on traditional healing knowledge and practices passed down through generations and learned through

apprenticeships with experienced midwives in their communities.[20] Even as early studies demonstrated better outcomes from midwifery births,[21] the public health and medical professions convinced the public of the needs to denounce traditional midwifery and home births and to expand the medical, physician-led, and hospital-based model of perinatal care. Culturally and linguistically effective Black midwives, particularly in the South, were sidelined and denigrated by public health training requirements developed and overseen by white public health nurses who had no or limited experience attending births but who nonetheless disparaged midwives to health systems, patients, and communities as being unsafe and uneducated.[22]

Midwifery in the US survived, in part, because of the advocacy of white women who led the creation of a nurse-midwifery path in the early 1900s under Mary Breckenridge[23] and because of a resurgence of traditional midwifery in the mid-20th century.[24] However, today's midwifery workforce is predominantly white and predominantly serves white, affluent women (AMCB 2020).[25] Because most midwives in the US are certified nurse-midwives, most midwife-attended births take place within hospitals, which may not be optimal settings for practicing the midwifery model of care that seeks to promote natural birth and avoid unnecessary medical interventions (ACNM 2019; Walker, Lannen, and Rossie 2014). The efforts to resurrect midwifery did not address or include the needs of Black pregnant and parenting women, nor did they address racial inequities in maternal and infant health outcomes.

Midwifery's complicated history has created a schism between the type of care traditional midwives want to provide and the care pregnant women have been socialized to expect. Traditional midwives seek to provide holistic care in homes or birth centers that promotes natural birth without unnecessary interventions and with little connection to a medical model unless deemed medically necessary.[26] However, many American women, including Black women, Indigenous women, and other women of color, often prefer hospital births because of a historical belief that hospitals are safer than birth centers or home births and lead to better outcomes (Suarez 2019). Yet, many Black women are treated with disrespect, condescension, and neglect in medical settings, which many birth justice advocates and scholars characterize as "medical violence" and "obstetric racism" (Campbell 2021; Davis 2019, 2020; Scott and Davis 2021).[27] These differing realities mean that stakeholders seeking to promote midwifery-led and community-based care, particularly for Black women and other women of color, will need to engage in deep conversation with midwives and women of childbearing age to bridge these gaps and improve understanding of midwifery care.

Modern Midwifery

The thorny history of maternal health in the US led to the creation of distinct midwifery paths, each with different training requirements, legal recognition, practice and sustainability models, and relative acceptance among physicians, health care systems, and pregnant women (table 1; appendix table A.1). Currently, most US midwives (more than 80 percent) are certified nurse-midwives (CNMs), numbering more than 12,800 in 2020 (AMCB 2020). A licensed registered nurse can become a CNM by attaining a graduate degree from an accredited midwifery program and passing the CNM exam (table 1). CNMs largely practice in hospital settings, often within health care teams that may include physicians. In addition to birthing services, CNMs can offer well-woman visits, gynecologic checkups, contraceptive and family planning services, and treatment of sexually transmitted infections. They are also qualified to provide infant care during the first month of life.[28] Because of the additional education and licensing requirements, many CNMs are eligible for and receive insurance reimbursement, including Medicaid reimbursement (table 1). But only 18 states allow CNMs to practice independently, and the rest still require physician oversight.[29]

Certified professional midwives (CPMs) are more like the traditional midwives of the past, often called "granny midwives."[30] In 2020, a little more than 2,500 CPMs were practicing in the US (Darragh et al. 2021). Though an academic degree is not required for certification, students typically must graduate high school or have a GED to be admitted to an accredited midwifery education program.[31] In lieu of completing an accredited midwifery program, people may enter the profession through apprenticeship (also known as "direct-entry") and may obtain a CPM certification by passing a Portfolio Evaluation Process designed to test and verify applicants' competency in relevant knowledge and skills.[32] Several accredited midwifery programs grant associate's, bachelor's, or master's degrees.[33] CPMs provide comprehensive prenatal and postpartum health services and practice in birth centers or attend home births. CPMs can become licensed in 35 states and the District of Columbia. Though CPM services are not a mandated Medicaid benefit, 13 states and DC offer Medicaid reimbursement for CPMs (table 1).

TABLE 1

Fast Facts about Midwifery Pathways

Fast facts	Certified nurse-midwife and certified midwife	Certified professional midwife
Education requirements for certification	Graduate degree and, *for CNMs only*, nursing degree and license	Graduation from an accredited midwifery program *or* apprenticeship
Practice settings	Largely clinic- and hospital-based (though can also practice in community)	Home births and birth centers
Scope of practice	Provide a full range of women's health care services and perinatal care	Provide perinatal health services and maternal and well-baby care through six to eight weeks postpartum
Legal status	CNMs are recognized in all states and DC CMs are recognized in nine states and DC: Delaware, Hawaii, Maine, Maryland, New Jersey, New York, Oklahoma, Rhode Island, and Virginia	Pathway to licensure in 35 states and DC
Medicaid coverage	CNM services are covered in all states and DC per federal mandate; CMs are covered in New York, New Jersey, and Rhode Island	Not federally mandated as a Medicaid benefit but 13 states and DC offer Medicaid reimbursement for CPMs: Alaska, Arizona, California, Florida, Idaho, New Hampshire, New Mexico, Oregon, South Carolina, Texas, Vermont, Virginia, and Washington

Sources: "Comparison of Certified Nurse-Midwives, Certified Midwives, and Certified Professional Midwives," American College of Nurse-Midwives, updated June 2021, https://www.midwife.org/acnm/files/acnmlibrarydata/uploadfilename/000000000268/CNM-CM-CPM%20Comparison%20Chart%20June%202021%20Final.pdf; "Legal Recognition of CPMs," National Association of Certified Professional Midwives, accessed April 11, 2022, https://nacpm.org/about-cpms/who-are-cpms/legal-recognition-of-cpms/; "Reimbursement and Employment," National Association of Certified Professional Midwives, October 2017, https://www.nacpm.org/wp-content/uploads/2017/10/4E-Reimbursement-and-Employment.pdf; and D.C. Law 23-97, Certified Professional Midwife Amendment Act of 2020, available at https://code.dccouncil.us/us/dc/council/laws/23-97.
Notes: CNM is certified nurse-midwife. CM is certified midwife. CPM is certified professional midwife.

Finally, there is the newer pathway to midwifery: certified midwife (CM). The credential was developed in 1994 and the first CM was licensed in 1997; today there are about 118 CMs in the US (AMCB 2020).[34] CMs have a graduate degree but do not have a nursing degree. They must pass the same certification exam as CNMs. CMs also can provide well-woman services and can practice in all birth settings. Oklahoma is one of only nine states, plus DC, that recognize the CM designation, though other states are working toward licensure acceptance.[35]

Though midwifery in the US is on the rise, midwives experience many challenges in education, training, and practice.[36] The number of accredited midwifery education programs across the US is limited,[37] and the cost and length of training, including a requirement for completing extensive clinical

practice, pose challenges for some students to complete their education (ACME and ACNM 2019; Walker, Lannen, and Rossie 2014). For example, a typical student midwife may have a job, family, and other obligations, making it financially and otherwise difficult to relocate to attend a midwifery program or to maintain a full-time job while completing a clinical practice on an "on-call" basis (Marzalik et al. 2018). A lack of qualified preceptors and clinical practice sites is a major barrier limiting the number of students midwifery programs can train (ACME and ACNM 2019; Marzalik et al. 2018). In addition, systemic racism in midwifery education, clinical training, and practice poses barriers for Black students and other students of color to become midwives, resulting in very little diversity in the profession today (Effland et al. 2020; Serbin and Donnelly 2016; Wilson-Mitchell and Handa 2016).

Many challenges to midwifery practice persist, including restrictive regulatory frameworks that limit the scope of practice or impose overly burdensome licensing requirements to practice independently or open a birth center (Walker, Lannen, and Rossie 2014). Another major challenge is a lack of or low third-party reimbursement. Private insurance companies may choose not to cover midwifery services, and although Medicaid programs are required to cover nurse-midwives and birth centers (table 1), reimbursement rates are often low (particularly for Medicaid) and require extensive paperwork that makes it easier to accept self-pay (Walker, Lannen, and Rossie 2014). Though understandably more beneficial to midwives, self-pay services can block access to midwifery-led care for women unable to afford out-of-pocket care. Without addressing these barriers in education and practice, midwifery in the US will continue to be inaccessible to large swaths of pregnant and parenting women, especially those at higher risk for poor outcomes.

Maternal Health, Maternity Care, and Midwifery in Oklahoma

The following section summarizes key data and key informants' experiences and perspectives on the maternal health and maternity care landscapes in Oklahoma, including racial and ethnic disparities in access to care and health outcomes, and the state of the obstetrics and midwifery workforces. Though key informants generally supported efforts to address maternal morbidity and mortality and racial and ethnic inequities in maternal and infant health outcomes, many noted that midwifery does not have broad recognition and support in Oklahoma. Furthermore, stakeholders were also sensitive to the state's conservative social and political environments, with many cautioning that an educational program solely focused on recruiting and supporting Black midwives would likely face considerable opposition and could alienate key stakeholders from the start.

