MARCH OF DIMES®

HEALTHY MOMS. STRONG BABIES.

Nowhere to Go: Maternity Care Deserts Across the US

2024 REPORT

The Huguley family

Aleeshia Huguley is pregnant in a county with low access to maternity care, where there is limited access to hospitals or birth centers that offer obstetric care and obstetric clinicians. She and her husband Serkeith, are concerned about being so far away from the only birthing hospital in their area—which serves four surrounding counties.

“To people in low-access areas, it’s a struggle,” Serkeith says. “Not everyone has the same equal medical care or the same equal accessibility. We can have the same doctor, but we don’t have the same journey to get to this doctor.”

Due to her high-risk pregnancy, Aleeshia has weekly doctor appointments. Her community’s lack of resources means her struggle with access to care won’t end with childbirth—she also worries about getting her new baby to regular appointments.

Aleeshia and Serkeith’s story underscores the broader issue of maternity care deserts in America. The emotional and physical toll on parents is significant, exacerbated by the long distances to hospitals. The couple aims to raise awareness about these challenges, hoping to improve access to care for families in similar situations.

Scan to learn more about the Huguley Family’s experience being pregnant in a low access area.

Executive Summary

Our latest national report on maternity care access in the United States (US) reveals a stark reality; where you live matters when it comes to the options available for maternity care. While some progress has been made to increase access to care, such as expanding and extending Medicaid, we continue to witness steady reports of obstetric unit closures and workforce shortages. In fact, 1 in every 25 obstetric units in the US shuttered their doors in the last 2 years, resulting in fewer choices, increased stress, and greater travel times for birthing people. The 2024 Nowhere to Go: Maternity Care Deserts in the US report reveals that over 35% of counties are considered maternity care deserts. This means that in 1,104 US counties, there is not a single birthing facility or obstetric clinician. These counties are home to over 2.3 million women of reproductive age and are the resident county of women who gave birth to over 150,000 babies in 2022.

Our most comprehensive analysis to date confirms that women living in maternity care deserts and counties with low access to care have poorer health before pregnancy, receive less prenatal care, and experience higher rates of preterm birth. Our analysis revealed an excess of over 10,000 preterm births among those living in maternity care deserts and limited access counties in 2020-2022. These findings affirm that US systems, policies, and environments are failing moms and babies.

Over 1 in 3 US counties lack a single obstetric clinician, and in many parts of the country obstetricians-gynecologists (OB-GYNs) and family physicians who deliver babies are leaving the workforce. Moreover, while midwives could supplement the obstetric workforce, 23 states have policies that inhibit them from administering the level of care they were trained to provide. Furthermore, 70% of birth centers in the US are within just 10 states. Our report examines policies that reduce barriers to integrating midwives into the healthcare system and make opening and sustaining birth centers more attainable. Both could provide more options for birthing people, decrease health expenditures, and improve satisfaction and birth outcomes. In addition, the report offers insights into how low insurance reimbursement rates and payment structures contribute to hospital closures, especially in rural areas.

Improved access and increased options for care are possible. March of Dimes will continue to lead the fight to improve health for all moms and babies. As a nation, we must redefine a positive pregnancy experience beyond mere survival, striving for an environment free from discrimination irrespective of geographical location, insurance status, sexual orientation, or racial and ethnic background. The data in this report underscores the need for immediate action to improve the pregnancy and birth experience for moms nationwide.

March of Dimes urges policymakers, healthcare providers, and communities to work together to ensure that all moms and babies receive quality care.

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Introduction

The United States (US) is experiencing a maternity care access crisis along with rising rates of poor maternal health outcomes. Now more than ever, workforce shortages and hospital closures are an everyday reality in the US, particularly in rural areas. Inequities in birth outcomes and maternal mortality by race, ethnicity, and payer source persist and serve as a reminder that racism and discrimination are experienced by far too many birthing people when seeking care. Although policy changes, including Medicaid expansion and extension provide more birthing people access to health insurance than ever before, the reversal of Roe v. Wade has resulted in changes in reproductive healthcare for millions of women and impacted the obstetric workforce.

Ensuring consistent, high-quality maternity care is essential to safeguard the health of pregnant people and the 3.6 million babies born each year in the US. In addition to the over 800 maternal deaths that occur each year, the infant mortality rate increased significantly in 2022 for the first time in two decades. With adequate access to timely and appropriate care, many of these deaths are preventable.

Nowhere To Go: Maternity Care Deserts Across the US continues to expand education and awareness about areas without access to care. By diving into data and explaining barriers that keep women with too few options, knowledge becomes the catalyst for action. The report examines how factors like fertility rates, chronic disease, and social drivers of health (SDOH) influence access to care and for the first time, maternity care access and its association with birth outcomes are explored. Policy actions and recommendations that can improve access to care are also incorporated throughout the report.

March of Dimes recognizes that using the term desert to describe counties is limited and can oversimplify the complex issues faced by communities most impacted by the maternity care crisis. "Maternity care desert" is used to align with prior reports. March of Dimes uses the term desert to refer to a quality or ability to fail (someone), especially at a crucial moment when most needed, in the context of maternity care availability.

Key findings

35% of US counties are maternity care deserts.

More than **150,000** babies were born to birthing people living in maternity care deserts.

- An additional 200,000 babies were born to birthing people living in counties with limited maternity care access.

More than **2.3 million** reproductive aged women live in maternity care deserts.

- Over 3 million additional women live in counties with limited maternity care access.
- Living in a maternity care desert is associated with a 13% increased risk of preterm birth.

Over half of counties in the US do not have a hospital that provides obstetric care.

- In 2021 and 2022, approximately 1 in 25 obstetric units closed nationwide.

Nearly **70%** of birth centers are located within just 10 states.

2.5 million reproductive aged women live in a county without an obstetric clinician.

- Only 27 states and DC grant full practice authority to Certified Nurse Midwives (CNMs).

The average percent of uninsured women in maternity care deserts is **2 times the rate** of those living in areas with full access.

On average, birthing women in the US travel **16 minutes** by car to their nearest birthing hospital without traffic.

- Driving time increases to 26 and 38 minutes, on average, for rural and maternity care desert residents, respectively.
- States with significantly longer travel times included North Dakota, Montana, Mississippi, South Dakota, and Nevada.

Fertility rates in rural counties and maternity care deserts are **higher** than urban and full access counties and are decreasing at a slower pace.

Chronic conditions related to poor health outcomes, like pre-pregnancy obesity, hypertension, and diabetes, have **increased significantly** since 2015 and are most common among women living in maternity care deserts.

- These conditions are most prevalent among Black and American Indian/Alaska Native birthing people.

How to use this report

Educate

Gain insights from the thorough examination of maternity care access in the US to raise awareness about the ongoing maternity health crisis.

Plan

Develop targeted programs and interventions to enhance access in areas with unmet needs and identify opportunities for collaboration.

Advocate

Leverage the policy recommendations and data to advocate for changes within communities and states.

Look for the megaphone on ways to take action.

Allocate

Make informed resource allocation decisions to improve the health of moms and babies.

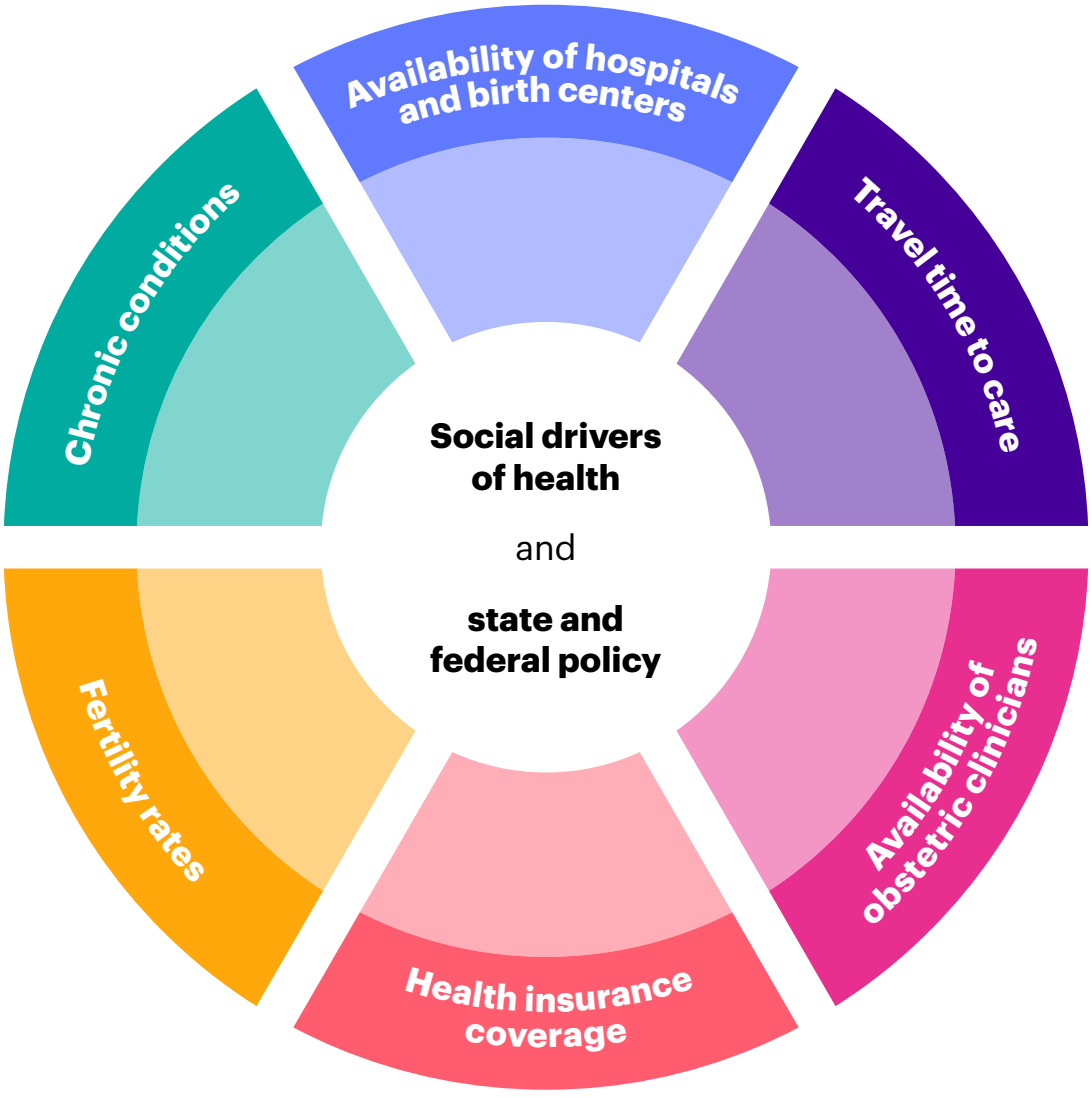
Measures and components of access

This report explores access to maternity care within the context of healthcare access, defined as the "timely use of personal health services to achieve the best possible health outcomes".[1]

The report examines maternity care access using 2 measures that quantify the need for maternity care services in each county. The first is March of Dimes maternity care access designations and the second is a continuous measure based on a 6-factor index score created in 2022 by the Health and Resources Service Administration (HRSA) to classify counties with need for maternity care.[2] Together, these measures continue to illuminate access challenges while also providing valuable data to strengthen programmatic decisions, allocate resources, support advocacy, and encourage research efforts.

While not exhaustive, Figure 1 illustrates the individual key factors affecting maternity care access analyzed throughout this report. Each segment examines specific topics, incorporating recent data, and exploring the influence of state and federal policies and SDOH. This report aims to highlight the challenges in ensuring that everyone has equitable and timely access to maternity care.

Figure 1. Key factors affecting maternity care access



Maternity care access

Maternity care deserts

March of Dimes maternity care access designations are based on 3 factors: the ratio of obstetric clinicians to births, the availability of birthing facilities, and the proportion of women without health insurance. Each county is classified into 1 of 4 categories: full access, moderate access, low access, or maternity care desert (Table 1).

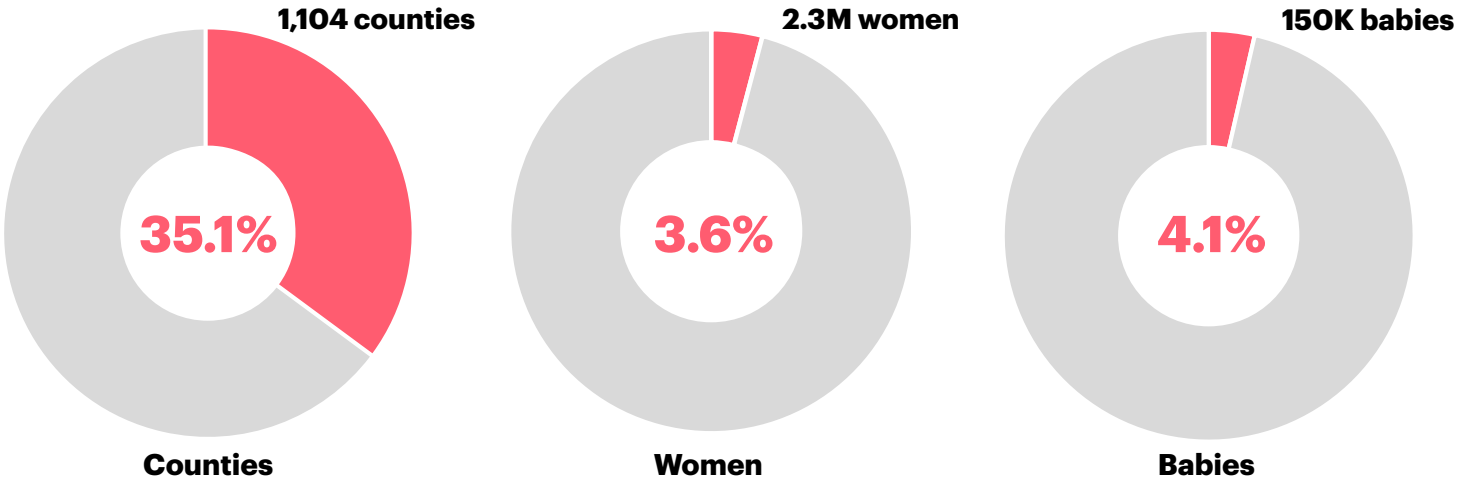
Over one third (35.1%) of the 3,142 US counties are considered maternity care deserts, areas without a single birthing facility or obstetric clinician. Approximately, 6 in 10 maternity care deserts are rural, less populated areas. These 1,104 counties are home to over 2.3 million women of reproductive age. In 2022, more than 150,000 babies were born to women residing in maternity care deserts, comprising 4.1% of total births (Figure 2). Furthermore, roughly 1 in 10 birthing people reside in counties without full access to maternity care. Each birth represents a person or family required to travel beyond their community for prenatal care, delivery, and postpartum care, facing challenges not encountered by those in areas with full access to maternity care.