Maternal and Infant Health Outcomes and Racial Disparities

Similar to national trends, Oklahoma experiences poor maternal health outcomes and deep racial and ethnic disparities, particularly for Black women and infants. According to a recent report from the Oklahoma Maternal Mortality Review Committee, the state ranks among the worst in the nation for pregnancy-related preventable deaths (OSDH 2021). Furthermore, Black women are 1.6 times more likely to die before, during, or after giving birth than white women (OSDH 2021). Similar racial disparities are found for infant outcomes: babies born to Black mothers are more likely to be preterm, to have low birth weights, and to die before the age of 1 than babies born to white mothers.[38] Tulsa County has among the highest rates of maternal mortality and poor infant health outcomes in Oklahoma.[39] The Oklahoma Maternal Mortality Review Committee attributed poor maternal health outcomes to several factors, including a lack of access to health care, high rates of chronic disease burden in the population, a lack of health education, a lack of social supports, and unmet social needs.[40] For example, about a third (29 percent) of pregnant women in Oklahoma receive no or delayed prenatal care, which falls short of the national Healthy People 2020 goal of at least 77.9 percent of pregnant women receiving prenatal care in the first trimester.[41]

Our key informants offered a more nuanced understanding of the challenges in accessing care, particularly among Black women and other women of color. According to some, the long history of racism, most infamously demonstrated in the 1921 Tulsa race massacre,[42] and the state's strict immigration policies contribute to deep distrust of authorities in Black and Hispanic/Latinx communities.[43] Several informants who provide direct care and services to pregnant and postpartum women noted that this distrust extends to the health care system more broadly, which contributes to difficulties engaging expectant mothers in care or providing them with health education. Others said that Black women and other women of color in Oklahoma sometimes report not feeling welcome or treated with respect in health care settings. Though several public and private initiatives have launched in the last decade to improve maternal health outcomes (box 2), some informants alleged that stakeholders in Oklahoma have little appetite to invest in supports for women's health or to address racial equity. One informant said, "Oklahoma doesn't like women…or poor women…or women of color." As discussed in more detail below, informants highlighted the state Medicaid policy as one area of opportunity for driving more meaningful and sustainable improvements to the maternity care system.

BOX 2

Oklahoma Efforts to Improve Maternal Health Outcomes

The Oklahoma Perinatal Quality Improvement Collaborative, launched in 2015, engages maternal health stakeholders in a collaborative effort to improve the health outcomes for Oklahoma women and infants by focusing on evidence-based practice guidelines and quality-improvement processes. Stakeholders include hospitals, providers, nurses, and administrative staff.

The Maternal Mortality Review Committee (MMRC), operated by the Oklahoma State Department of Health, investigates maternal deaths to interpret trends and identify high-risk groups to inform improvements in service delivery and care. Based on the investigation information, the MMRC then develops interventions and preventive strategies to share throughout communities and provider networks.

Also operated by the Oklahoma State Department of Health, **the Oklahoma Maternal Health Task Force** engages partnerships and alliances to improve the physical, mental, and emotional health and well-being of Oklahoma's maternal population. The task force focuses on improving access to care, addressing racial disparities, expanding mental health and social services, and implementing innovative data systems.

The Tulsa Birth Equity Initiative (TBEI),[a] supported by the George Kaiser Family Foundation and Merck for Mothers, serves Tulsa families to promote healthy births and reduce maternal health disparities, focusing on Black, Indigenous, and justice-involved women and teenagers. The TBEI's efforts include Oklahoma's first community-based doula program,[b] which pairs doulas with mothers who look like and understand them while providing services without charge. In addition, **TeamBirth**, a program developed in the Delivery Decisions Initiative of Ariadne Labs, aims to improve maternal and neonatal outcomes by focusing on effective communication and shared decisionmaking between the patient and provider during labor and birth.

Notes: This is not an exhaustive list of Oklahoma programs and initiatives designed to improve maternal and infant health outcomes.

[a] Merck, "Merck Announces Second Cohort of Safer Childbirth Cities Organizations Committed to Improving Maternal Health Equity and Reducing Preventable Maternal Deaths in the US," news release, January 27, 2021, https://s2.q4cdn.com/584635680/files/doc_news/Merck-Announces-Second-Cohort-of-Safer-Childbirth-Cities-Organizations-Committed-to-Improving-Maternal-Health-Equity-and-Reducing-Pre-CP99G.pdf.

[b] Kelsy Schlotthauer, "Tulsa Birth Equity Initiative Seeks Healthy, Dignified Births for Underserved Mothers," *Tulsa World*, February 27, 2021, https://tulsaworld.com/news/local/tulsa-birth-equity-initiative-seeks-healthy-dignified-births-for-underserved-mothers/article_d91298e2-777f-11eb-81a7-3f9a4427f2e3.html.

Access to Health Insurance and the Role of Medicaid in Maternal Health

Key informants noted that Oklahoma's sociopolitical context—which many described as conservative, with laws and policies that emphasize individual responsibility over social welfare—affects access to

health care and, in turn, may have implications for maternal health outcomes. First, Oklahoma did not adopt the Affordable Care Act Medicaid expansion until recently,[44] which has contributed to a relatively high uninsurance rate in the state (17.6 percent in 2019 compared with 10.9 percent nationally).[45] Furthermore, considerable racial and ethnic disparities exist among uninsured Oklahomans. Though only about 8 percent of Oklahomans identify as Black, they represented 17.3 percent of the uninsured population in 2019 (table 2). The disparity is even larger for Hispanic/Latinx people, who represent about 11 percent of the state's residents but made up 28 percent of uninsured Oklahomans in 2019.

TABLE 2

Access to Health Insurance in Oklahoma, by Race and Ethnicity, before Medicaid Expansion

	Share of Oklahomans, by Race and Ethnicity (%)					
Population	**American Indian/Alaska Native**	**Asian American and Pacific Islander**	**Black**	**Hispanic/ Latinx**	**Multiple races**	**White**
All residents	**9.4**	**2.6**	**7.8**	**11.1**	**6.3**	**74.0**
All uninsured residents	28.5	12.6	17.3	28.1	18.2	14.2
All Medicaid enrollees	10.0	2.0	12.0	19.0	10.0	61.0
Medicaid-enrolled mothers	12.0	3.0	11.0	22.0	7.0	61.0

Sources: "QuickFacts 2021: Oklahoma," US Census Bureau, accessed April 10, 2022, https://www.census.gov/quickfacts/OK; "SoonerCare Fast Facts March 2021," Oklahoma Health Care Authority, April 12, 2021, https://oklahoma.gov/content/dam/ok/en/okhca/docs/research/data-and-reports/fast-facts/2021/march/TotalEnrollment03_21.pdfUS; "Uninsured Rates for the Nonelderly by Race/Ethnicity 2019," Kaiser Family Foundation, accessed April 11, 2022, https://www.kff.org/uninsured/state-indicator/nonelderly-uninsured-rate-by-raceethnicity/?currentTimeframe=0&selectedRows=%7B%22states%22:%7B%22oklahoma%22:%7B%7D%7D%7D&sortModel=%7B%22colId%22:%22Location%22,%22sort%22:%22asc%22%7D; and "SoonerCare Delivery Fast Facts: State Fiscal Year 2020," Oklahoma Health Care Authority, accessed April 8, 2022, https://oklahoma.gov/content/dam/ok/en/okhca/docs/research/fast-facts/SFY2020%20Deliveries%20Fast%20Facts.pdf.
Notes: The latest data available for the uninsurance rates by race and ethnicity are from 2019, before Oklahoma implemented Medicaid expansion on July 1, 2021. We therefore include SoonerCare enrollment data for all populations and among pregnant women before the expansion for better comparison. The table excludes the share of Medicaid enrollees who declined to disclose their race and ethnicity information. The race and ethnicity composition of the SoonerCare program enrollees may change with enrollment of the newly eligible population.

Medicaid's role in maternal health cannot be understated; more than half (57 percent) of all deliveries in Oklahoma are among Medicaid-enrolled mothers, a higher share than the national average of about 42 percent.[46] As table 2 shows, disproportionate shares of Black and Hispanic/Latinx Oklahomans are enrolled in the program. Though Black and Hispanic/Latinx populations represent about 8 and 11 percent of state residents, they make up 12 and 19 percent of Medicaid enrollees.[47]

Similarly, in fiscal year 2020, about 11 percent of Medicaid-covered births were among women who identified as Black and 22 percent were among women who identified as Hispanic/Latinx.[48]

Because lacking health insurance has been shown to be a major barrier to accessing health care, the newly expanded Medicaid program, which has added more than 200,000 Oklahomans to its rolls since July 1, 2021, has the potential to improve maternal and infant health outcomes (Garfield, Orgera, and Damico 2019).[49] Research shows women living in states that have expanded Medicaid under the Affordable Care Act have better access to preventive care, experience fewer adverse health outcomes during and after pregnancy, and have lower maternal mortality rates than women living in states that did not expand Medicaid (Searing and Cohen Ross 2019). In addition, researchers have found that states that adopted Medicaid expansion saw infant mortality rates decline, with the greatest decline being among Black infants (Taylor et al. 2019).