Table 1. Maternity care access designations

	Maternity care desert	Low access	Moderate access	Full access
Hospitals and birth centers offering obstetric care	zero	<2	<2	≥2
Obstetric clinicians per 10,000 births*	zero	<60	<60	≥60
Proportion of women 19-54 without health insurance	any	≥10%	<10%	any

*Obstetric clinicians include OB-GYNs, CNMs/CMs and family physicians who reported delivering babies.

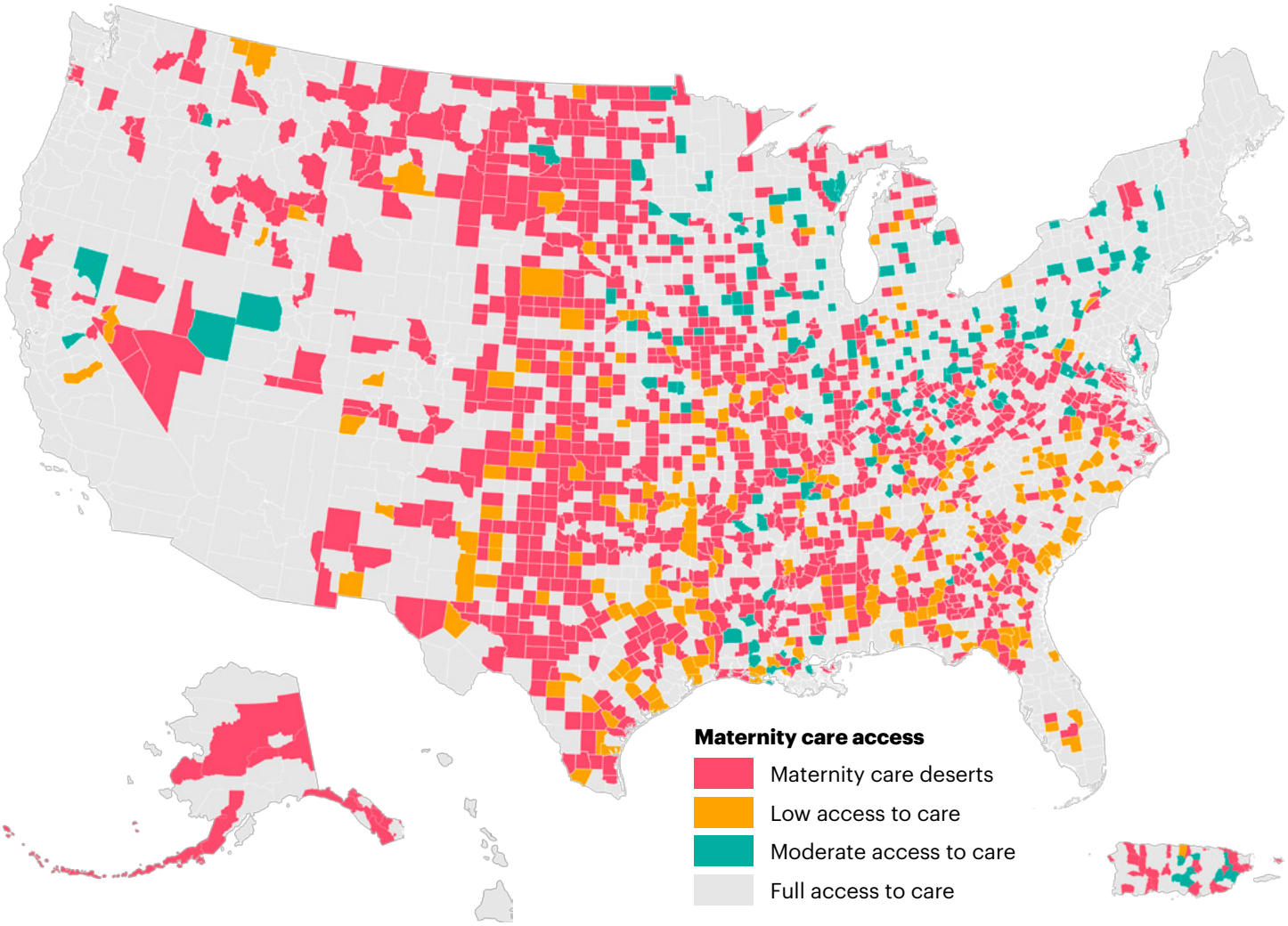
Figure 2. Number and percentage of US counties (N=3,142) designated as maternity care deserts and the reproductive-aged women and babies living in these counties



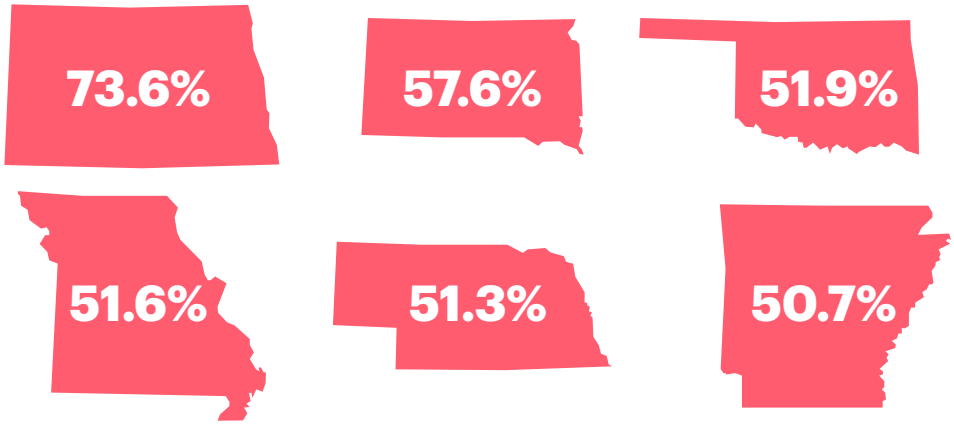
Note: Percentages are calculated from the following totals: 3,142 US counties, 65 million reproductive-aged women, and 3.6 million babies born in 2022.

Over 35% of US counties are maternity care deserts

Figure 3. Maternity care access designation by county, US and Puerto Rico



States with the highest percent of maternity care deserts



Note: From left to right - top row: North Dakota, South Dakota, Oklahoma; bottom row: Missouri, Nebraska, Arkansas.

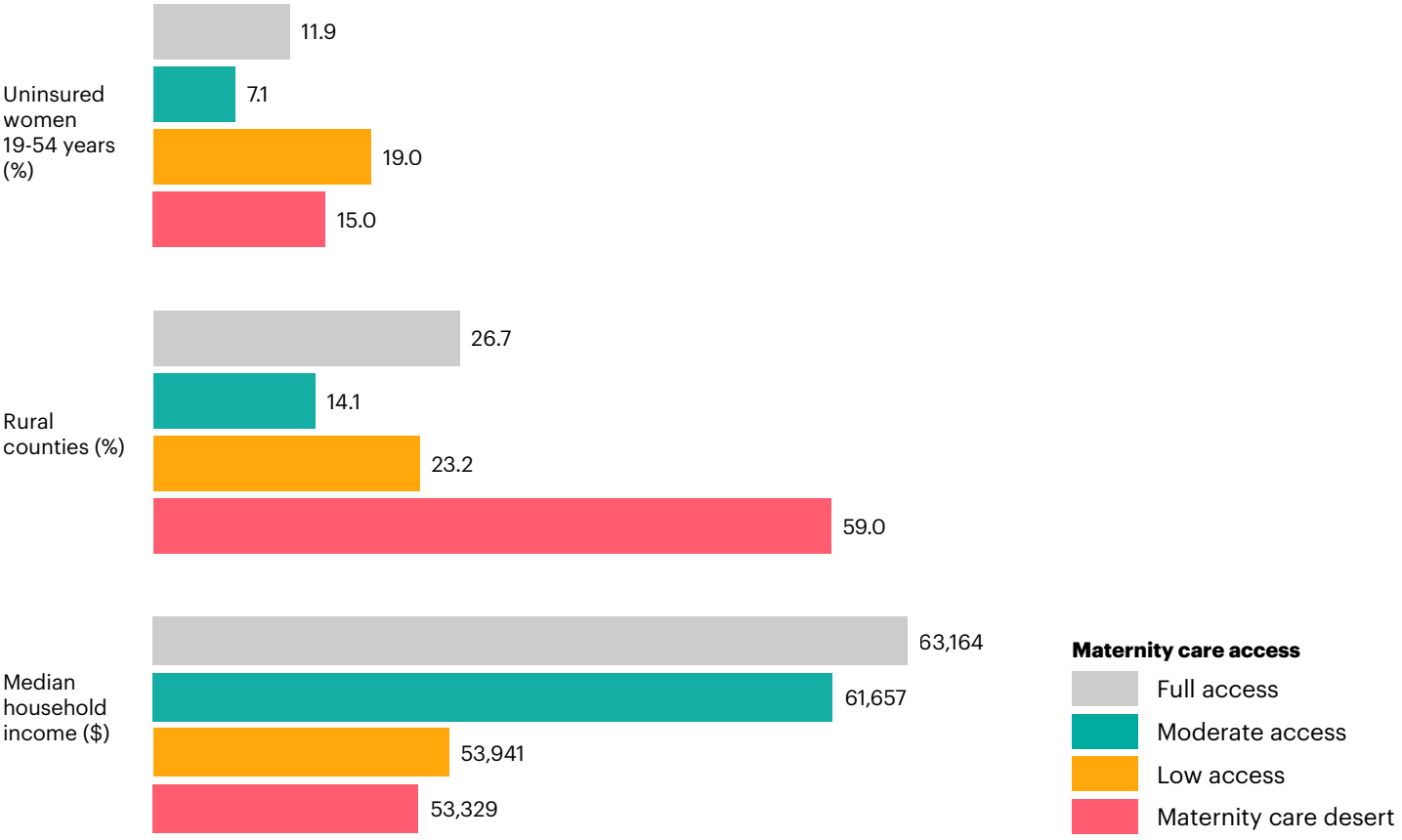
Demographic characteristics, including race/ethnicity and household income, vary by maternity care access designation. Nearly 1 in 10 babies was born to American Indian/Alaska Native (AI/AN) women living in areas without access, compared to fewer than 1 in 25 babies in the US, overall. AI/AN birthing people are also more likely to live in low and moderate access counties; nearly 1 in 5 births among AI/AN women in 2022 was to those living in counties without full access to care.

The median household income among people living in maternity care deserts was $53,329, 9.5% lower than the national average ($58,938) and 15.6% lower than in counties with full access ($63,164). Furthermore, the proportion of uninsured reproductive-aged women is higher in maternity care deserts and low access counties, at 15% and 19% respectively, compared to 11.9% in full access counties. Additionally, nearly two thirds of maternity care deserts are rural (Figure 4). These findings suggest that residents of maternity care deserts face geographical barriers and significant financial obstacles when seeking care.

The following section examines the association between maternity care access and the utilization of prenatal care and preterm birth.

Geographical and demographic characteristics vary by access designation

Figure 4. County demographics by maternity care access designation, US



Sources: US Health Resources and Services Administration (HRSA), Area Health Resources Files, 2022-2023 file; American Board of Family Medicine, 2019-2022; American Association of Birth Centers, 2023; Centers for Medicare and Medicaid Services, National Plan and Provider Enumeration System (NPPES), November 2023 file; National Center for Health Statistics, 2022 final natality data; US Census Bureau, 2022 American Community Survey 5-Year Estimates; American Hospital Association, 2022.
Note: Puerto Rico not included in US estimates.