Expanding the Medicaid program in Oklahoma means more women may qualify for the full benefits package for pregnant and postpartum women and may continue to be enrolled in Medicaid after the typical 60-day postpartum coverage period. Currently, women who qualify for pregnancy-related coverage have limited access to certain services, such as lactation consultations and maternal and infant health social work, which are covered only up to delivery.[50] More than half of pregnancy-related deaths occur within a year after giving birth (Petersen et al. 2019). Postpartum Medicaid coverage lasts just 60 days in Oklahoma and many other states, though momentum is growing nationally to expand Medicaid postpartum coverage to 12 months after delivery (box 3; Haley et al. 2021).[51]

Key informants identified an important gap in Medicaid coverage for maternity care services: only services by CNMs are currently eligible for Medicaid reimbursement, but these services do not appear to be widely used by Medicaid enrollees. According to data from 2018, nearly all (99.7 percent) Medicaid-covered deliveries occurred in hospitals, and less than 3 percent of Medicaid births were attended by CNMs (MACPAC 2020). Even though Medicaid programs are required to cover birth center services per federal mandate,[52] most if not all birth centers in Oklahoma do not accept Medicaid payments for delivery. A national study of birth centers' participation in Medicaid found considerable challenges that restrict Medicaid beneficiaries' access to birth center care, including low Medicaid reimbursement and difficulties contracting with managed-care plans (Courtot et al. 2020). Furthermore, a common perception in Oklahoma is that Medicaid does not currently cover out-of-hospital births, including birth center births, and CPMs who run most birth centers in Oklahoma are not recognized as Medicaid providers. Though nurse-midwife services are a mandatory benefit in Medicaid, coverage of licensed midwives is optional.[53]

BOX 3

Medicaid Postpartum Extension

Under the American Rescue Plan Act of 2021,[a] states have the option to extend Medicaid postpartum coverage from 60 days to 12 months by submitting a state plan amendment or Section 1115 waiver request. States that choose to extend Medicaid postpartum coverage must provide full Medicaid benefits during the pregnancy and postpartum periods. The Medicaid postpartum extension option can take effect starting April 1, 2022, and is available to states for five years. Currently, 33 states and the District of Columbia have extended or are pursuing extending Medicaid postpartum coverage.[b]

Notes: [a] Usha Ranji, Alina Salganicoff, and Ivette Gomez, "Postpartum Coverage Extension in the American Rescue Plan Act of 2021," Kaiser Family Foundation, March 18, 2021, https://www.kff.org/policy-watch/postpartum-coverage-extension-in-the-american-rescue-plan-act-of-2021/.
[b] "Medicaid Postpartum Coverage Extension Tracker," Kaiser Family Foundation, March 31, 2022, https://www.kff.org/medicaid/issue-brief/medicaid-postpartum-coverage-extension-tracker/; and "View Each State's Efforts to Extend Medicaid Postpartum Coverage," National Academy for State Health Policy, updated April 5, 2022, https://www.nashp.org/view-each-states-efforts-to-extend-medicaid-postpartum-coverage/.

Several key informants commented that making the midwifery model of care more accessible to Medicaid enrollees, including by recognizing licensed midwives as eligible Medicaid providers and reimbursing for birth center deliveries, could improve birth outcomes and reduce Medicaid costs. Available research suggests that Medicaid beneficiaries with uncomplicated pregnancies who received midwifery care in birth centers have better outcomes at a lower cost than women who receive traditional hospital-based care (box 4; Benatar et al. 2013; Dubay et al. 2020; Howell et al. 2014).[54]

BOX 4

Medicaid Enrollees Who Received Birth Center Care Had Better Outcomes at a Lower Cost

The federal Strong Start for Mothers and Newborns initiative funded 27 awardees from 2013 to 2017 to provide enhanced prenatal care to Medicaid and Children's Health Insurance Program beneficiaries through the use of birth centers, group prenatal care, and maternity care homes. The evaluation of the initiative found that women who received prenatal care in birth centers had better outcomes at a lower cost relative to other Medicaid participants with similar characteristics, including

- lower rates of low birth weights,
- lower preterm birth rates,
- more weekend deliveries (indicating fewer scheduled inductions and Cesarean sections),
- lower rates of Cesarean sections, and
- higher rates of vaginal birth after Cesarean section.

The evaluators found that costs associated with birth center care were $2,010 lower per mother-infant pair during birth and the following year than costs for similar non–Strong Start participants. Furthermore, babies born to Medicaid-enrolled mothers cared for in birth centers had fewer infant emergency department visits and hospitalizations.

Sources: Lisa Dubay, Ian Hill, Bowen Garrett, Fredric Blavin, Emily M. Johnston, Embry Howell, Justin W. Morgan, et al., "Improving Birth Outcomes and Lowering Costs for Women on Medicaid: Impacts of 'Strong Start for Mothers and Newborns,'" *Health Affairs* 39, no. 6 (2020): 1042–50, https://doi.org/10.1377/hlthaff.2019.01042; "Strong Start for Mothers and Newborns: Evaluation of Full Performance Period (2018)," Centers for Medicare & Medicaid Services, Center for Medicare & Medicaid Innovation, accessed April 10, 2022, https://innovation.cms.gov/files/reports/strongstart-prenatal-fg-finalevalrpt.pdf; https://www.medicaid.gov/federal-policy-guidance/downloads/cib110918.pdf; and Adam Boehler (deputy administrator and director, Center for Medicare & Medicaid Innovation) and Mary C. Mayhew (deputy administrator and director, Center for Medicaid & CHIP Services), joint informational bulletin regarding "Strong Start for Mothers and Newborns initiative (Strong Start)," November 9, 2018, https://www.medicaid.gov/federal-policy-guidance/downloads/cib110918.pdf.

The Obstetrics Workforce

According to key informants, severe maternity care provider shortages also contribute to poor maternal health outcomes. Oklahoma suffers from overall physician shortages, ranking 48th in the nation in terms of active physicians per 100,000 people in 2018.[55] Despite steadily declining birth rates, several key informants reported that obstetricians and gynecologists (OB/GYNs) may see, on average, 40 to 50 patients a day. In 2017, Oklahoma ranked as the third worst state in terms of the physician maternity workforce, with just 1.5 OB/GYNs per 10,000 women.[56] Furthermore, according to data from the Association of American Medical Colleges, a third of Oklahoma's 356 active OB/GYNs were nearing retirement age in 2018.[57] A recent March of Dimes analysis defined low access to maternity care as fewer than 60 OB/GYNs or nurse-midwives and fewer than 2 hospital maternity wards or birth centers per 10,000 births (March of Dimes 2020). According to this definition, about a quarter (21 out of 77) of Oklahoma counties had low access to maternity care in 2018.[58] Furthermore, more than half of Oklahoma counties (40) were designated as maternity care deserts, meaning they have no OB/GYNs, CNMs, hospitals, or birth centers.[59] Only 16 Oklahoma counties qualified as having full access to maternity care according to this analysis.

According to key informants, OB/GYN shortages are a symptom of a larger problem in Oklahoma: the "brain drain" of college-educated professionals over the last several decades.[60] Though efforts have been launched to address workforce challenges in health care and other industries and to make Oklahoma a more attractive place to live and work,[61] the strain of the COVID-19 pandemic on the health care workforce has many worried about worsening access to and quality of health care—and not just for pregnant and postpartum women.[62] Several key informants suggested the OB/GYN shortages

could be a selling point for broad support of midwifery as a way of improving access to and the capacity for maternity care for women with healthy pregnancies. But others warned that OB/GYNs may be the staunchest opponents of midwifery. Interviewees described the fraught relationship of physicians and midwives in Oklahoma, stating that OBs are for the most part disinterested in and do not understand the value of the midwifery model of care; there have long been "turf wars" between OBs and midwives, and this friction is delegitimatizing midwifery as a safe and high-quality perinatal care model. Interviewees agreed that physician opposition may be one of the biggest challenges for expanding midwifery in Oklahoma and suggested that extensive outreach and education are needed to cultivate physician support for midwifery.

Midwifery in Oklahoma

Today's midwifery workforce in Oklahoma is a little more than 100 strong (table 3; appendix table A.1). Considering that the annual average number of births in Oklahoma is 50,000, this roughly translates to 2 midwives per 1,000 births.[63] Midwives are organized in at least two professional groups: the Oklahoma Midwives Alliance and the Midwives Society of Oklahoma.[64]

TABLE 3

Quick Facts about Oklahoma Midwives, by Type of Certification

Quick facts	Certified nurse-midwives	Licensed midwives (CPMs and CMs)
Currently licensed	74	31
Practice settings	Birth centers, hospitals, clinics	Birth centers, homes, clinics
Practice conditions	Can practice autonomously, except with regards to prescriptive authority[a]	Must have written procedures for referrals and medical consultations with a physician
Licensing fee	$70 (every even-numbered year)	$1,000 (every three years)
Medicaid reimbursement for vaginal birth	$2,134 (100% of OB fee)	Not covered

Sources: American Midwifery Certification Board, *2020 Demographic Report* (Linthicum Heights, MD: American Midwifery Certification Board, 2020); author's correspondence with the Occupational Licensing Division at the Oklahoma State Department of Health, February 3, 2022; "Instructions for Licensure as an Advanced Practice Registered Nurse," Oklahoma Board of Nursing, November 1, 2019, https://nursing.ok.gov/practice.pdf; "Licensed Midwives Program," Oklahoma Health Care Authority, accessed April 11, 2022, https://oklahoma.gov/health/protective-health/consumer-health-service/licensed-midwives-program0.html; Oklahoma Nursing Practice Act, Unofficial Oklahoma Statutes, Title 59, Chapter 12, Section 567.1, available at https://nursing.ok.gov/actwp20.pdf; "Title 310. Oklahoma State Department of Health, Chapter 395. Licensed Midwives," Oklahoma State Department of Health, accessed April 11, 2022, https://www.ok.gov/health2/documents/Midwives_CH395%20-%20Emergency%20Rule_FINAL%20(eff%202020-11-01).pdf; and "SoonerCare Fee Schedules," Oklahoma Health Care Authority, accessed April 11, 2022, https://oklahoma.gov/ohca/providers/claim-tools/fee-schedule.html.
Notes: OB is obstetrician. CPMs are certified professional midwives. CMs are certified midwives.
[a] S.B. 1220 was introduced in the 2022 legislative session and would remove the physician supervision requirement for the prescriptive authority of certified nurse-midwives.

CNMs represent three-quarters of the midwifery workforce in Oklahoma, with 74 active CNMs as of August 2021.[65] Oklahoma is one of the few states that recognize the CM credential, but we were unable to verify how many, if any, CMs currently practice in the state.[66] According to key informants, most if not all nurse-midwives in Oklahoma practice in clinics and hospital-based birth centers. One informant who is a doula noted that because of the health system environment, nurse-midwives sometimes behave more like OBs than midwives. Forty-two Oklahoma nurse-midwives are currently listed in the Medicaid provider directory.[67]

Before 2020, traditional midwives in Oklahoma were not regulated, but that changed after an investigation into infant deaths connected to out-of-hospital deliveries attended by midwives.[68] These unfortunate deaths led to a push for stronger state oversight of traditional, community-based midwives. In 2020, Shepherd's Law took effect, requiring CMs and CPMs to be licensed.[69] This law also mandated the creation of the Advisory Committee on Midwifery, which is made up of midwives, physicians, and community members and is charged with reviewing licensure applications and advising the Oklahoma State Department of Health on all midwifery matters.[70] According to the Oklahoma State Department of Health's Occupational Licensing Division, 31 midwives have been licensed since the passage of Shepherd's Law.[71] Licensed midwives assist with home births and offer services in freestanding birth centers. According to one key informant, many licensed midwives practice in rural areas.