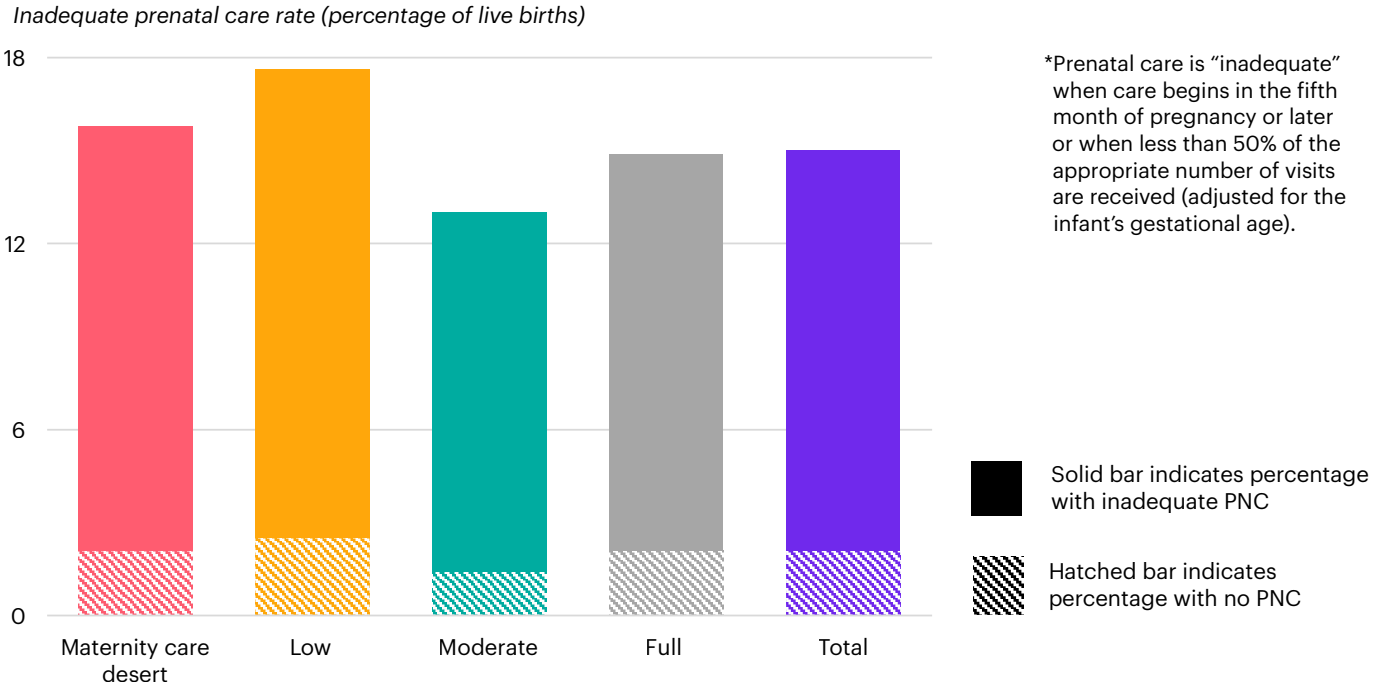
Prenatal care utilization in maternity care deserts

Following the recommended schedule for prenatal care (PNC) has been shown to minimize the risk of pregnancy complications and improve outcomes for both mom and baby.[3] The utilization of PNC is assessed using the Adequacy of Prenatal Care Utilization (APCU) Index, which ranges from inadequate* to adequate plus. The index examines the month of PNC initiation and the number of PNC appointments attended.[4] Research suggests that younger individuals, those with less education, fewer economic resources, or living in disadvantaged communities are less likely to receive adequate PNC. Additionally, racism within maternity care systems impacts the use of PNC among minority populations.[5] As routine PNC became more common in the 1990s, early reports found that Black women initiated care later and attended fewer visits than their White peers.[6] This trend persists today, with 21.9% of Black women receiving inadequate PNC compared to 11.1% of White women between 2020 and 2022.

Inadequate PNC is also associated with where a person lives, with 1 in 6 (15.8%) babies in maternity care deserts and 1 in 5 (17.6%) babies in low access counties not receiving adequate care from 2020 to 2022 (Figure 5). This led to over 130,000 babies being born without adequate care, with 18,000 (13.8%) receiving no PNC at all. Those living in maternity care deserts and low access counties faced a 14% and 12% higher risk of receiving inadequate and no PNC, respectively, compared to those in full access counties. Still, unacceptably high rates of inadequate PNC persist in counties with full access to maternity care as well, underscoring the need for nationwide education and outreach efforts to increase PNC utilization regardless of geographical location. Low and moderate access counties are distinguished by their high and low proportions of uninsured women. The difference in inadequate PNC rates between these two types of counties highlights how crucial it is for women to have health insurance both before and during pregnancy.

Birthing people in maternity care deserts and low access counties are most likely to receive inadequate PNC

Figure 5. Inadequate PNC by maternity care access designation and amount of PNC received, US, 2020-2022



Source: National Center for Health Statistics, final natality data, 2020-2022.
Note: Inadequate prenatal care includes no prenatal care.

Preterm birth in maternity care deserts

In the US, 1 in 10 babies is born preterm, or before 37 weeks gestation.[7] Preterm birth rates vary greatly by state and range between 8.2% in New Hampshire and 14.8% in Mississippi (2022 data). There are significant disparities in preterm birth rates across different racial and ethnic groups, with Black birthing people experiencing a rate of 14.6% from 2020 to 2022, which is 1.5 times higher than the rate observed among all other babies. Local policies and resources play a significant role in determining who can access healthcare and the quality of care they receive, which has an impact on birth outcomes, including preterm birth. This influence can be direct, like delays in care due to Medicaid enrollment procedures, or indirect, such as initiatives promoting culturally sensitive healthcare.[8–10]

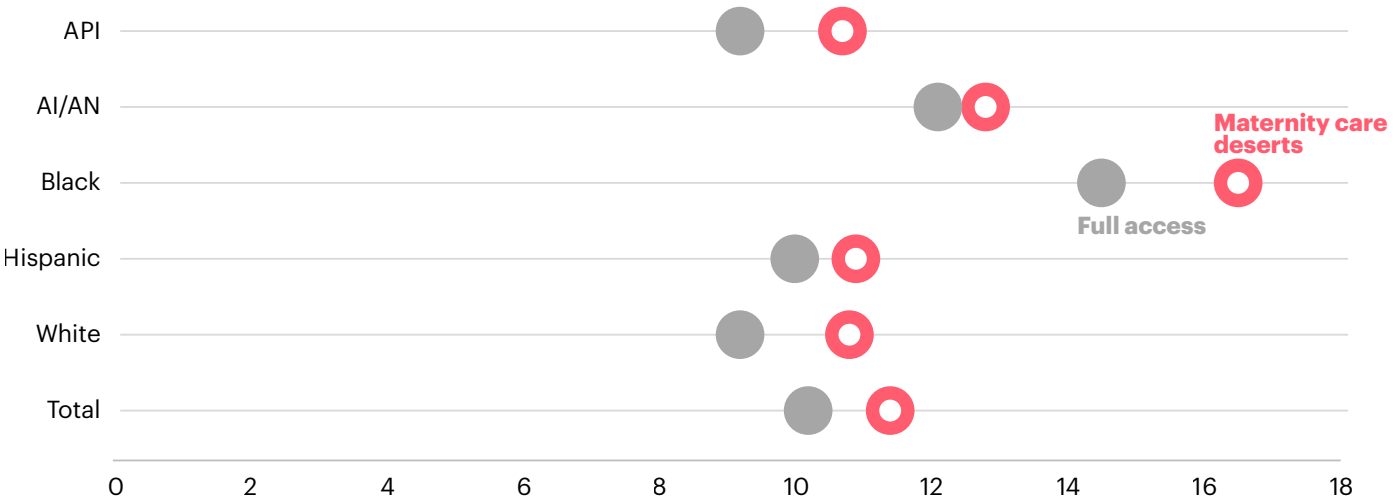
Living in a maternity care desert or low access county is associated with a 13% and 11% increased risk for preterm birth, respectively, compared to living in a full access county. Between 2020 and 2022, over 11% of live births to women living in counties with no or low access were born preterm compared to 10.2% in full access counties. Over 51,000 preterm babies were born to people living in maternity care deserts during this time, and another 65,000 to people living in low and moderate access counties. Elevated preterm birth rates among those living in maternity care deserts, low, and moderate access counties account for more than 10,000 excess preterm births when compared to the preterm birth rate of full access counties.

Preterm birth rates by race and ethnicity follow a similar trend when examined by access level and decrease as access increases. Babies born to Black birthing people in maternity care deserts have a 12% higher preterm birth rate than those born in full access counties (Figure 6). The same is true for babies born to White birthing people in maternity care deserts, who have a 15% higher rate than those in full access counties.

While not all preterm births are preventable, disparities in preterm birth rates by geography and race/ethnicity illustrate a need for targeted interventions to address the inequitable burden within communities across the US.

Preterm birth rates are higher in maternity care deserts than full access counties for all race/ethnicities

Figure 6. Preterm birth rates by maternal race/ethnicity and maternity care access designation, US, 2020-2022



Source: National Center for Health Statistics, final natality data, 2020-2022.
Notes: API=Asian/Pacific Islander; AI/AN=American Indian/Alaska Native.

Maternity care access score

Health Professional Shortage Areas (HPSAs), as designated by HRSA, represent areas where primary medical providers are scarce. Following the determination of primary care HPSAs, a Maternity Care Target Area (MCTA) index score is calculated to quantify each county's need for maternity care. Index scores are based on 11 data components encompassing 6 factors (Table 2) that range from 0 to 25, with the highest score indicating a greater need.[2] These scores are used to inform the distribution and placement of eligible National Health Service Corps (NHSC) clinicians who provide maternity care services. In this section, need for maternity care is examined as a continuous measure, referred to as a maternity care access score, based on a modified MCTA criteria (see technical notes).

There are 780 US counties currently classified as primary care HPSAs. Nearly half (48.2%) of maternity care desert counties, 23.4% of low access counties, and 17.6% of moderate access counties were also identified as shortage areas by HRSA. The average maternity care access score among US counties was 10.6, ranging from 0 to 23. Maternity care access scores differed by designation level, highlighting gaps in care, (Figure 8) with the highest average score among maternity care deserts (15.1) and the lowest average score among full access counties (9.7).

Table 2. Maternity care access score factors and definitions

Factor	Definition
Population to maternity care clinician ratio	The number of reproductive-aged women compared to the number of maternity care clinicians.
Income level	The percentage of people at or below 200% of the Federal Poverty Level (FPL).
Travel time and distance to care	The time/distance a person would travel by car to the closest maternity care hospital.
Fertility rate	The number of births per 1,000 reproductive-aged women.
Maternal Vulnerability Index (MVI)	Maternal vulnerability to poor maternal and infant health outcomes. See more on page 35.
Maternal health indicators	The proportions of birthing people with pre-pregnancy diabetes, obesity, and cigarette smoking, and that initiated prenatal care in the first trimester.
Population to behavioral health professional ratio	The number of reproductive-aged women compared to the number of mental health professionals.

Maternity care deserts have the highest maternity care access score of all designations

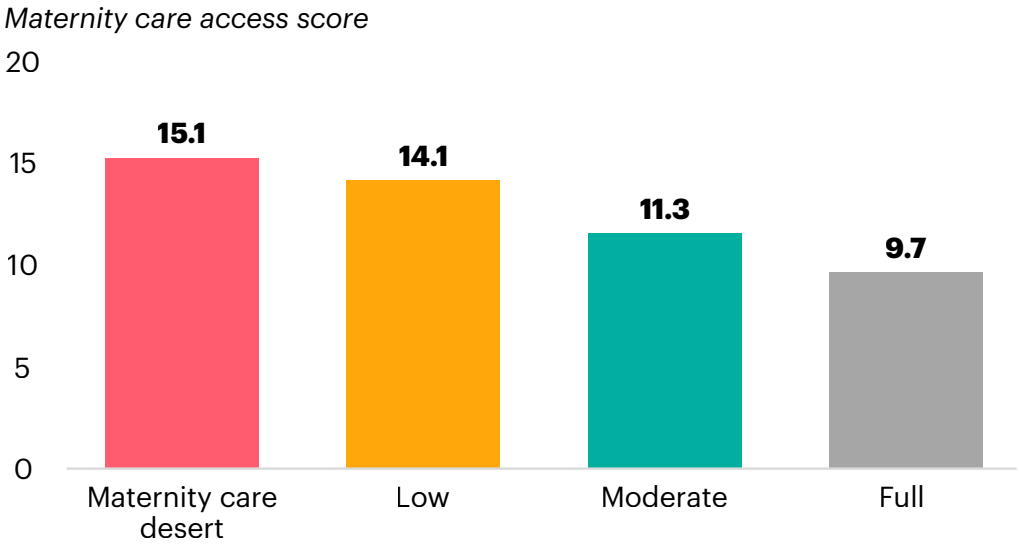


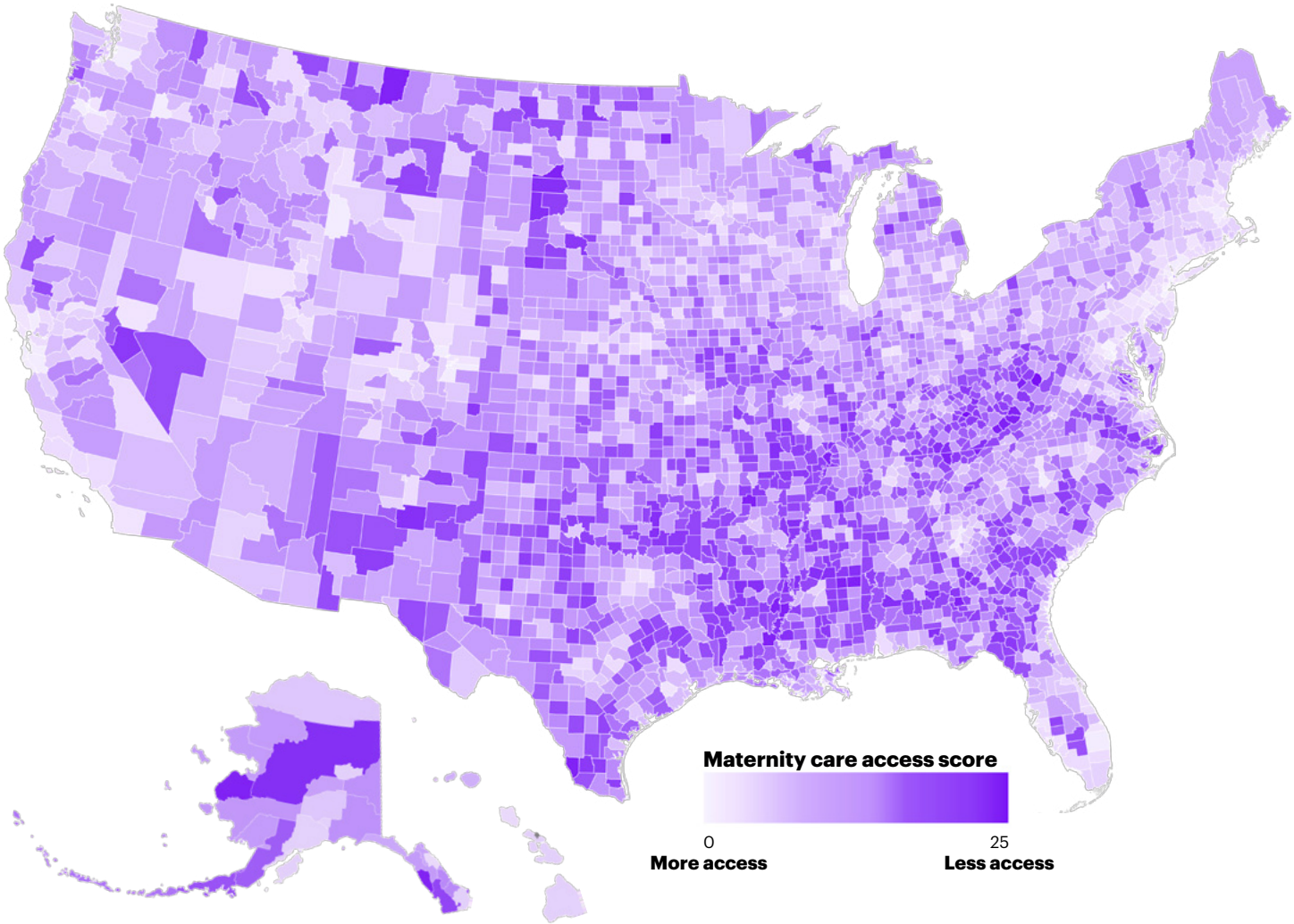
Figure 8. Maternity care access score by maternity care access designation

Maternity care access scores are highest in the southern region of the US, with most states scoring above 13 points. Mississippi had the highest average maternity care access score (14.9), followed by Arkansas (14.0), Louisiana (14.0), Oklahoma (13.9), West Virginia (13.9), and Kentucky (13.7).