A supportive practice environment is important to retaining and growing the midwifery workforce. For example, research shows that states that allow midwives to practice autonomously have more than twice as many practicing midwives than states with more restrictive regulatory oversight (Ranchoff and Declercq 2019). Currently, Oklahoma nurse-midwives can practice independently and without physician supervision, except with respect to prescriptive authority.[72] However, a bill was introduced in the 2022 legislative session that would remove the physician supervision requirement for the prescriptive authority of CNMs.[73] If this law passes, Oklahoma CNMs will be completely autonomous. Licensed midwives may also practice without physician supervision but must have written procedures in place for consultation and the transfer of clients whose pregnancies become risky.[74] Oklahoma does not require midwives to carry medical malpractice insurance. However, hospitals and health insurance plans may require participating providers to have malpractice insurance.[75]

According to several informants, midwifery in Oklahoma is in decline. One hospital closed its midwifery clinic during this study, reportedly because of revenue concerns. Midwives, birth workers, and birth advocates who participated in the study described Oklahoma as not being "midwife friendly," noting that midwives are not popular with the medical establishment and are largely obscure to the general public. Others said that the recent negative publicity around midwifery has contributed to

perceptions that midwifery is unsafe, deepening the fears about out-of-hospital births. Several key informants said that Oklahoma does not require midwifery services to be reimbursed by private health insurance, and, therefore, most licensed midwives serve self-paying clients, limiting access to midwifery and birth center care for families with low and moderate incomes. Some also said that the lack of Medicaid reimbursement for licensed midwives and doulas was a challenge, though at least one key informant hinted that some midwives may not be particularly interested in serving Medicaid clients.

Though many key informants were intrigued by the idea of opening a new midwifery education program in Oklahoma, they were also very cognizant that midwifery is largely misunderstood and undervalued in the state. One key informant said they expect most stakeholders to ask why opening a midwifery school is necessary. Several informants pointed out that Black women may not be familiar with midwifery, and that considerable outreach, education, and engagement would be needed to familiarize the Black community with midwifery and its benefits. One key informant thought that because Oklahoma babies are predominantly born in hospitals, some people in the Black community may view birth center services provided by nonphysicians as second-rate care. This informant also noted that because less than 10 percent of Oklahomans identify as Black, it may be difficult to recruit enough students to the midwifery school.

Key informants were also frank that a program solely focused on training Black midwives would face considerable opposition. Furthermore, many said that Indigenous and Hispanic/Latinx populations in the state would also benefit from access to diverse maternity care providers. They suggested that a midwifery education program open to people of all races and ethnicities would be more politically feasible, and that targeted efforts to recruit and support Black students and other students of color could ensure that the program would enroll and graduate diverse midwives. However, several key informants advised that all but a few midwives practicing in Oklahoma are white, which could pose challenges for ensuring an inclusive, antiracist training environment for student midwives of color. Some also added that Oklahoma needs to become a more midwife-friendly state to ensure program graduates do not leave to practice in other states.

Considerations for Growing and Sustaining a Black Midwifery Workforce in Oklahoma

Our findings indicate that the midwifery profession does not appear to be on strong footing in Oklahoma. Furthermore, it is unclear whether the midwifery model of care is well understood in the

Black community. These findings suggest that opening an Oklahoma-based midwife education program is not enough to increase the participation of Black people in the midwifery workforce and to address racial disparities in maternal and infant health outcomes without also firmly establishing midwifery as a standard of care for women with healthy pregnancies and ensuring broad access to midwifery and birth center care. According to key informants, it is equally important to ensure midwives can support not only their communities but themselves and their families through their work.

Key informants advised that broad stakeholder and community engagement and policy changes are needed to raise recognition and support for midwifery and to create a supportive and sustainable practice environment for the current and future midwifery workforces. With the goals of feasibility and sustainability in mind, we present the following recommendations for Oklahoma stakeholders interested in promoting the midwifery model of care and growing a Black midwifery workforce:

- Engage Black families, midwives and birth workers, and OB/GYNs to build the case for midwifery.
- Raise public awareness and stakeholder support for midwifery.
- Conduct a midwifery workforce study.
- Promote access to the midwifery model of care in Medicaid.
- Create a scholarship program to recruit and support Black student midwives.
- Center equity in developing a midwifery education program.
- Nurture a homegrown, diverse health care workforce.
- Measure program effects.

The following sections describe these recommendations in more detail. Appendix B includes additional materials and resources to supplement and support the suggestions in this report.

Engage Black Families, Midwives and Birth Workers, and OB/GYNs to Build the Case for Midwifery

A top recommendation from key informants was to engage and listen to the community the midwifery program would intend to serve. As discussed earlier, Black pregnant and parenting women in Oklahoma may not be familiar with the benefits of midwifery or may have been led to believe that hospital care is always better. This lack of knowledge and acceptance of midwifery is a product of prior efforts to eradicate midwifery altogether and will require robust outreach to, education in, and conversation with

the Black community to lead to a full understanding and embrace of midwifery care. Furthermore, Black pregnant women and their families, birth workers and advocates, and community organizations (such as Black churches) may have other ideas for how to improve maternal and infant health and reduce racial disparities in birth outcomes, and their ideas and opinions must be heard and incorporated. For example, the National Partnership for Women and Families has developed the Listening to Mothers survey to learn from mothers' experiences and to inform maternal health policy and practice.[76]

Other key stakeholders who should be effectively engaged early on are maternal health care providers and health systems, including primary care providers, OB/GYNs, pediatricians, hospital systems, safety net clinics, provider associations, and health plans. Based on input from key informants in Oklahoma, the need to achieve respect and buy-in for midwifery from the medical establishment is significant. Building understanding and effective working relationships between clinicians and community-based CPMs is critical for patient safety and enables the creation of an integrated care system that centers the needs and preferences of pregnant women. For example, Washington State developed the Smooth Transitions quality improvement program to foster collaboration between midwives and clinicians, enhance the safety of hospital transfers, and improve the quality of care transferred patients receive.[77] In addition, all health care providers who interact with pregnant and postpartum women should recognize how racism and implicit bias may affect the quality of care they provide. For example, California has mandated that all perinatal health care workers participate in implicit bias training.[78] Maryland and Michigan have also passed legislation that requires implicit bias training for all health care professionals.[79]

Community members and key maternal health stakeholders can be engaged in many ways, including through a community needs assessment, interviews and focus groups, public meetings, and community advisory boards. Topics for discussion can include identifying the strengths and resources in the community that can be leveraged for optimal health; assessing challenges with maternity care and the understanding of midwifery; identifying the types of care and birth settings families prefer; and providing culturally effective education about midwifery as an evidence-based model that can improve maternal and infant health outcomes, improve satisfaction with care, and lower health care costs. Importantly, effective community engagement is more than just soliciting input; it is a true partnership with the community and key stakeholders to collectively develop a system of care that reflects cultural values and preferences and meets the needs of the people an intervention is designed to serve. Effective community engagement requires trust building, capacity development, and sharing power with the community (Allen et al. 2021).

Raise Public Awareness and Stakeholder Support for Midwifery

The tragedy of ever-climbing maternal death rates in the US may not feel like a true crisis to the general public and families untouched by the untimely and preventable passing of a mother or baby. But without an understanding and acknowledgement of the root causes of maternal and infant health disparities, broad support for and sustained investments in programs and strategies to address disparities can hardly be achieved. Key informants suggested that a well-designed and widely available public communications campaign could help raise awareness about racial and ethnic disparities in maternal and infant health outcomes among the public and key stakeholders, including maternity care providers, public health and health care systems, social service providers, educators, legislators, and policymakers.

Furthermore, this education campaign could also incorporate messaging about the evidence-based midwifery model of care, highlighting improved outcomes for mothers and babies and the lower cost of care compared with that for traditional physician- and hospital-based maternity services. One key informant said that she dreams of a world in which midwifery is a standard of care for all women with healthy pregnancies. Based on our interviews with Oklahoma stakeholders, the needs to raise the profile of midwifery and to educate consumers about the benefits of natural birth relative to birth with often unnecessary medical interventions are great. Because of recent negative publicity about midwifery care, misconceptions and concerns may need to be addressed to increase support for midwifery. Midwives have traditionally been strong advocates for themselves and maternal health, and many existing resources, campaign materials, and talking points have been developed across organizations dedicated to promoting midwifery-led care (appendix B). Oklahoma-based midwives should be fully involved in the design, implementation, and dissemination of public outreach and education efforts.

Conduct a Midwifery Workforce Study

As described earlier, access to maternity care is poor in Oklahoma, with most of the state's counties having few or no maternity care providers, birthing hospitals, or birth centers.[80] Midwives could play an important part in addressing severe maternity care shortages in the underserved areas of the state. Increasing and supporting the midwifery workforce requires a good understanding of current practice conditions and the scope of services provided, the geographic areas and demographics of clients served, and the demographic characteristics (such as race and ethnicity) of midwives. An in-depth assessment of the midwifery workforce, such as through a workforce survey, focus groups, and interviews, could help

identify barriers to training and practice and inform workforce development strategies. A similar survey was recently conducted in Texas (Burpo et al. 2018; Hastings-Tolsma et al. 2018).