The Northeast accounted for 7 of the top 10 states with the lowest scores. When examining each of the 6 factors individually (Appendix), maternity care deserts had the highest average score, or most need, in the following categories: behavioral/mental health provider access, fertility, driving distance to a hospital, and availability of obstetric clinicians.

Areas with the most need for maternity care are concentrated in the south of the country

Figure 7. Maternity care access score by county, US

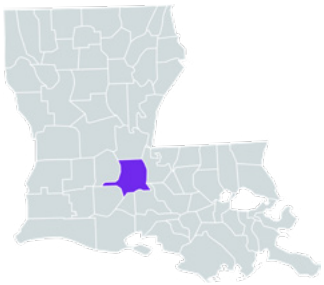


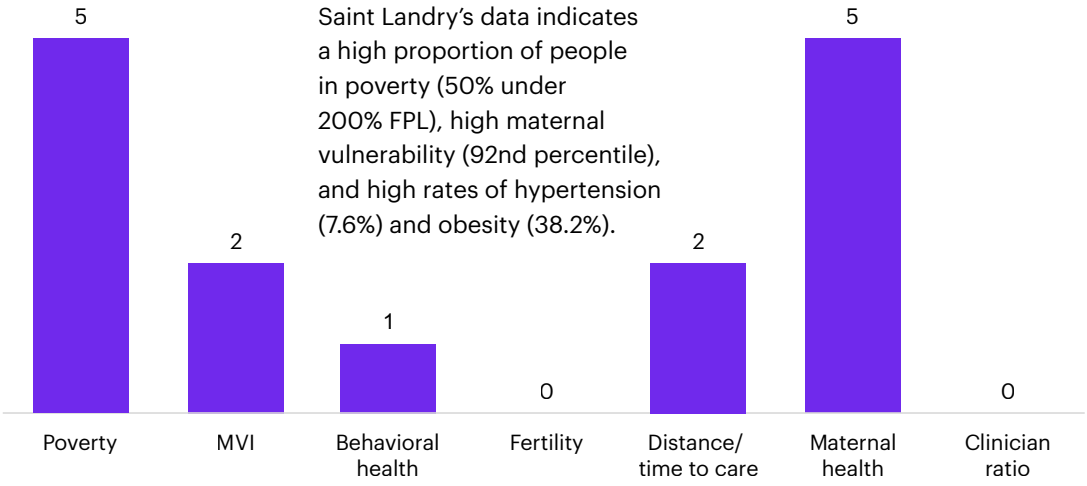
Sources: US Health Resources and Services Administration (HRSA), Area Health Resources Files, 2022-2023 file; American Board of Family Medicine, 2019-2022; American Association of Birth Centers, 2023; Centers for Medicare and Medicaid Services, National Plan and Provider Enumeration System (NPPES), November 2023 file; National Center for Health Statistics, 2022 final natality data; US Census Bureau, 2022 American Community Survey 5-Year Estimates; Surgo Health Maternal Vulnerability Index.

Comparing two counties

Both counties below have the same maternity care access score of 15. The underlying data that comprises their scores helps tell a story of their differences.

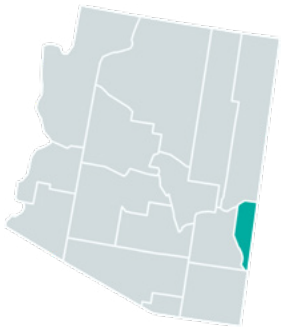
Saint Landry, LA

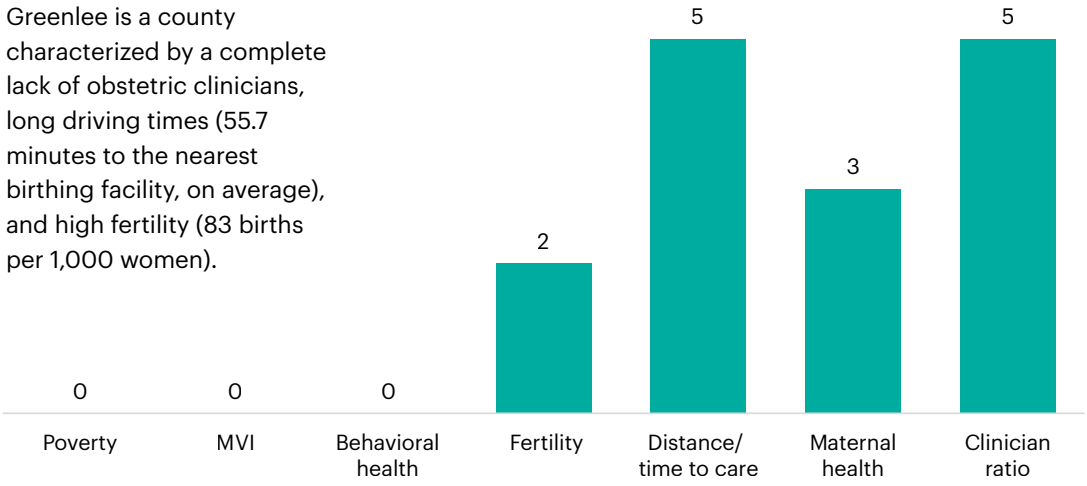




Saint Landry's data indicates a high proportion of people in poverty (50% under 200% FPL), high maternal vulnerability (92nd percentile), and high rates of hypertension (7.6%) and obesity (38.2%).

Greenlee, AZ





Greenlee is a county characterized by a complete lack of obstetric clinicians, long driving times (55.7 minutes to the nearest birthing facility, on average), and high fertility (83 births per 1,000 women).

Examining counties through this lens can provide nuance on the issues impacting access to maternity care. Program planners, community leaders, policymakers, and researchers must understand the populations they serve, their needs, and where they face access limitations. For counties like Greenlee, opportunities exist to improve access to clinicians through solutions like telehealth prenatal care appointments or subsidized rideshare trips for in-person appointments.[11,12] For a parish such as Saint Landry, solutions targeting the community's welfare and general health or programs that incentivize preventative healthcare, could help bolster residents' access to basic needs and improve their overall health prior to pregnancy.[13,14]

Note: Each factor has a possible score range following HRSA methodology: poverty (0-5 points), MVI (0-2), behavioral health (0-1), fertility (0-2), distance/time to care (0-5), maternal health (0-5), clinician ratio (0-5). For more information, please see Technical Notes.

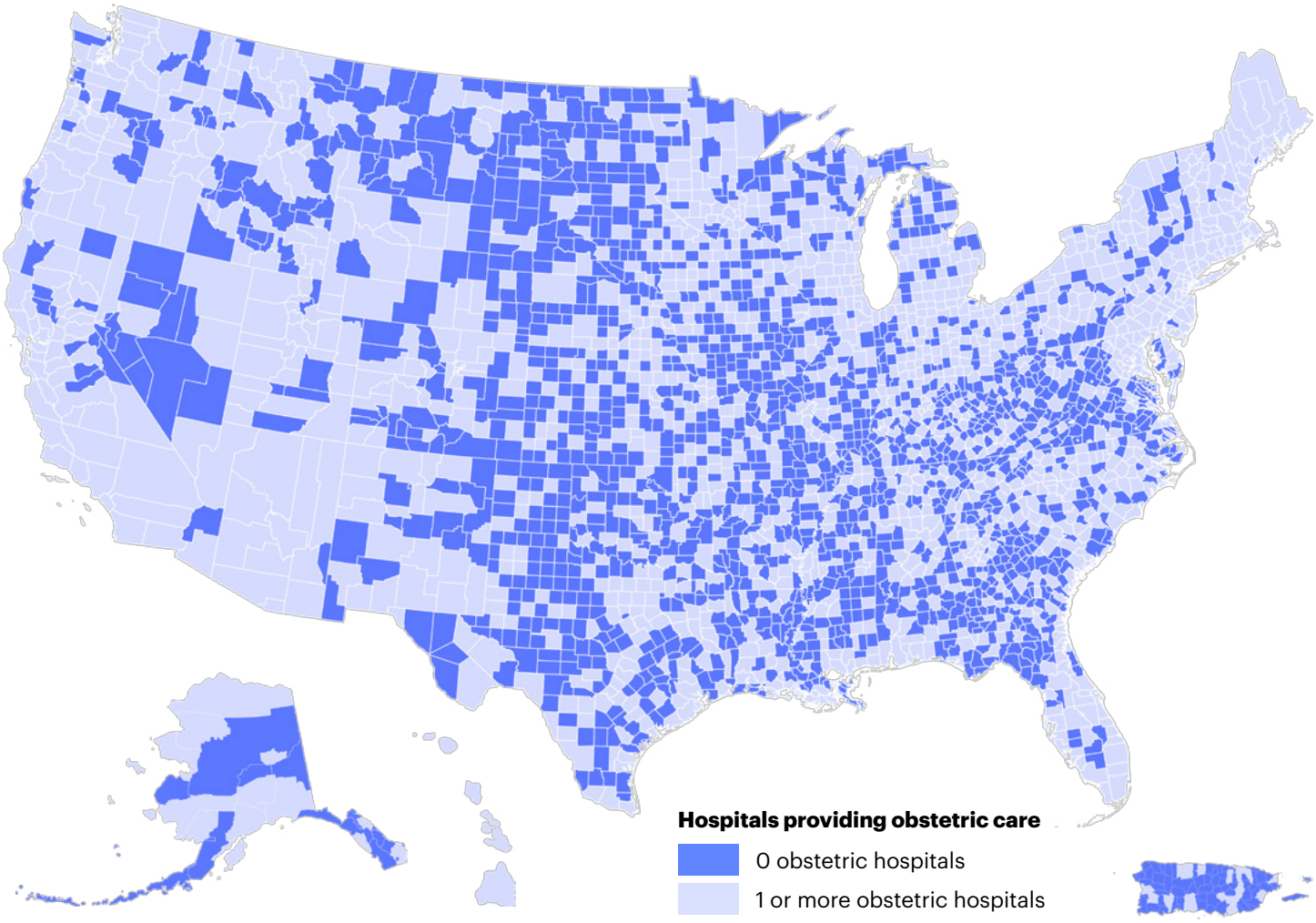
Availability of obstetric hospitals and birth centers

Obstetric hospitals

Across the nation, the closure of hospital obstetric units has played a role in the crisis of access to maternity care, resulting in fewer options for birthing people and increased barriers to finding care. In 2022, there were over 2,500 hospitals with obstetric services in the US. However, despite 97.7% of births occurring in hospitals, 52% of counties do not have a hospital with an obstetric unit (Figure 10). The disparity is even greater within rural areas, where 67.4% of counties lack a single obstetric hospital. In 2022, nearly 6 million women of reproductive age, and 1 in 10 babies born, lived in counties without hospital obstetric services.

Over half of all US counties do not have a hospital that provides obstetric care

Figure 10. Distribution of hospitals providing obstetric care by county, US and Puerto Rico

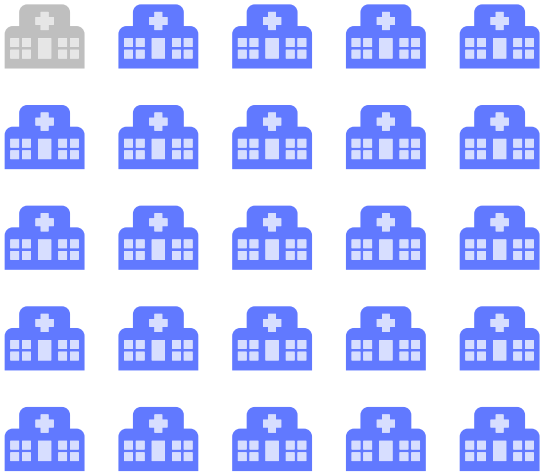


Source: American Hospital Association, 2022.

Obstetric unit closures can reduce access to essential prenatal care, lead to delays in emergency treatment, and contribute to overcrowding in nearby hospitals. However, in some cases, closures may lead to positive outcomes if they divert patients to hospitals offering higher quality care or those with specialized services and staff.[15] In 2021 and 2022, there were at least 107 obstetric unit closures nationwide. While closures occur in both urban and rural counties, rural residents often rely on the shuttered hospital as their sole option for care, intensifying the impact on access for these communities. In fact, this was the case for 72.0% of rural hospitals that experienced closure. The primary reasons cited for closures include low birth volume, insufficient reimbursement rates from insurance providers, and a shortage of staff such as obstetricians, family physicians, and nurses.[16]

In 2022, 41.0% of all births were paid for by Medicaid. Reimbursement rates are lower for Medicaid than other private insurers.[17] Because of this, facilities and clinicians caring for lower income patients face exceptional challenges in generating revenue for obstetric services.[18] Alternative payment models or changes to reimbursement rates could make retaining obstetric units more affordable for health systems.

In 2021 and 2022, approximately 1 in 25 obstetric units closed nationwide



Take action: Learn more about payment reform on page 38

"We are the closest hospital for four counties in this area. We know that women who have to travel farther for care are at a higher risk for adverse perinatal outcomes."

Dr. L. Joy Baker, Obstetrician-Gynecologist at Wellstar Health System in Georgia

Scan to learn more about Dr. Baker's experience as a clinician in a low access area.

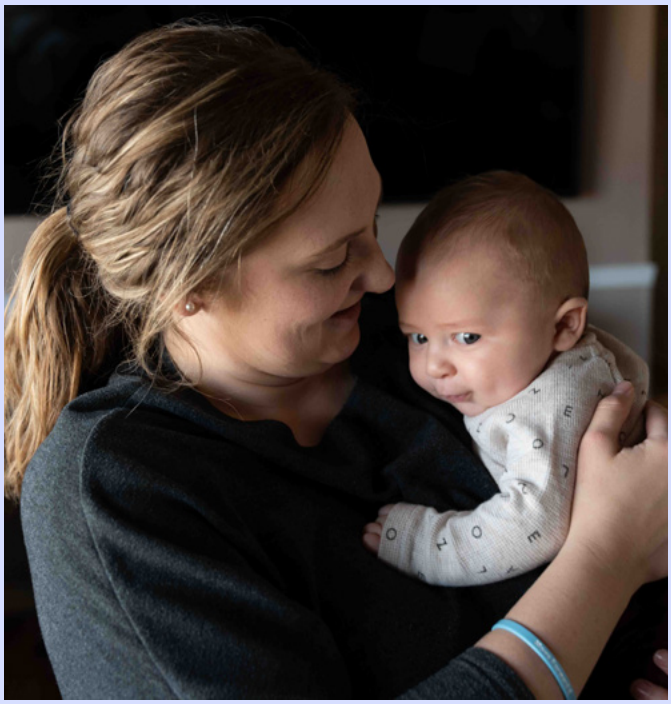
Birth centers

Birth centers provide maternity care services for pregnancies free of active complications, or maternal and fetal factors that place the pregnancy at increased risk for complications.[19] Care at birth centers follows the midwifery model, which focuses on non-medicalized, low-intervention care.[20] Compared to low-risk birthing people in hospitals, those who receive care in birth centers have lower rates of preterm birth, low birthweight, and Cesarean birth, and higher rates of breastfeeding and satisfaction with care.[21] Furthermore, birth centers are generally community-centered and focus on providing culturally competent care, resulting in fewer reports of discrimination compared to hospital-based systems.[22]

In addition to improving birth outcomes, birth centers offer an opportunity for cost savings. Conservative estimates found a 16% cost reduction for every birth center birth compared to hospital care, totaling a potential savings of over $11 million for every 10,000 births paid by Medicaid.[23] Yet, in 2022, Medicaid covered only 17.9% of all birth center deliveries, significantly lower than the proportion of hospital births paid by the same source (41.5%).

Despite the benefits of birth centers, many states have policies that create barriers to opening and operating them. Coverage for care at licensed birth centers is a mandatory Medicaid benefit. However, 9 states do not currently license birth centers.[24,25] For those in states without licensed birth centers, access to care is diminished. While most states allow licensing of birth centers, some requirements become barriers when they are either cost prohibitive or too difficult to achieve. The American Association of Birth Centers (AABC) outlines best practices for birth center licensing and advocates for states to promote their success by excluding prohibitive regulations.[25]

Take action: Learn more about birth center regulations on page 40



"One of my biggest fears and concerns going to Lubbock was what if I deliver on the way there?"

Kali Bautista lives in Brownfield, Texas, 45 minutes from a birthing hospital in Lubbock. She opted to receive care at a birthing center rather than traveling to Lubbock to deliver.

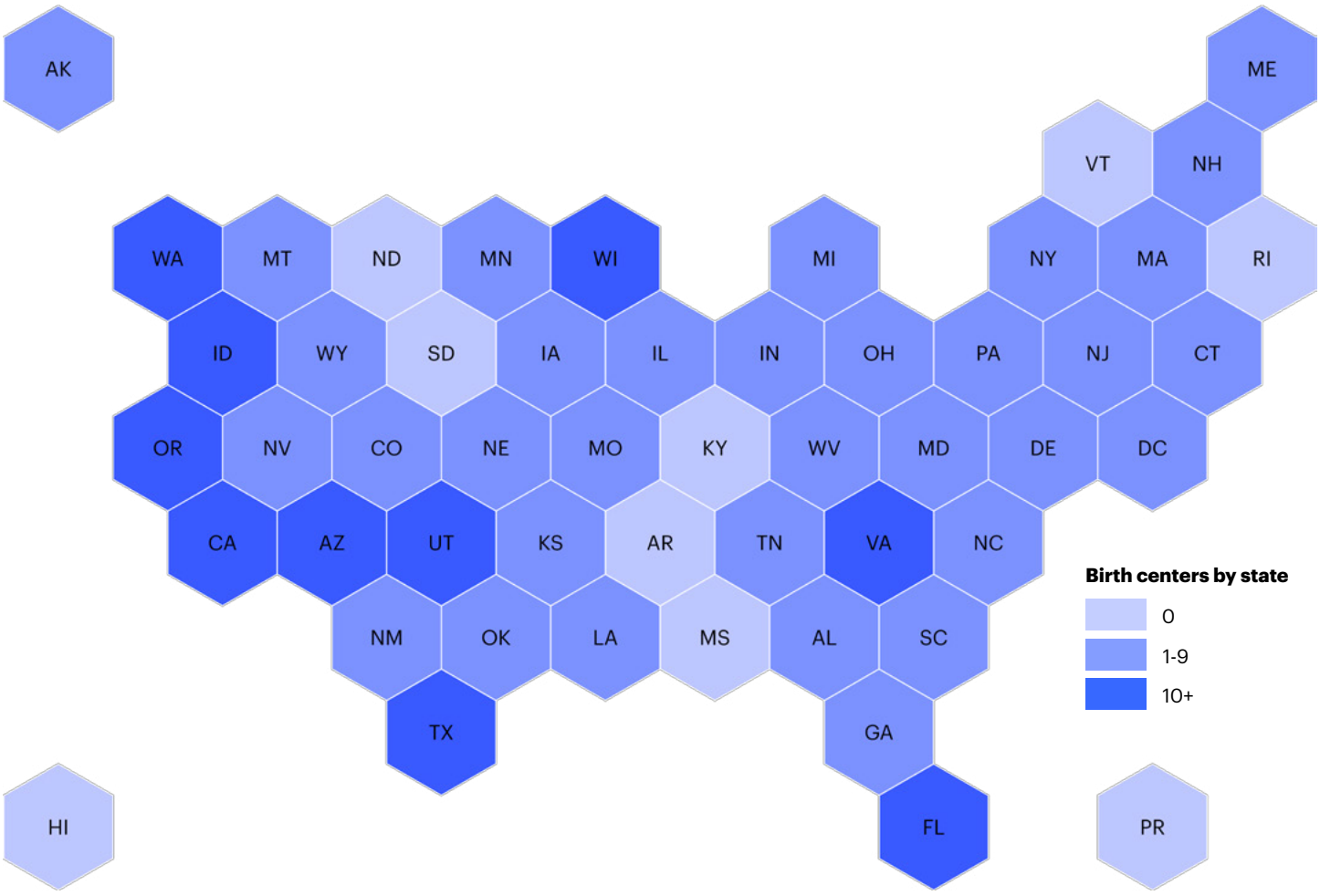
Scan to learn more about her experience living in rural Texas.

Birth center births comprise less than 1% of all births in the US. Although small, the percentage of births that occur in birth centers is increasing.[26] In fact, from 2017 to 2022, the number of birth centers births increased 20%, from 19,878 births to 23,945. Still, there are just 416 licensed birth centers spread across 270 counties (8.5% of counties) and less than 5% are situated in rural areas. In Alaska, over 5% of births occur in birth centers, the highest proportion of all states. Approximately 70% of all birth centers are located within 10 states, where the number of birth centers ranges from 10 in Wisconsin to 89 in Texas (Figure 11).

Great opportunities exist to broaden the reach of birth centers to communities of color or those facing economic hardship. Currently, birth center births occur primarily among non-Hispanic White and college-educated women or those who can self-pay for services (Figure 12). Expanding the ownership and management of birth centers by Black, Indigenous, and people of color (currently estimated to be less than 5%) and diversifying the staff can enhance their integration into communities that could benefit from their services.[22,27]

Approximately 70% of all birth centers are located within 10 US states

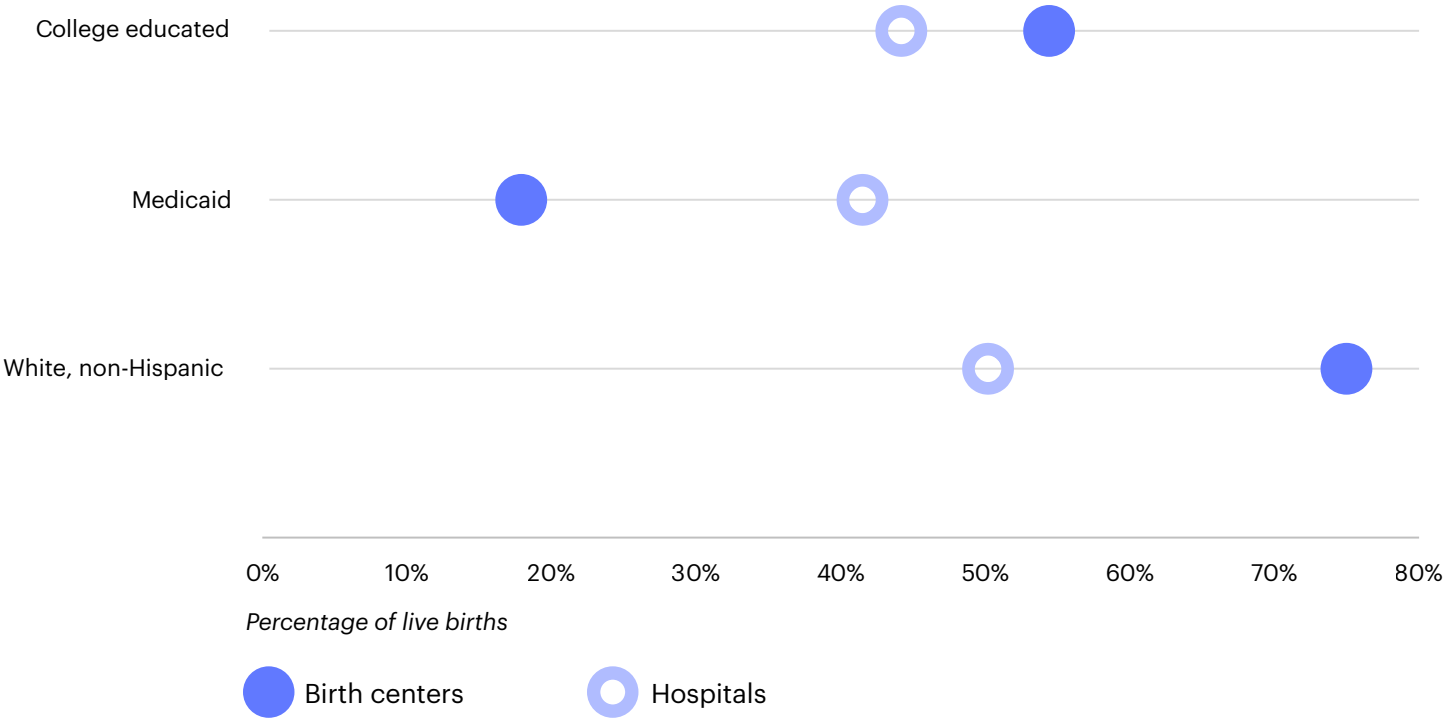
Figure 11. Number of birth centers by state, US



Source: American Association of Birth Centers, 2023.

Birth center births occur more often among those who are White, non-Hispanic and college educated, compared to hospital births

Figure 12. Demographic characteristics of women with live births by birth location



Source: National Center for Health Statistics, final natality data, 2022.

Availability of obstetric clinicians

Obstetric clinicians

A looming concern affecting access to maternity care is a shortage of obstetric clinicians, primarily obstetricians-gynecologists (OB-GYNs), certified nurse-midwives (CNMs), certified midwives (CMs) and family physicians. Nearly half (47.0%) of all US counties lack an OB-GYN, and 61.8% lack a CNM or CM. Despite a growing population of reproductive-aged women, the obstetric workforce fails to keep pace with demand, largely due to dwindling numbers of obstetric physicians and obstacles in integrating the midwifery model of care into the US health system.[28,29]

In 2021, an estimated 2.5 million women of reproductive age lived in counties without an obstetric clinician, and nearly 158,000 births occurred to women living in these counties (Figure 13). Rural counties face disproportionate challenges, with 57.7% (n=675) lacking an obstetric clinician compared to 23.8% (n=469) of urban counties. In total, over 36% (n=1,144) of US counties have no obstetric clinician and an additional 10.5% (n=331) have only 1, putting women at risk of losing maternity care if the clinician leaves the community (Figure 14). Arkansas (98.1), Oklahoma (101.2), Alabama (102), Mississippi (106.1), and Texas (107.5) had the lowest number of obstetric clinicians per 10,000 births.