The workforce study should specifically assess experiences obtaining midwifery education and the regulatory and practice environments for both nurse-midwives and licensed midwives, including the scope of practice regulations; the ease of opening a freestanding birth center; current practices and challenges around hospital transfers; the ease of access to third-party reimbursement, including challenges with billing Medicaid among CNMs; licensing requirements; access to malpractice insurance; and systemic barriers that disincentivize providing care to families with low incomes and communities of color. Collaborating with professional organizations that represent midwives in Oklahoma and national organizations and workforce development experts can help inform the development of data collection instruments, ensure robust participation of current midwives in the study, and lead to the development of a legislative and policy agenda to address identified challenges.

Promote Access to Midwifery Care in Medicaid

Medicaid is a crucial partner in efforts to promote the midwifery model of care, given that more than half of births in Oklahoma are covered by the program.[81] As discussed earlier, CNMs are eligible for Medicaid reimbursement in Oklahoma, but nurse-midwives attended less than 3 percent of Medicaid births in 2018, and all births took place in hospital settings (MACPAC 2020). Although freestanding birth centers are also covered in Medicaid per federal mandate, no Oklahoma birth center appears to bill Medicaid for prenatal care or delivery services.[82] The workforce survey mentioned above should include questions to identify systemic or financial reasons CNMs do not serve more Medicaid clients. Many key informants also pointed out that the lack of Medicaid coverage for licensed midwives and doulas is a challenge for improving access to community-based care for Medicaid beneficiaries. Increasingly more states are implementing Medicaid policies to improve access to a wide range of birthing services. For example, Florida provides Medicaid coverage for licensed midwives and birth center services, and some Medicaid managed-care companies also cover doula services.[83]

Medicaid's purchasing power is another lever the program could use to promote high-quality maternity care, should the implementation of managed-care proceed in Oklahoma.[84] States with managed-care programs can use plan contracting to require or incentivize managed-care plans to address priority areas, such as screening for and addressing enrollees' social needs, contracting with birth centers, or reporting on maternal health quality measures (Hinton and Stolyar 2020). For example, a recently launched managed-care program in North Carolina requires health plans to report on

maternal health measures, including the rates of low-birth-weight infants, the provision of prenatal and postpartum care, and the rate of screening for pregnancy risk (NC DHHS 2021). In addition, managed-care plans in North Carolina are required to report outcomes for certain measures by age, sex, race, ethnicity, and other demographic characteristics and will be financially accountable for reducing identified disparities (NC DHHS 2021).

The Institute for Medicaid Innovation recently launched a midwifery learning collaborative to promote access to midwifery-led care in Medicaid.[85] Five state teams from Arizona, California, Kentucky, Michigan, and Washington currently participate in this three-year initiative to develop and implement strategies for expanding midwifery in their respective states.[86] The Institute for Medicaid Innovation has developed many resources to aid stakeholders interested in promoting midwifery in Medicaid (appendix B).[87]

Create a Scholarship Program to Recruit and Support Black Student Midwives

As key informants noted, designating a midwifery education program just for Black students and students of color in Oklahoma is likely politically and legally infeasible. In addition, establishing an accredited midwifery education program in Oklahoma will take time. But there are ways to immediately begin recruiting and supporting Black student midwives who may be in training or are interested in enrolling in a midwifery education program out of state. The literature on midwifery education and key informants consistently mentioned the financial barriers that student midwives experience (ACME and ACNM 2019; Walker, Lannen and Rossie 2014). A scholarship program that offsets the cost of tuition and living expenses could help promote the midwifery profession in the Black community.[88]

Furthermore, scholarships could be given on the condition that participants practice in Oklahoma for a certain number of years upon graduation and certification. A similar approach is being used in Idaho, where a bill has recently been proposed that incentivizes medical students to return to practice in the state.[89] Until a midwifery education program is open in Oklahoma, scholarships could be tied to distance-learning midwifery education programs, where students can take academic classes online and complete clinical training in their communities.[90] It would also be important to ensure that established out-of-state midwifery distance-learning programs are allowed to operate in Oklahoma.

Student midwives are often nontraditional students who may be facing many competing responsibilities outside school. The scholarship program could therefore include other types of supports in addition to financial assistance, such as mentorship; academic support; assistance with exam preparation and certification or licensing expenses; and support with work-life balance, clinical training,

and transition to practice.[91] Several key informants also said that many midwives may not have the business acumen needed to open a birth center and contract with health plans. Financial literacy and business education therefore could serve student midwives well.

Key informants also reported that clinical training can often be challenging because of the power imbalance between student midwives and preceptors. With limited preceptorships, students may not have many options to pick from and may have to endure hostile, even racist, training environments to meet their clinical practice requirements. To increase the number of preceptorships and encourage equitable practices, Oklahoma stakeholders could consider creating a program that provides support to practicing midwives who serve as preceptors and provides compensation, guidance, and implicit bias training.[92]

Center Equity in Developing a Midwifery Education Program

Whether the Oklahoma-based midwifery education program will train CNMs or CPMs or both should be determined in collaboration with community members and key stakeholders. Key informants offered several considerations to help inform this decision. A pathway to nurse-midwife certification is longer and tends to be more academically rigorous, because participants need to have a bachelor's degree in nursing and a nursing license before completing a graduate midwifery program. Though the CM credential does not require a nursing degree, participants still need to complete both bachelor's and master's programs. According to key informants, professional midwifery programs tend to be more hands on and based in clinical practice and may be more accessible because participants do not need nursing or bachelor's degrees, although they may need to have certain practical experience in birth work, such as a doula certificate. Additionally, professional midwifery programs tend to be, on average, more affordable than master's degree midwifery programs (appendix table A.1).

Tulsa has several colleges and universities that offer nursing and health science programs (appendix table C.1). According to key informants, creating a midwifery education program within an accredited higher education institution can be beneficial because it reduces start-up costs for the program. However, several key informants also warned that strong commitment to and support for midwifery across the institution are needed. One key informant gave an example of a college-based professional midwifery program that closed because of internal opposition from a nursing department. This informant attributed the closure to "fear of home birth" and a lack of education about physiologic births and the midwifery model of care in the clinical field.

In contrast to nurse-midwifery programs, professional midwifery programs do not have to be affiliated with higher education institutions and can stand alone.[93] Though it can be considerably more difficult to open a standalone midwifery education program, such programs are not beholden to the internal politics of another institution, which several key informants recognized as a benefit. One key informant recommended that structuring a not-for-profit standalone program would allow the program to fundraise for its operations. This informant also suggested that a program could be structured in a way that even if participants do not complete the entire training, they gain knowledge and skills that can be transferred to careers in public health and maternal health. For example, the Onkwehon:we Midwifery Training Program in Ontario was designed so that with each year of training, students become "increasingly employable" and can become lactation consultants, doulas, perinatal health workers, and more.[94]

If a goal of the midwifery education program in Oklahoma would be to train more Black midwives and other midwives of color, then key informants suggested that the primary criteria for the host academic institution or a standalone program be a strong commitment to diversity, equity, and inclusion and demonstrated success in attracting and supporting students and faculty of color. To obtain accreditation, applicants must describe and demonstrate how the midwifery program will be administered and funded; who will provide instruction; how students will be recruited, admitted, and supported; what students will be taught; and how the program will be evaluated (ACME 2019).[95] The Accreditation Commission for Midwifery Education, which accredits nurse-midwifery programs, and the Midwifery Education Accreditation Council, which recognizes direct-entry midwifery programs, both seek to incorporate principles of diversity, equity, and inclusion in accreditation standards.[96] Creating a new midwifery education program is a prime opportunity to bake equity into all aspects of the program from the start—from administration, to admissions, to curriculum. Key informants pointed out a new online resource called Equity in Midwifery Education, which offers tips, tools, examples, and resources designed to promote greater equity in midwifery education.[97] Equity in Midwifery Education also developed an "Equity Agenda Guideline" that offers a road map showing academic institutions how to recruit and support a more diverse midwifery workforce (Effland et al. 2020).

Nurture a Homegrown, Diverse Health Care Workforce

The ability to enroll students year after year is a key element in the sustainability of a midwifery education program. Targeted efforts may be helpful in recruiting and retaining diverse Oklahoma midwives and health care professionals to address the state's shortages of primary care providers, nurses, dentists, and other health care providers.[98] "Pipeline programs" are structured interventions

designed to recruit and support students from underrepresented racial and ethnic groups in pursuing health-related careers.[99] These interventions can be targeted as early as in elementary schools to increase exposure to health care careers.[100] More comprehensive programming that includes academic enrichment and mentoring can be offered to middle school, high school, and college students to prepare them for nursing and medical schools. For example, the MERIT (Medical Education Resources Initiative for Teens) program in Baltimore provides its participants with academic enrichment, professional leadership and development support, college admissions guidance, summer internships in hospitals and research laboratories, and longitudinal mentoring that extends from sophomore year of high school through college graduation.[101] The Robert Wood Johnson Foundation's Summer Health Professions Education Program has provided support to college students interested in health professions for decades, and the Harold Amos Medical Faculty Development Program has been designed to increase diversity among medical, dental, and nursing faculty.[102]

Oklahoma has experienced persistent racial disparities in public education.[103] According to National Assessment of Educational Progress data, Oklahoma students rank below the national average in fourth grade and eighth grade math and English proficiency, but Black students' academic outcomes are worse than those for white students and other groups of students.[104] Oklahoma stakeholders could therefore advocate for greater and equitable investments in the K–12 education system to improve the education and preparation the system offers its students and to ensure a robust pipeline of homegrown talent pursing higher education and careers in health care and other professional sectors. The popularity of charter schools in Oklahoma offers another opportunity to invest in a health professions pipeline by creating programming focused on health sciences. For example, the Academy of Health Sciences Charter School in Rochester, New York, is a free public charter middle school designed to prepare students for health profession careers.[105]

Measure Program Effects

Finally, it will be important to develop and maintain capacity to collect and analyze data from student and practicing midwives to assess program effects. Program donors could incentivize comprehensive data collection and reporting by tying grants to data requirements and/or hiring a consultant to independently evaluate the program. To obtain and maintain accreditation, education programs must demonstrate that they can collect and report data on key measures such as enrollment, retention, and graduation and certification (ACME 2019).[106] But data collection and analyses are also important to provide a feedback mechanism on how the program is recruiting, training, and supporting students to inform continuous improvement of the program. Beyond the focus on academic and clinical

achievements, data should be collected to monitor student satisfaction and well-being and to measure the inclusivity of the institutional climate. And such data should be disaggregated by race and ethnicity and other key demographics (e.g., disability, sex, sexual orientation, gender identity, primary language, and economic status).[107]

Data capacity is also important for sustainability and supporting the business case for continued investments in the program, including through longitudinal tracking of graduates in practice and by measuring changes in the overall maternal health landscape (e.g., growth in the number of practicing midwives and changes in the number of births attended by midwives). However, these changes will likely be incremental and will depend on the growth of consumer demand for midwifery care and a supportive practice environment for midwives.