"It's not uncommon for me to get a call that the mom just delivered at the gas station, and then I just wait for them at the emergency department."

Dr. Kristy Acosta, Family medicine and obstetric care clinician at Brownfield Regional Medical Center in Texas

Scan to learn more about her experience as a clinician in a low access area.

Over 36% of US counties lack an obstetric clinician and 1.2 million women live in counties with only one

Figure 13. Distribution of obstetric clinicians by county, US

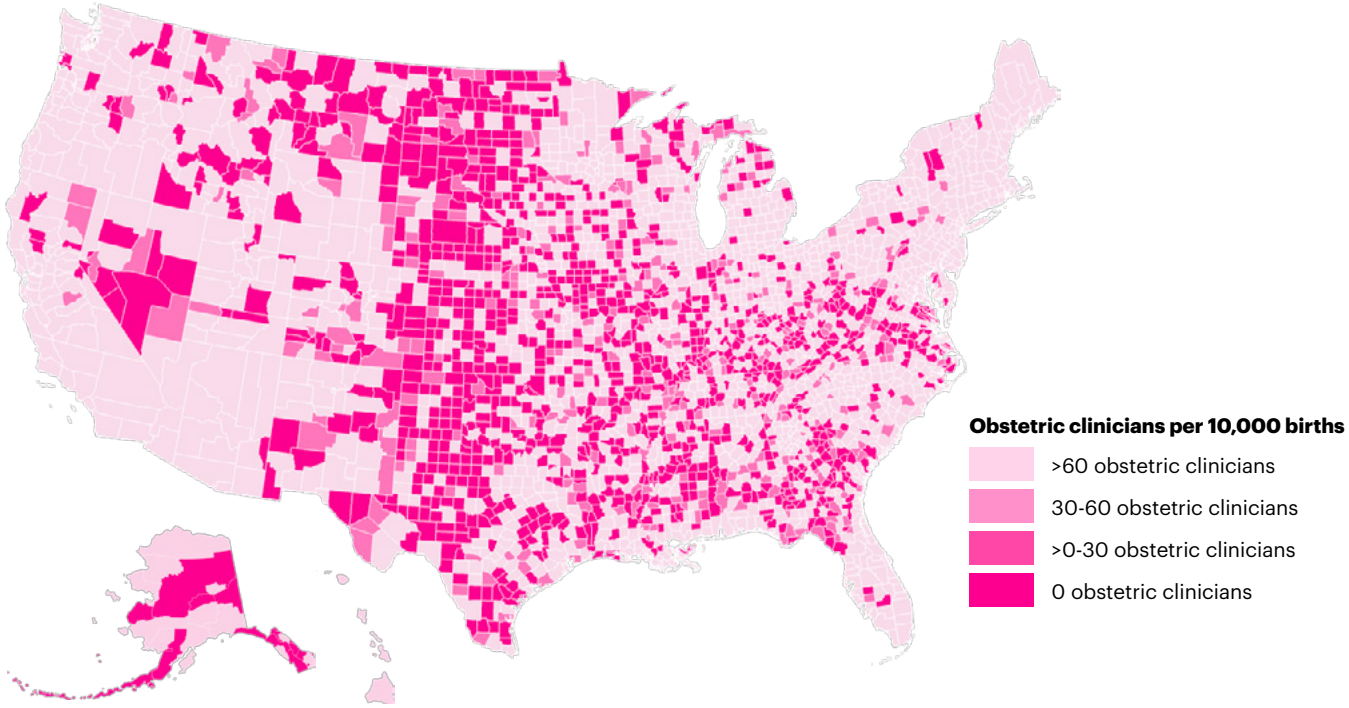
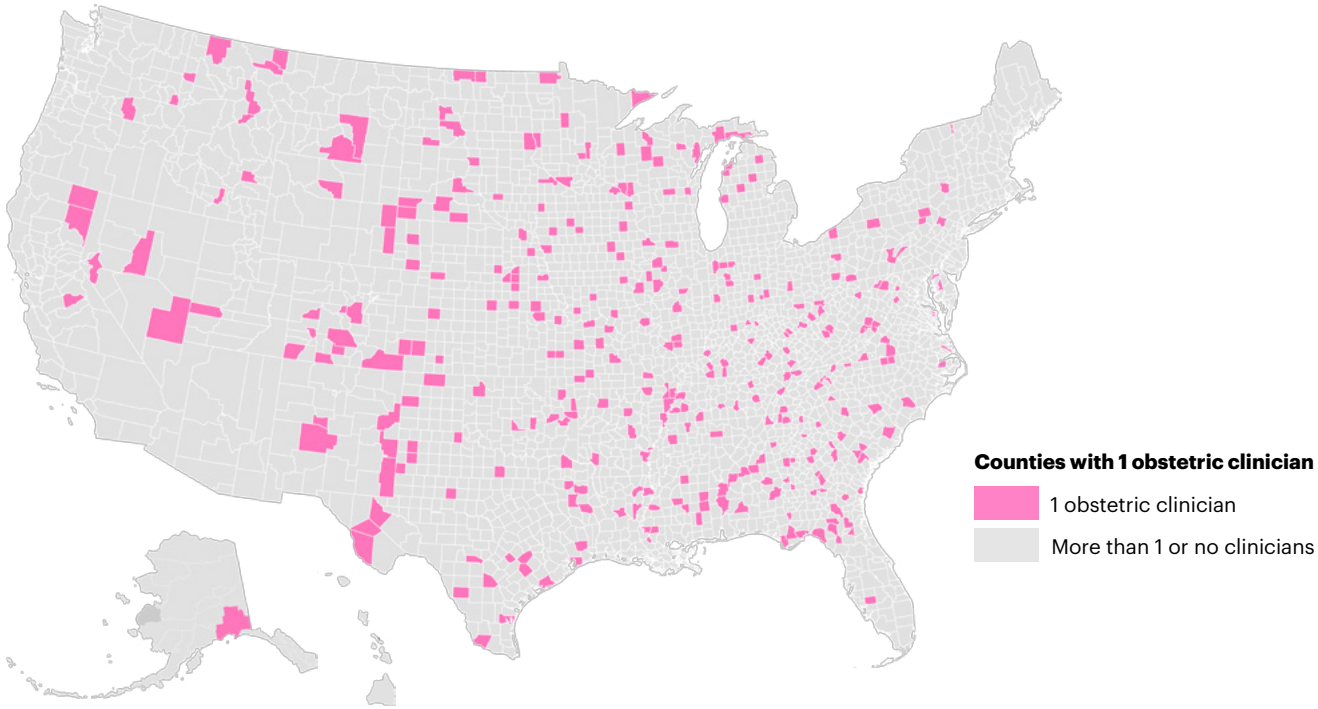


Figure 14. Counties with 1 obstetric clinician, US



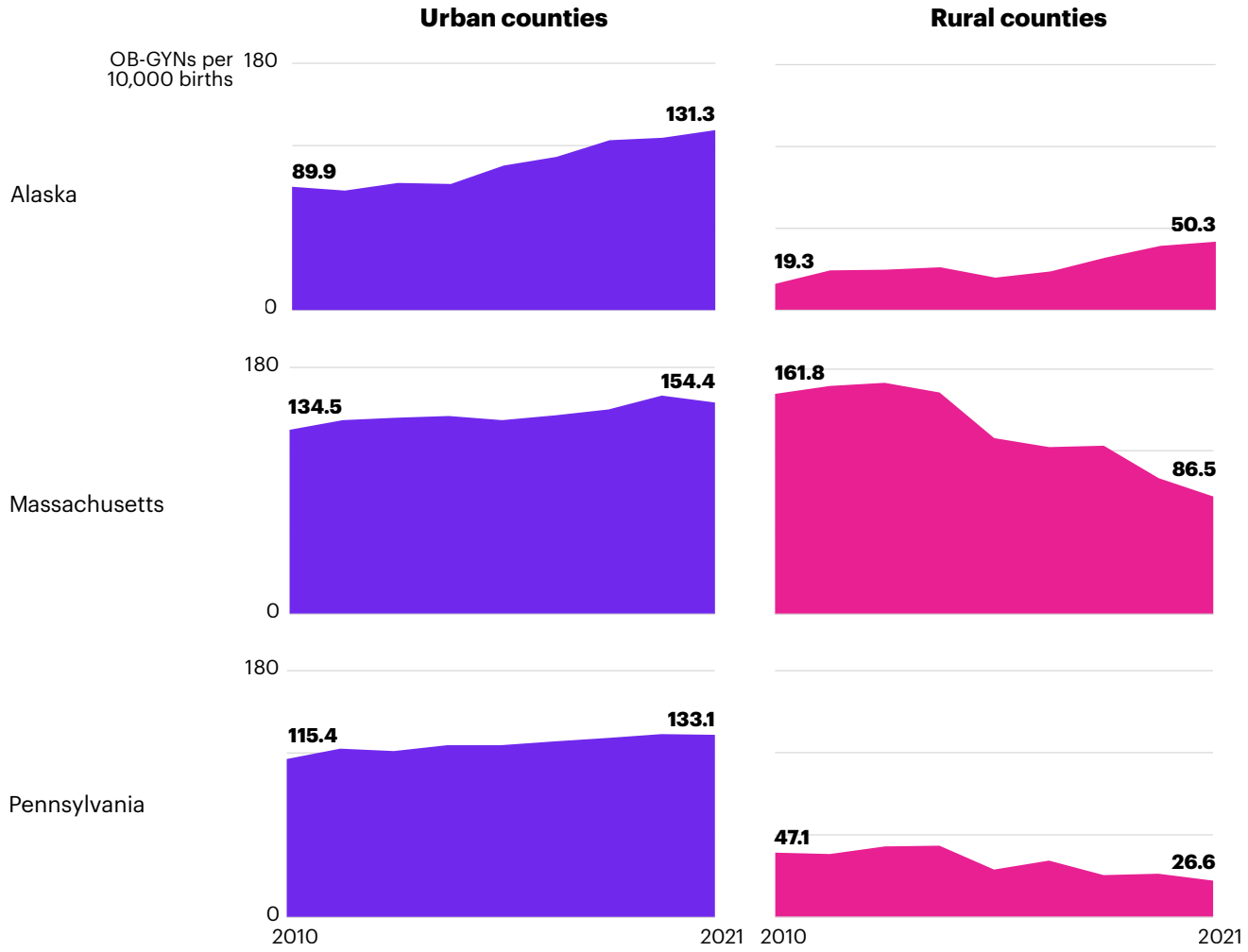
Note: Obstetric clinicians include OB-GYNs, CNM/CM, and family physicians who reported delivering babies.
Sources: US Health Resources and Services Administration (HRSA), Area Health Resources Files, 2023; American Board of Family Medicine, 2018-2021; Centers for Medicare and Medicaid Services, National Plan and Provider Enumeration System (NPPES), November 2023 file; National Center for Health Statistics, 2022 final natality data.

Obstetrician-gynecologists

In 2022, OB-GYNs nationwide delivered over 85% of live births. However, the American College of Obstetricians and Gynecologists (ACOG) projects a shortage of 12,000 to 15,000 OB-GYNs by 2050, citing factors such as burnout, retirement, and physicians leaving obstetric services due to demanding schedules, low compensation, and increasing liability concerns.[30] Declines in access to OB-GYNs for birthing people have been most pronounced in rural counties across many states (Figure 15). In fact, the number of OB-GYNs per 10,000 births in rural counties is half that of urban counties (59.2 vs. 118.1 per 10,000 births). Between 2010 and 2021, 20 states experienced a decrease in the ratio of OB-GYNs to births in rural counties, with states like Alabama seeing reductions of up to 65%. During the same period, 30 states, including Massachusetts and Pennsylvania (as seen below), experienced increased OB-GYN ratios in urban counties compared to rural ones. Few states, however, have shown improvements in the rural OB-GYNs workforce. One example is Alaska, which saw a 161% increase in the ratio of OB-GYNs to births in rural counties, rising from 19.3 to 50.3 OB-GYNs per 10,000 births.

Changes over time in the OB-GYN workforce vary by state and rurality

Figure 15. Ratio of OB-GYNs per 10,000 births by rurality, selected states, 2010-2021



Sources: US Health Resources and Services Administration (HRSA), Area Health Resources Files, 2023; National Center for Health Statistics, 2010-2021 final natality data.

The 2022 Supreme Court reversal of Roe v. Wade, which gives states the right to create policies related to abortion access, continues to impact how and where OB-GYNs train and deliver care.[31] In states with the most restrictive abortion laws, physicians face severe consequences, including the potential risks of losing their medical licenses and imprisonment for providing abortions, including ones that are medically necessary. OB-GYNs in these states have reported clinical and personal impacts related to practicing in the uncertain legal climate, and many have reportedly considered changing where they practice.[32] Recent data from 2021 reveals that states where abortion is prohibited had fewer OB-GYNs per 10,000 births (92.0 OB-GYNs) compared to states where abortion rights are upheld (138.4 OB-GYNs), underscoring existing disparities in physician accessibility. States with abortion restrictions have experienced notable decreases in applications for obstetric residencies, partly due to the inability to provide training in abortion care, highlighting the impact of these restrictions on medical education and the future obstetric workforce.[33,34] Collectively, these issues contribute to a shrinking workforce and an inadequate pipeline of OB-GYNs.

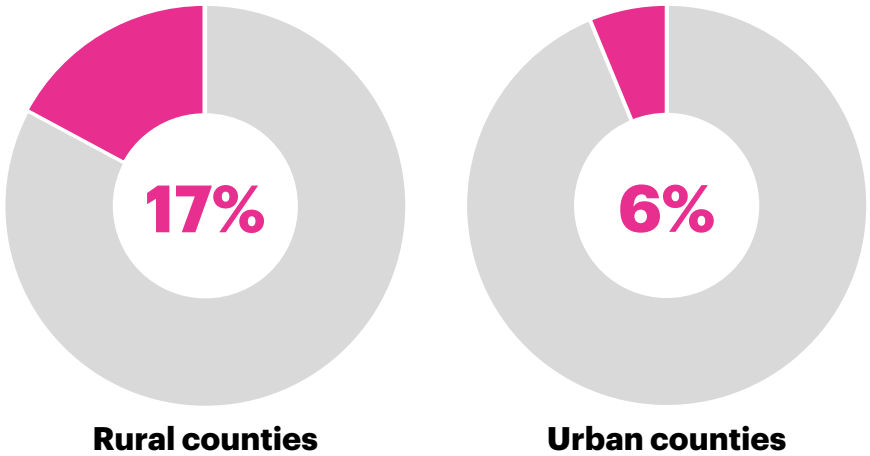
Family physicians practicing in rural counties are more likely to report delivering babies compared to those practicing in urban counties

Family physicians

While OB-GYNs comprise over 70% of the obstetric workforce, family physicians also play a crucial role, particularly in rural communities. Even so, the proportion of family physicians trained to provide obstetric services has sharply declined. Decades ago, over 45% of family physicians reported caring for obstetric patients, now only 7% of family physicians report delivering babies across the US.[35] Family physicians practicing in rural counties are more likely to report delivering babies compared to those practicing in urban counties (Figure 16). Moreover, family physicians account for 1 in 4 obstetric clinicians in rural counties compared to just 1 in 20 in urban counties.

In July 2023, HRSA announced $11 million in funding to strengthen the family physician workforce by supporting the development of 15 new residency programs in rural areas. Among these, 3 will focus on enhancing obstetrical training specifically in rural communities.[36] In addition to expanding training opportunities for family physicians, addressing barriers such as challenging credentialing processes, lifestyle concerns, and limited job availability involving obstetric duties is essential for the integration of obstetrics into their practice.[37]

Figure 16. Percentage of family physicians that reported delivering babies by rurality



Source: American Board of Family Medicine, 2019-2022.

Midwives

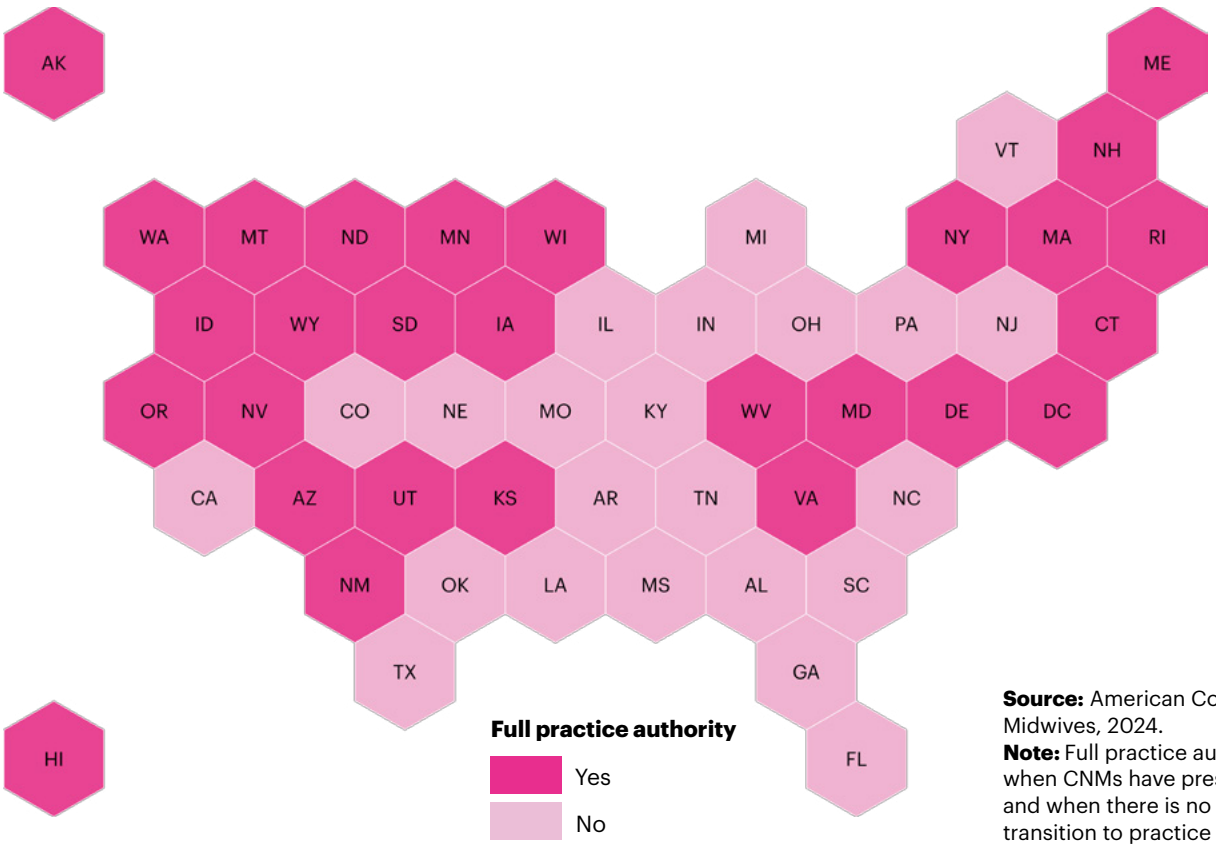
Certified Nurse-Midwives (CNMs) and Certified Midwives (CMs) are clinicians who are trained to provide nearly all essential care for women and newborns.[38] In contrast to many other developed countries where midwives attend most births, only 10.9% of births in the US are attended by midwives. This is a stark contrast from the early 19th century when the midwifery care model was primarily used in pregnancy and childbirth.[39] The benefits of midwifery care include a higher likelihood of spontaneous vaginal delivery and lower rates of birth interventions like Cesarean sections, instrumental deliveries, and episiotomies. Compared to women who received other models of care, women treated by midwives have been shown to report more positive experiences and higher satisfaction overall.[40] Further, midwifery care is particularly relevant in AI/AN and Black communities, where midwives uphold important traditions and principles of reproductive justice.[41,42]

Despite the potential for improved outcomes, barriers persist in integrating the midwifery model of care into the US health system.[43] CNMs are eligible for licensure everywhere in the US, however CMs are eligible for licensure in just 11 states and DC. Currently, 27 states and DC grant CNMs full practice authority, allowing them to practice independently to the full extent of their education and training within a healthcare system, which includes prescribing medication (Figure 17). In the remaining states, CNMs are required to practice under the supervision of, or collaboratively with, a physician.[44] These restrictions impact the supply of midwives and prevent women from accessing midwifery care.

Take action: Learn more about midwife policy on page 41

Twenty-seven states and DC have policies that allow CNMs full practice authority

Figure 17. States granting midwives full practice authority, US



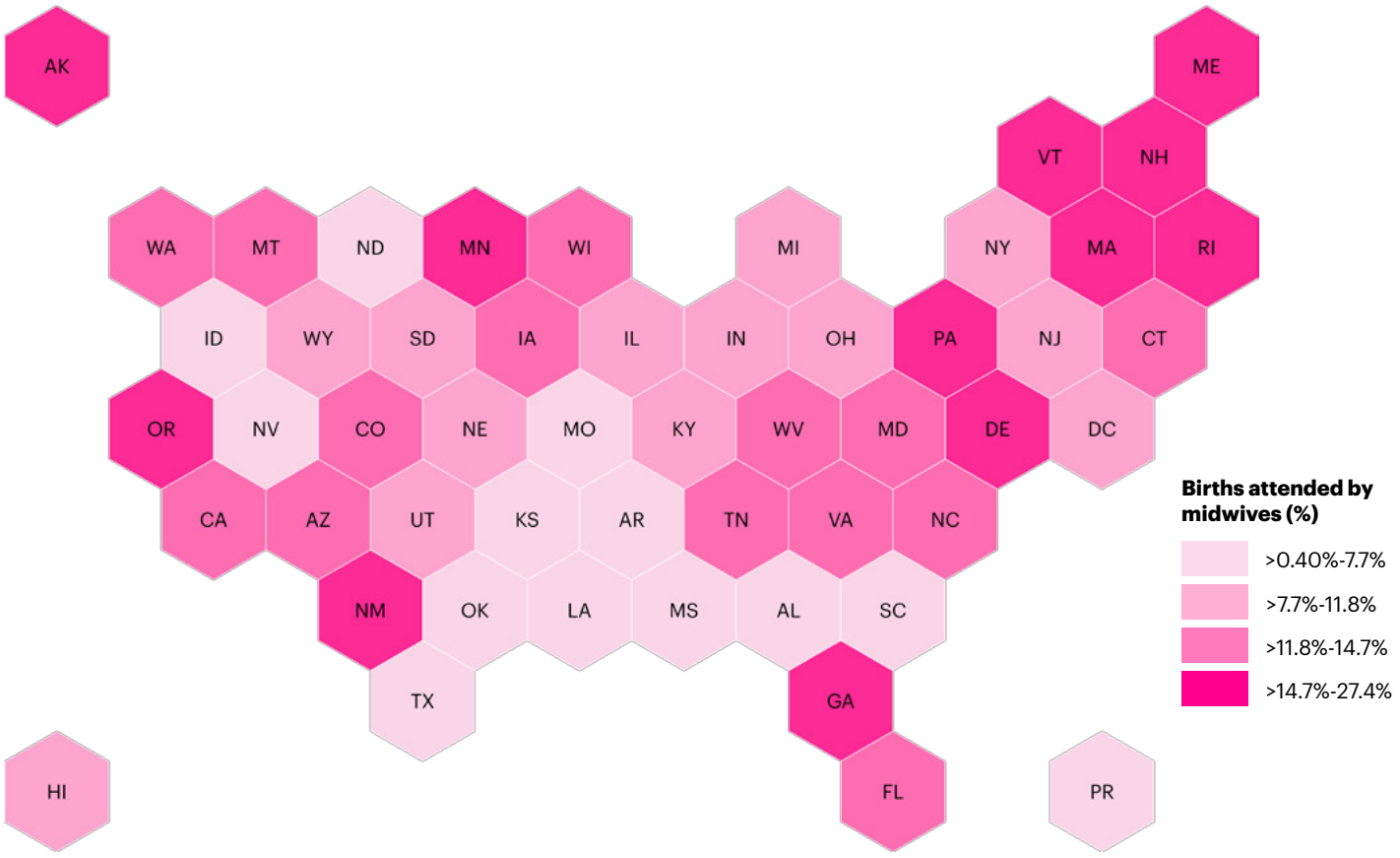
Source: American College of Nurse Midwives, 2024.
Note: Full practice authority is considered when CNMs have prescribing authority and when there is no physician supervised transition to practice period required.

Moreover, Medicaid reimbursement rates for perinatal services vary across states and clinician types, with pay parity—equal reimbursement rates for physicians and midwives—being implemented in only 31 states and DC (Appendix).[45] A study examining the relationship between state regulations and midwifery access found that maximum Medicaid parity was correlated with higher rates of midwife attendance at birth regardless of licensing statues.[46] To better integrate midwives into the obstetric workforce, it is imperative that health systems grant midwives hospital privileges, allowing them to admit patients and to be considered medical staff.[43] Finally, fostering a culture that supports midwifery care is pivotal to the successful integration into hospitals and health systems across the country.

Over 60% of all US counties do not have a CNM/CM. The proportion of births attended by CNMs/CMs by state is shown in Figure 18. Arkansas (0.4%), Alabama (1.8%), and Mississippi (1.9%) have the lowest percentage of births attended by midwives while Alaska (27.4%), Vermont (27.2%), and New Hampshire (24.2%) have the highest proportion of births attended by midwives.

Of all US births, 10.9% were attended by a CNM/CM in 2022 and rates vary by state

Figure 18. Percentage of midwife attended births by state, US, 2022



Source: National Center for Health Statistics, 2022 final natality data.

Health insurance coverage

Continuous insurance coverage extending before and after pregnancy is essential for healthcare affordability and can lead to better health outcomes.[47] Still, an estimated 11.5% of women of reproductive age are uninsured in the US. Women without insurance are more likely to delay or forgo healthcare due to costs, increasing their risk for poor health outcomes.[48]

Throughout the last decade, Medicaid expansion and extension have improved access to health insurance for women.[49,50] Expanding Medicaid reduces the income requirements for qualifying for the program, making more individuals eligible and enabling a broader population to afford healthcare. Medicaid expansion is associated with increased health insurance coverage before pregnancy, earlier initiation of prenatal care, and reductions in unintended pregnancies and stress from bills.[51,52]

Medicaid extension (the option to continue Medicaid benefits up to 1 year postpartum) increases access to care for conditions that occur after pregnancy. States with extension policies that include coverage for mental health services can help reduce racial inequities in maternal and infant morbidity and mortality.[52,53] Research suggests that maintaining Medicaid coverage postpartum leads to higher utilization of prescription medication and outpatient mental health services for perinatal mood and anxiety disorders (PMAD), a condition impacting approximately 1 in 7 moms.[54] Screening and identification of postpartum mental health conditions is particularly important, given they are the leading underlying causes of pregnancy-related death.[55]

"For the majority of my pregnancies I went to Crow for all of my care. Closer to the birth we were transferred to Billings because there was no other place closer with those services and resources. We had to travel two hours."

Vania Biglefthand lives in Colstrip, Montana, 2 hours from a birthing hospital in Billings. At 29 weeks, Vania's water broke unexpectedly and she was put on bedrest and had to remain at the hospital. Vania found it hard to be by herself, away from her husband and two boys.

Scan to learn more about her experience living in Montana.