Importantly, improved access to high-quality, respectful, and culturally and linguistically effective midwifery care may not significantly reduce racial disparities in maternal and child health outcomes. Systemic racism affects many areas of life and drives underlying racial and ethnic inequities that affect women's health long before they become pregnant (Bailey, Feldman, and Bassett 2021; Gee and Ford 2011).[108] Even if Black midwives and other midwives of color are widely accessible and affordable in Oklahoma, engaging with a pregnant woman for nine months may not improve health outcomes if systemic racial disparities persist in education, housing, income, community resources, and other aspects of society.

Conclusions

Oklahoma is experiencing some of the worst maternal health outcomes in the nation, large racial disparities in maternal mortality, and a severe shortage of maternity care providers.[109] Establishing a midwifery education program with a focus on training Black midwives in Oklahoma presents an opportunity for growing and diversifying the maternal health workforce and improving access to evidence-based, high-value, and culturally effective maternity care that has the potential to reduce disparities in maternal and infant health. However, the findings of this study indicate that a midwifery training program alone is unlikely to succeed in addressing the maternal health crisis in Oklahoma if it does not also ensure broad buy-in and support for the midwifery model of care from the medical establishment, health care payers, and the public.

To ensure a successful and sustainable pathway to midwifery education and practice where midwives can support their communities, themselves, and their families, Oklahoma stakeholders could

consider a multipronged strategy that includes (1) community and stakeholder engagement and education, (2) policy changes to promote a supportive practice environment and access to midwifery care in Medicaid, and (3) targeted interventions to recruit and support Black students in obtaining midwifery education, certification, and licensing. These strategies should be refined, prioritized, and implemented in collaboration with Black families, midwives and birth workers, and physician champions.

Appendix A. Midwifery Pathways

TABLE A.1

Comparison of Midwifery Pathways Nationally and in Oklahoma

	Certified Nurse-Midwife (CNM)	Certified Midwife (CM)	Certified Professional Midwife (CPM)
Education and training[a]			
Education requirements for entry into midwifery training program	Bachelor's degree or higher from an accredited college or university and licensure as a registered nurse	Bachelor's degree or higher from an accredited college or university and successful completion of required science and health courses and related health skills training before or within midwifery education program	High school diploma or equivalent; prerequisites for accredited programs vary but typically include specific courses such as statistics, microbiology, anatomy, and physiology, and experience such as childbirth education and doula certification
Clinical experience requirements	Attainment of knowledge, skills, and professional behaviors as identified by the American College of Nurse-Midwives (ACNM) Core Competencies for Basic Midwifery Education. Clinical education must occur under the supervision of an American Midwifery Certification Board (AMCB)–certified CNM/CM or other qualified preceptor who holds a graduate degree, has preparation for clinical teaching, and has clinical expertise and didactic knowledge commensurate with the content taught; > 50% of clinical education must be under CNM/CM supervision.		Attainment of knowledge and skills identified in the periodic job analysis conducted by the North American Registry of Midwives (NARM). The clinical component of education must be at least two years in duration and include a minimum of 55 births in three distinct categories (observer, assistant, primary under supervision). Clinical education must occur under the supervision of a midwife who must be nationally certified and legally recognized and who has practiced for at least three years and attended 50 out-of-hospital births postcertification.
Degree required for certification	Graduate level (master's or doctorate)		None required
Credentialing organization	The Accreditation Commission for Midwifery Education (ACME)		The Midwifery Education Accreditation Council (MEAC)
Training programs	39 accredited programs		11 accredited programs
Average length of training	Master's-level program takes 2 to 3 years; doctorate-level program takes 3 to 4 years		The clinical component must be at least 2 years. The average apprenticeship, which includes didactic and clinical training, typically lasts 3 to 5 years.
Average annual tuition costs	$26,500. Tuition costs range from about $15,000 for a public in-state school to more than $50,000 for a private school.		$10,000. Tuition costs range from about $5,000 to about $27,000 a year.

	Certified Nurse-Midwife (CNM)	Certified Midwife (CM)	Certified Professional Midwife (CPM)
National certification			
National certifying organization	American Midwifery Certification Board (AMCB)		North American Registry of Midwives
Requirements to take national certification exam	▪ Proof of licensure active on the date of the examination as a US registered nurse And ▪ Graduate degree from an ACME-accredited nurse-midwifery program And ▪ Verification by the director of the nurse-midwifery program confirming completion of the program And ▪ Verification of master's degree or higher	▪ Graduate degree from an ACME-accredited nurse-midwifery program And ▪ Verification by the director of the nurse-midwifery program confirming completion of the program And ▪ Verification of master's degree or higher	▪ Graduation from a MEAC-accredited midwifery education program Or ▪ AMCB-certified CNM/CM with at least 10 community-based birth experiences Or ▪ Completion of an equivalent state licensure program Or ▪ Completion of NARM's Portfolio Evaluation Process All applicants must also submit evidence of current adult CPR and neonatal resuscitation certification or course completion.
Recertification requirements	Every 5 years		Every 3 years
Certified midwives nationally as of 2020	12,872	118	2,572
Race/ethnicity[b] ▪ White	85.5%		Unknown
▪ Black/African American	6.8%		21% self-reported as people of color in 2011
▪ Other	<5.0%		
Oklahoma licensure requirements[c]			
Licensure/oversight agency	Oklahoma Board of Nursing	Oklahoma State Department of Health	
Licensure requirements	CNMs apply for licensures as advanced practice registered nurses (APRNs). Requirements are as follows: 1. The applicant must hold one of the following licenses to obtain an APRN license in OK:	Documentation required for application: ▪ Completed and signed Midwife License Application Form ▪ Completed Affidavit of Lawful Presence Form ▪ Résumé with relevant midwifery work history ▪ Proof age is at least 18 years (legible copy of valid government issued photo ID such as a current driver's license) ▪ Proof of high school graduation or GED ▪ Proof of current certification from NARM or AMCB	

	Certified Nurse-Midwife (CNM)	Certified Midwife (CM)	Certified Professional Midwife (CPM)
	▪ A current OK license to practice as a registered nurse Or ▪ A dated temporary OK registered nurse license Or ▪ A current multistate license to practice as a registered nurse issued by another Compact Nursing State with OK multistate licensure privilege 2. Be a US citizen, US national, or legal permanent resident and complete an affidavit of citizenship status. 3. Hold a graduate-level degree from an advanced practice education program accredited by ACME. Must submit transcript to the OK Board of Nursing. 4. Hold current national certification by passing the examination in nurse midwifery/midwifery by the American Midwifery Certification Board. 5. Pass a background check and notify the OK Board of Nursing in writing of criminal charges, convictions, investigations, disciplinary actions, and/or judicial declaration of mental competence.	▪ Proof of current certification in neonatal resuscitation by the American Academy of Pediatrics or equivalent ▪ Proof of completion of coursework or training certificate within the last 3 years in administration of medicine, including injections and IV administration ▪ Proof of current certification in Bloodborne Pathogen training from the American Red Cross or equivalent ▪ Proof of current certification in CPR training for health care providers from the American Heart Association or equivalent ▪ Proof of other pertinent credentials	
Licensure fee	$70	$1,000 For license renewals: $1,100 after 30 to 89 days past expiration date; $1,250 after expired 90 or more days	

	Certified Nurse-Midwife (CNM)	Certified Midwife (CM)	Certified Professional Midwife (CPM)
Renewal requirements	Advanced practice licensure must be renewed concurrently with the Oklahoma registered nurse renewal in even-numbered years. If the registered nurse license is a multistate license issued by another Compact Nursing State, the Oklahoma APRN license must be renewed on even-numbered years by the end of the licensee's birth month.	Licenses must be renewed every 3 years. The following is required when renewing: ▪ Completed renewal application form ▪ Documentation of current certifications listed including the following: ▪ Affidavit of lawful presence ▪ Proof of current certification from NARM or AMCB or equivalent certification approved by the commissioner of health ▪ Proof of current certification in neonatal resuscitation by the American Academy of Pediatrics or equivalent ▪ Proof of completion of coursework or training certificate within the last 3 years in administration of medicine, including injections and IV administration ▪ Proof of current certification in Bloodborne Pathogen training from the American Red Cross or equivalent ▪ Proof of current certification in CPR training for health care providers from the American Heart Association or equivalent ▪ Any change in licensee personal/contact information	
Currently licensed midwives in Oklahoma[d]	74	31	
Oklahoma scope of practice regulations[e]			
Type of care provided	CNMs accept responsibility, accountability, and obligation to practice in accordance with usual and customary APRN standards and functions, as defined by the scope of practice/role definition statements for the CNM. Nurse-midwifery practice means providing management of care of normal newborns and women antepartally, intrapartally, postpartally, and gynecologically that occurs within a health care system that provides for medical consultation, medical management, or referral and is in accord with the standards for nurse-midwifery practice as defined by ACNM.	Licensed midwives may provide care only to low-risk clients determined by examination to be "normal" for pregnancy and birth. Such care includes prenatal supervision and counseling, preparation for childbirth, supervision and care during labor and delivery, and care of the mother and the newborn in the postpartum period.	

	Certified Nurse-Midwife (CNM)	Certified Midwife (CM)	Certified Professional Midwife (CPM)
Practice settings	▪ Birth centers ▪ OB/GYN practices ▪ Hospitals	Licensed midwives may provide care in hospitals with appropriate hospital privileges, birth centers, clinics, offices, and home birth settings. A client must provide a specific written consent for out-of-hospital birth before the onset of labor.	
Practice conditions	CNMs are independent and there are no requirements for a written collaborative agreement or supervision and no conditions for practice, except with regards to prescriptive authority as noted below.	Licensed midwives shall refer to or consult with a physician when a client's medical condition deviates from normal. Licensed midwives shall have written standard operating procedures that detail the process for referrals and medical consultations. This may include contact information for the referring physician or facility that the licensed midwife will use.	
Hospital privileges	Yes	If possible, the licensed midwife may accompany the mother or infant to the hospital if hospitalization is necessary. If possible, the licensed midwife may remain with the mother or infant until a care plan is established to provide continuity of care. Licensed midwives should not be considered as visitors in the health care setting and should be allowed into the hospital, consistent with hospital policy even when there may be visitor restrictions, such as those imposed during the pandemic.	
Prescriptive authority	May prescribe medications within the APRN's scope of practice under the medical direction of a supervising physician and an exclusionary formulary. Prescriptive authority shall not include dispensing drugs but shall not preclude, subject to federal regulations, the receipt of, the signing for, or the dispensing of professional samples to patients, in accordance with the APRN's scope of practice.	Licensed midwives are not granted prescriptive authority but may obtain, transport, and administer formulary medications when providing midwifery services. These medications include oxygen for fetal or maternal distress and infant resuscitation; local anesthetic for postpartum repair of tears, lacerations, or episiotomy; and vitamin K for control of bleeding in the newborn.	
Liability insurance requirements[f]	Not required	Not required, but the midwife must verbally and in written form disclose to a prospective client whether they carry malpractice insurance.	
Oklahoma costs and Medicaid reimbursement[g]			
Average cost of hospital vaginal delivery	$12,662		
Average cost of birth center vaginal delivery (includes prenatal care)	$3,000–4,000		
Medicaid reimbursement	$2,134	Not covered	

	Certified Nurse-Midwife (CNM)	Certified Midwife (CM)	Certified Professional Midwife (CPM)
Medicaid reimbursement as % of obstetrician fee	100%	N/A	

Sources: Education and training information is from the following: "Comparison of Certified Nurse-Midwives, Certified Midwives, Certified Professional Midwives: Clarifying the Distinctions among Professional Midwifery Credentials in the U.S.," American College of Nurse-Midwives, accessed April 12, 2022, https://www.midwife.org/acnm/files/ccLibraryFiles/FILENAME/000000006807/FINAL-ComparisonChart-Oct2017.pdf; "Comparison of Certified Nurse-Midwives, Certified Midwives, and Certified Professional Midwives," American College of Nurse-Midwives, updated June 2021, https://www.midwife.org/acnm/files/acnmlibrarydata/uploadfilename/000000000268/CNM-CM-CPM%20Comparison%20Chart%20June%202021%20Final.pdf; North American Registry of Midwives, *Certified Professional Midwives (CPM) Candidate Information Booklet (CIB)* (Summertown, TN: North American Registry of Midwives, 2021); "Become a Certified Nurse Midwife," NurseMidwifery.org, accessed April 12, 2022, https://www.nursemidwifery.org/become-a-cnm; "Best Nurse Midwifery Programs – 2021," RegisteredNursing.org, accessed April 12, 2022, https://www.registerednursing.org/nurse-midwife/programs/; "Online Midwifery Programs— 10 Top Degrees under $37,000," GetEducated, accessed April 12, 2022, https://www.geteducated.com/top-online-colleges/online-midwifery-programs/; "Midwifery Schools," Midwifery Education Accreditation Council, accessed April 18, 2022, https://www.meacschools.org/midwifery-schools/; American Midwifery Certification Board, *2020 Demographic Report* (Linthicum Heights, MD: American Midwifery Certification Board, 2020); Ida Darragh, Rachel Fox-Tierney, Miriam Atma Khasla, Carol Nelson, Kim Pekin, Debbie Pulley, and Mary Anne Richardson, *North American Registry of Midwives 2020 Annual Report* (Summertown, TN: North American Registry of Midwives, 2021); and Melissa Cheyney, Christine Olsen, Marit Bovbjerg, Courtney Everson, Ida Darragh, and Brynne Potter, "Practitioner and Practice Characteristics of Certified Professional Midwives in the United States: Results of the 2011 North American Registry of Midwives Survey," *Journal of Midwifery & Women's Health* 60, no. 5 (2015): 534–45, https://doi.org/10.1111/jmwh.12367. Information on national certification is from "Comparison of Certified Nurse-Midwives, Certified Midwives, and Certified Professional Midwives," American College of Nurse-Midwives. State licensure information is from the following: "Licensed Midwives Program," Oklahoma State Department of Health, accessed April 12, 2022, https://oklahoma.gov/health/protective-health/consumer-health-service/licensed-midwives-program0.html; "Instructions for Licensure as an Advanced Practice Registered Nurse," Oklahoma Board of Nursing, November 1, 2019, https://nursing.ok.gov/practice.pdf; "CNM Independent Practice Map," NCSBN, accessed April 12, 2022, https://www.ncsbn.org/5405.htm; "Number of Certified Nurse-Midwives (CNM) / Certified Midwives (CM) by State," American Midwifery Certification Board, updated February 2022, https://www.amcbmidwife.org/docs/default-source/reports/number-of-cnm-cm-by-state---february-2019-present607d50819fd7410f84b748c059e9a2d9.pdf?sfvrsn=cce5f80_6; and "Midwife Attended Births, U.S., 1989–2019," Birth by the Numbers, accessed April 12, 2022, https://www.birthbythenumbers.org/midwifery/. The scope of practice information is from the following: Oklahoma Nursing Practice Act, Unofficial Oklahoma Statutes, Title 59, Chapter 12, Section 567.1, available at https://nursing.ok.gov/actwp20.pdf; "Exclusionary Formulary for Advanced Practice Registered Nurses with Prescriptive Authority," Oklahoma Board of Nursing, accessed April 10, 2022, https://nursing.ok.gov/prac-exclusfrm.pdf; and "Title 310. Oklahoma State Department of Health, Chapter 395. Licensed Midwives," Oklahoma State Department of Health, accessed April 11, 2022, https://www.ok.gov/health2/documents/Midwives_CH395%20-%20Emergency%20Rule_FINAL%20(eff%202020-11-01).pdf. Information on costs is from the following: William Johnson, Anna Milewski, Katie Martin, and Elianna Clayton, "Understanding Variation in Spending on Childbirth among the Commercially Insured," Health Care Cost Institute, May 13, 2020, https://healthcostinstitute.org/in-the-news/understanding-variation-in-spending-on-childbirth-among-the-commercially-insured; and "SoonerCare Fee Schedules," Oklahoma Health Care Authority, accessed April 11, 2022, https://oklahoma.gov/ohca/providers/claim-tools/fee-schedule.html.

Notes: [a] The educational and training information is based on nationally developed standards for midwifery educational programs and publicly available information on the average length and cost of education. The North American Registry of Midwives' Portfolio Evaluation Process is a competency-based educational evaluation that verifies the knowledge and skills of applicants trained under the supervision of a registered preceptor in lieu of completing an accredited midwifery educational program.

[b] The most recent data on race and ethnicity statistics are only available for CNMs and CMs from American Midwifery Certification Board (2020). According to 2011 surveys of CPMs conducted by the North American Registry of Midwives (Cheyney et al. 2015), 21 percent of respondents identified as people of color, defined as Native American/Alaskan

Native, Asian, Black, Native Hawaiian/Pacific Islander, and Hispanic/Latina.

[c] Oklahoma is one of the few states that recognize the CM credential, but it has the same licensing requirements for CMs and CPMs.

[d] There were 65 CNMs in Oklahoma in 2018, according to Oklahoma Works, Nursing Professions Workgroup, *Nursing Workforce Oklahoma Report* (Oklahoma City, OK: Oklahoma Works, 2018). As of August 2021, there were 74 CNMs and CMs in Oklahoma, per "Number of Certified Nurse-Midwives (CNM) / Certified Midwives (CM) by State," American Midwifery Certification Board. Data on currently licensed midwives come from February 3, 2022, correspondence with the Occupational Licensing Division at the Oklahoma State Department of Health.

[e] The scope of practice for CNMs is guided by the rules applicable to the advanced practice registered nurse. The Oklahoma State Department of Health adopted emergency rules related to the practice of licensed midwives on November 1, 2020, effective through September 14, 2021, unless superseded by another rule or disapproved by the legislature; see "Title 310. Oklahoma State Department of Health, Chapter 395. Licensed Midwives," Oklahoma State Department of Health. In early 2021, Oklahoma proposed to make the Chapter 395 rules permanent.

[f] Oklahoma does not require health care providers to carry medical malpractice insurance. However, providers with visiting privileges in certain hospitals may need to obtain such insurance to work in these facilities. Additionally, some health insurance plans require participating providers to have malpractice insurance. See Donovan Weger, "Going Bare - Are Doctors Required to Have Malpractice Insurance?" Gallagher, updated March 19, 2021, https://www.gallaghermalpractice.com/blog/post/going-bare-are-doctors-required-to-have-malpractice-insurance.

[g] The Oklahoma Medicaid program covers care provided by CNMs only.

Appendix B. Additional Resources

Education and Outreach

- 21-Point Black Midwives Care Model, National Black Midwives Alliance
- 2020 International Year of the Nurse and the Midwife Toolkit, World Health Organization
- Advocacy Approaches to Promote Midwives and the Profession of Midwifery, Health Policy Project, 2013
- The Birth Place Lab, University of British Columbia
- Hear Her Campaign, Centers for Disease Control and Prevention
- I Am a Midwife Campaign, Midwives Alliance of North America, 2012
- Improving Our Maternity Care Now through Midwifery, National Partnership for Women and Families, 2021
- Our Moment of Truth: A New Understanding of Midwifery Care, American College of Nurse-Midwives
- PUSH for Midwives
- Setting the Standard for Holistic Care of and for Black Women, Black Mamas Matter Alliance, 2018
- The Truth About Midwives, Wendy C. Budin, 2013

Midwifery in Medicaid

- Essential Elements for a Maternal Health Initiative Business Case Checklist, Institute for Medicaid Innovation
- Improving Maternal Health, Access, Coverage, and Outcomes in Medicaid: A Resource for State Medicaid Agencies and Medicaid Managed Care Organizations, Institute for Medicaid Innovation, 2020
- Opportunities to Advance Midwifery-Led Models of Care: A Checklist for Medicaid Stakeholders, Institute for Medicaid Innovation

- Virtual Learning Series on Midwifery-Led Care in Medicaid, Institute for Medicaid Innovation

Developing a Midwifery Education Program

- ACME Accredited Programs
- ACME Criteria for Programmatic Accreditation of Midwifery Education Programs (published May 2019, revised 2021)
- ACME Criteria for Programmatic Preaccreditation of Midwifery Education Programs (published August 2019, revised 2021)
- Commonsense Childbirth School of Midwifery
- Equity in Midwifery Education
- Frontier Nursing University
- MEAC Accreditation Handbook
- MEAC-Accredited Programs

Supporting Student Midwives

- Fellowships:
  - CHOICES Center of Excellence Nurse Midwifery Fellowship Program
- Financial assistance:
  - American College of Nurse-Midwives financial resources
  - Equity in Midwifery Education scholarships and financial aid
  - Melanated Midwives scholarship
  - National Association of Certified Professional Midwives' Bigger Table Fund
  - National Association to Advance Black Birth Midwifery Scholarship
- Mentorship programs:
  - National Black Midwives Alliance Black Midwife Mentorship Program
  - UCSF School of Nursing Midwifery Mentoring and Belonging Program

Practice Environment

- American College of Nurse-Midwives Policy Agenda, 2021-2023
- The Birth Access Benefiting Improved Essential Facility Services (BABIES) Act, American Association of Birth Centers
- The Black Maternal Health Momnibus Act of 2021, American College of Nurse-Midwives
- The Midwives for Maximizing Optimal Maternity Services (MOMS) Act, American College of Nurse-Midwives
- Smooth Transitions Quality Improvement Program, Foundation for Health Care Quality
- Toolkit for Strengthening Professional Midwifery in the Americas, Pan American Health Organization

National Midwifery and Birth Equity Organizations

- American Association of Birth Centers
- American College of Nurse-Midwives
- Black Mamas Matter Alliance
- Citizens for Midwifery
- The Home Birth Summit
- Melanated Midwives
- Midwives Alliance of North America
- National Association of Certified Professional Midwives
- National Association to Advance Black Birth
- National Black Midwives Alliance

Appendix C. A Snapshot of Higher Education Institutions in Tulsa

TABLE C.1

Higher Education Institutions and Nursing Programs in Tulsa

Institution	Public/ private	Type of nursing program	Distance learning available	Annual tuition	Student diversity	Graduation rates	Employment rates
Langston University	Public	Undergraduate programs: ▪ Bachelor of science in nursing (BSN) ▪ Licensed practical nurse (LPN) to BSN ▪ Registered nurse (RN) to BSN Programs are available at the Langston, Tulsa, and Ardmore campuses	No	For fall 2020–spring 2021 school year: Resident, Langston campus: $6,508.84 Nonresident, Langston campus: $13,888.54 Resident, OKC/Tulsa/ Ardmore: $5,938.50 Nonresident, OKC/Tulsa/ Ardmore: $13,318.20	Undergraduate and graduate enrollment in fall 2019: ▪ Black/African American: 70% ▪ American Indian/Alaska Native: 8.22% ▪ White: 6.94% ▪ Two or more races: 3.61% ▪ Hispanic/Latinx: 1.6% ▪ Asian American: 0.776% ▪ Native Hawaiian/Pacific Islander: 0.0457%	Undergraduate graduation rate in fall 2019 within 150% completion time: 19%	Not available
Oklahoma State University	Public	RN to BSN program is online only and is a part of the campus in Stillwater.	RN to BSN program is completely online.	For the fall 2021–spring 2022 school year taking 15 credit hours (full-time status) each semester:	Undergraduate enrollment in 2019–20: ▪ White: 68% ▪ Two or more races: 10% ▪ Hispanic/Latinx: 9%	Undergraduate graduation rate in 2019–20 within 150% completion rate: 64%	Not available

Institution	Public/ private	Type of nursing program	Distance learning available	Annual tuition	Student diversity	Graduation rates	Employment rates
		The OSU-Tulsa campus is a transfer university, so it only offers junior- and senior-level courses. Students usually transfer with an associate's degree or at least 45 credit hours. There are no nursing programs, but there is a public health program.	Evening, hybrid, and online courses offered for the public health degree.	Resident: $5,116.50 Nonresident: $12,876.75 Online tuition and fees: Resident: $ 4,621.50 Nonresident: $12,381.75	▪ Black/African American: 4% ▪ American Indian/Alaska Native: 4% ▪ International students: 3% Asian American: 2%		
Oral Roberts University	Private	Undergraduate program: ▪ Nursing Graduate programs: ▪ Master's in nursing ▪ Doctor of nursing practice (DNP)	The undergraduate nursing program is on campus; both graduate programs are online only	For the fall 2022–spring 2023 school year: Undergraduate: $31,250 + $1,390 in fees Master's: $460 per credit hour + online student service fee of $199 per term Doctorate: $460 per credit hour	Undergraduate and graduate enrollment in fall 2019: ▪ White: 39.1 % ▪ Black/African American: 14.6% ▪ Hispanic/Latinx: 11.1% ▪ Two or more races: 4.06% ▪ American Indian/Alaska Native: 2.72% ▪ Asian American: 2.26%	Undergraduate graduation rate within 150% completion time in fall 2018: 57%	99.5% of 2019 graduates found jobs or continued on to graduate school
Tulsa Community College	Public	A prenursing associate in science program	No	For the 2020–21 school year: In-state: $3,445	Student diversity in fall 2019: ▪ White: 51% ▪ Hispanic/Latinx: 13%	Program completion rates at 150%	Not available

Institution	Public/ private	Type of nursing program	Distance learning available	Annual tuition	Student diversity	Graduation rates	Employment rates
		Two nursing (RN) tracks: ▪ Traditional RN track Career mobility track: LPN/paramedic to RN		Out-of-state: $8,845	▪ Two or more races: 12% ▪ Black/African American: 7% ▪ American Indian/ Alaska Native: 7% ▪ Asian American: 4% ▪ Race/ethnicity unknown: 4% ▪ International students: 2%	for nursing tracks: ▪ Traditional RN track: 83.45% Career mobility track: 87.8%	
The University of Oklahoma	Public	Nursing programs are at the campus in Oklahoma City. Undergraduate: ▪ BSN program ▪ Accelerated BSN ▪ LPN to BSN ▪ RN to BSN Graduate: ▪ Master's in nursing administration (online) ▪ Master's in clinical nurse specialist ▪ BSN to DNP clinical nurse specialist ▪ BSN to DNP executive leadership ▪ BSN to DNP family nurse practitioner ▪ PhD in nursing	The master's in nursing administration is completely online.	Tuition for the 2021–22 academic year at the OU Health Sciences Center: Oklahoma City: In-state: $11,966 Out-of-state: $28,731.50 Tulsa: In-state: $11,570 Out-of-state: $28,335.50	Undergraduate enrollment student diversity in 2019–20: ▪ White: 60.34% ▪ Hispanic/Latinx: 10.58% ▪ Two or more races: 9.16% ▪ Race and ethnicity unknown: 9.16% ▪ Asian American: 6.71% ▪ Black/African American: 4.55% ▪ American Indian/Alaska Native: 3.62% ▪ International students: 1.4%	Undergraduate graduation rates in 2019–20: ▪ BSN: 92 % ▪ Accelerated BSN: 94.4% ▪ LPN to BSN: 92.4% ▪ RN to BSN: 72.7%	Undergraduate employment rates in 2019–20: ▪ BSN: 96.4% ▪ Accelerated BSN: 95.2% ▪ LPN to BSN: 95.4% ▪ RN to BSN: 98.2%

Institution	Public/ private	Type of nursing program	Distance learning available	Annual tuition	Student diversity	Graduation rates	Employment rates
The University of Tulsa	Private	Undergraduate: ▪ BSN program Graduate: ▪ DNP in adult-gerontology acute nurse practitioner ▪ DNP in family nurse practitioner ▪ DNP in nurse anesthesia ▪ Post–master's degree to DNP	The graduate programs are hybrid	For the 2022–23 school year: Undergraduate: $45,556 Graduate: ▪ Adult-gerontology acute care nurse practitioner and family nurse practitioner: $1,136 per credit hour ▪ Nurse anesthesia: $1,327	Student diversity in fall 2019: ▪ White: 53% ▪ Two or more races: 10% ▪ Hispanic/Latinx: 9% ▪ International students: 9% ▪ Black/African American: 7% ▪ Asian American: 3% ▪ American Indian/Alaska Native: 3% ▪ Race/ethnicity unknown: 2%	Program completion rate at 150%: 73%	Not available

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