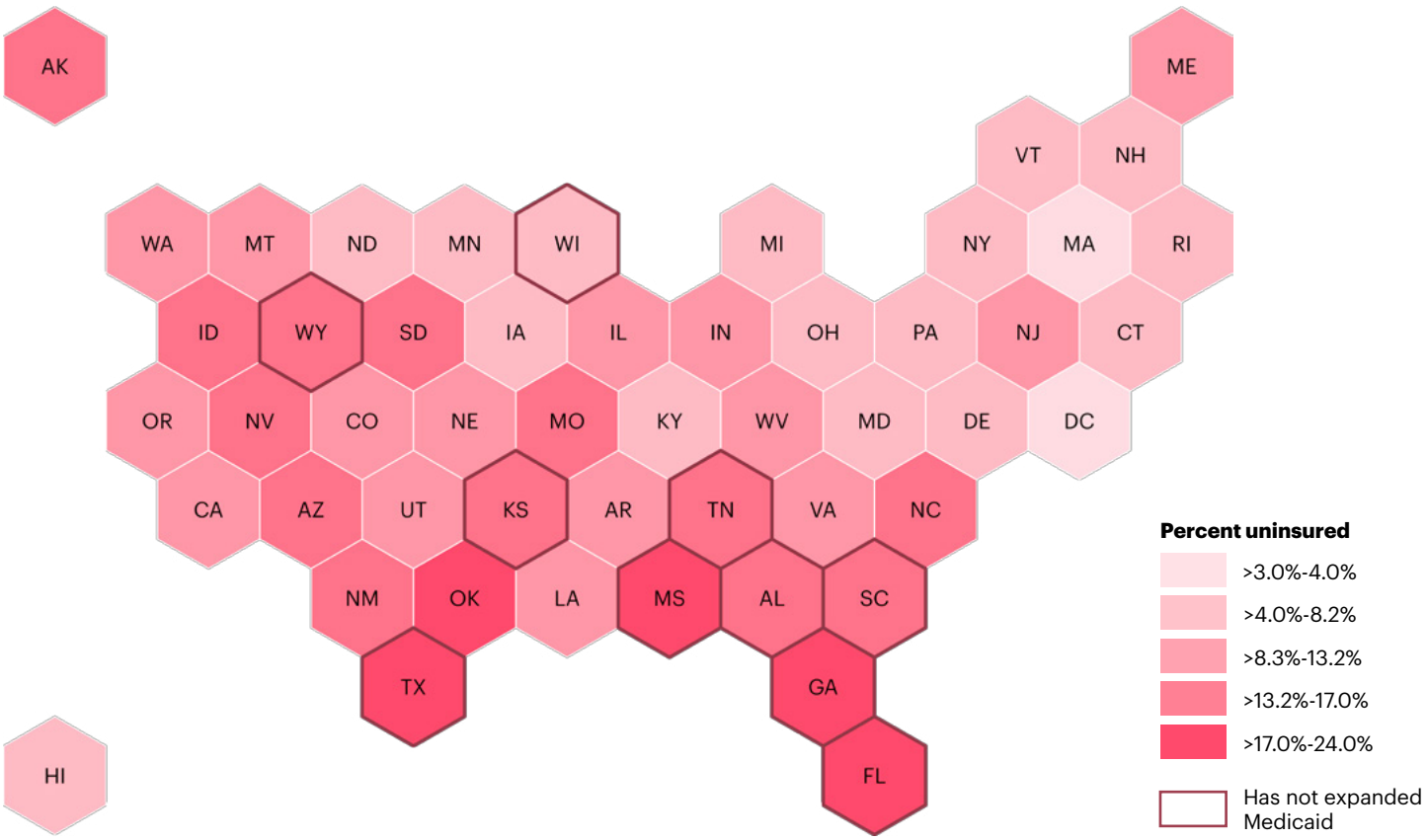
In December 2022, the Consolidated Appropriations Act was passed making the American Rescue Plan Act of 2021 permanent and giving states the option to extend Medicaid postpartum coverage from 60 days to one year.[56] The Act facilitates state adoption of the program by providing federally matched funding, making extension more affordable for states. As of July 2024, 46 states, and DC, have extended Medicaid and all but 10 states have expanded Medicaid.[56,57] Disparities in access to insurance are a result of the Medicaid policies adopted throughout US states.

Figure 19 shows the percentage of uninsured women of reproductive age by state. Of the 10 states with the highest rates of uninsured women of reproductive age, 6 of them have not expanded Medicaid and 3 (South Dakota, North Carolina, and North Dakota) have recently expanded in 2023 and 2024. In 2022, the proportion of uninsured reproductive-aged women in states that expanded Medicaid was 9%, compared to 17% in states that did not expand Medicaid. Approximately 1 in 4 (23.8%) women of reproductive age in Texas are uninsured, the highest of all states.

Take action: Learn more about Medicaid policy on page 39

States that have expanded Medicaid have lower rates of uninsured women compared to those that have not

Figure 19. Percentage of uninsured reproductive-aged women by state, US



Source: US Census Bureau, 2022 American Community Survey 5-Year Estimates.

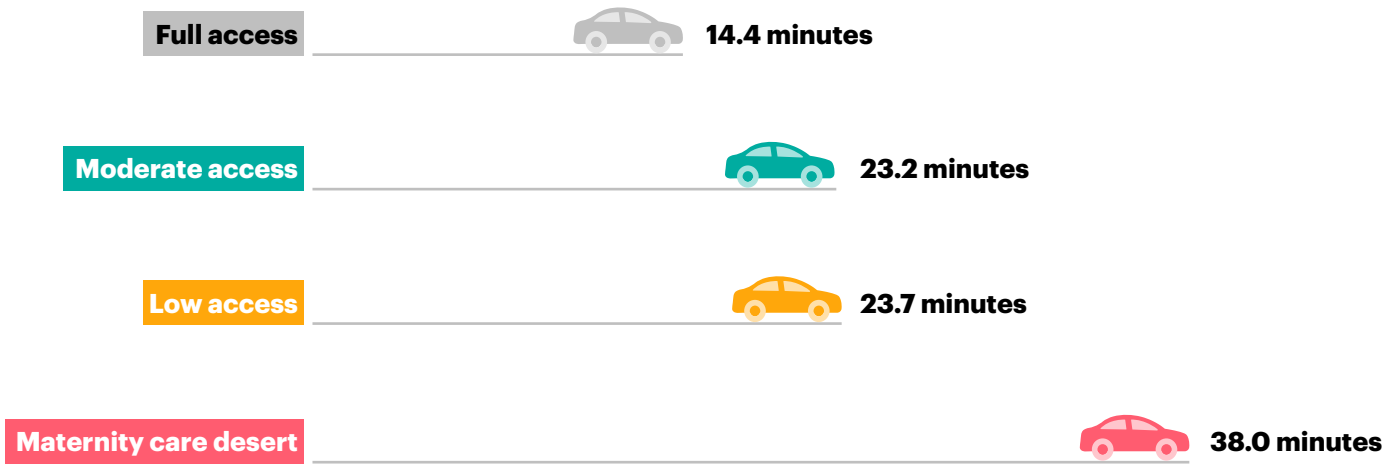
Travel time to care

During pregnancy and childbirth, longer travel time is associated with negative health outcomes for both moms and babies, including a higher risk of maternal morbidity, stillbirth, and neonatal intensive care unit (NICU) admission.[58,59] Increased distance is associated with a higher likelihood of unexpected out-of-hospital births, which increases the risk of neonatal morbidity.[60,61] Further, the inability to reach care quickly can cause financial strain on families and increased prenatal stress and anxiety.[62] The travel time needed to reach care can vary based on several factors, including reliance on public transportation, seasonal weather conditions, traffic, health insurance restrictions, or the need for more specialized care.

On average, birthing women in the US travel 15.9 minutes by car to their nearest birthing hospital without accounting for traffic. In urban areas, the average time to a birthing hospital is 15.3 minutes, increasing to 26.2 minutes in rural areas. For birthing people living in maternity care deserts, the average time to care is 38.0 minutes, over 2 times the average travel time (14.4 minutes) for birthing people living in full access counties (Figure 20). Over two thirds (66.4%) of birthing people living in maternity care deserts live more than 30 minutes from a birthing hospital, compared to only 9.0% of all birthing people in the US (Figure 21). States with the greatest average time to care include Alaska (39.2 minutes), West Virginia (26.6 minutes), Wyoming (23.3 minutes), Hawaii (22.9 minutes), and Montana (22.6 minutes).

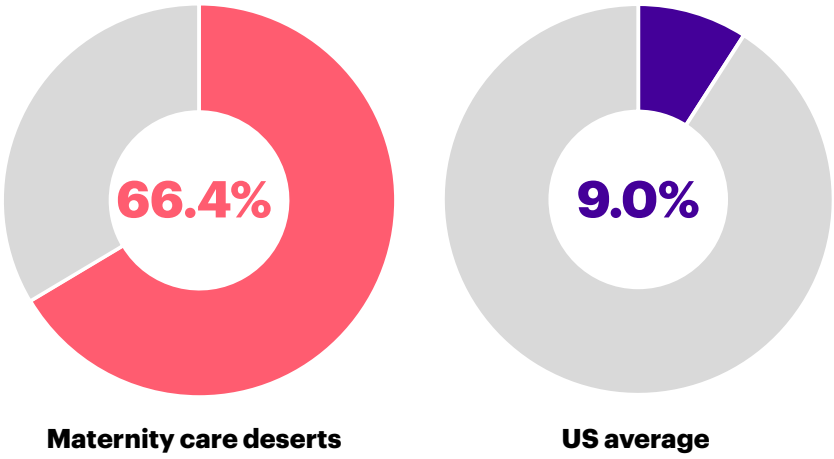
People in maternity care deserts travel 2.6 times longer to reach a birthing hospital than those living in full access counties

Figure 20. Minutes to nearest birthing hospital, by maternity care access designation



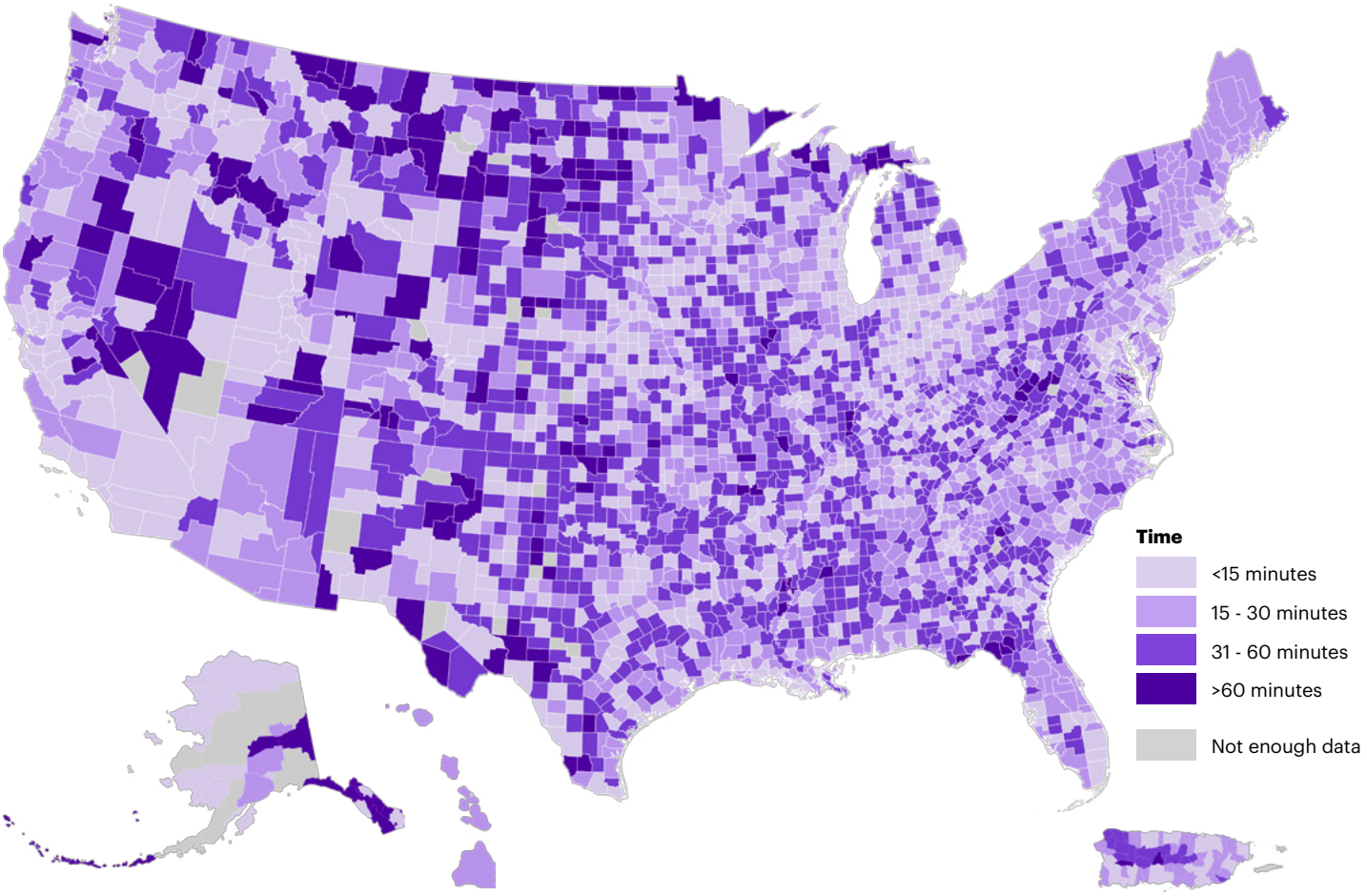
Two thirds of people living in maternity care deserts must travel more than 30 minutes to reach care

Figure 21. Percentage of people who must travel over 30 minutes to reach their nearest birthing hospital



Alaska, West Virginia, Wyoming, Hawaii, and Montana had the highest average travel time to a hospital providing obstetric care

Figure 22. Travel time to nearest birthing hospital by county, US and Puerto Rico

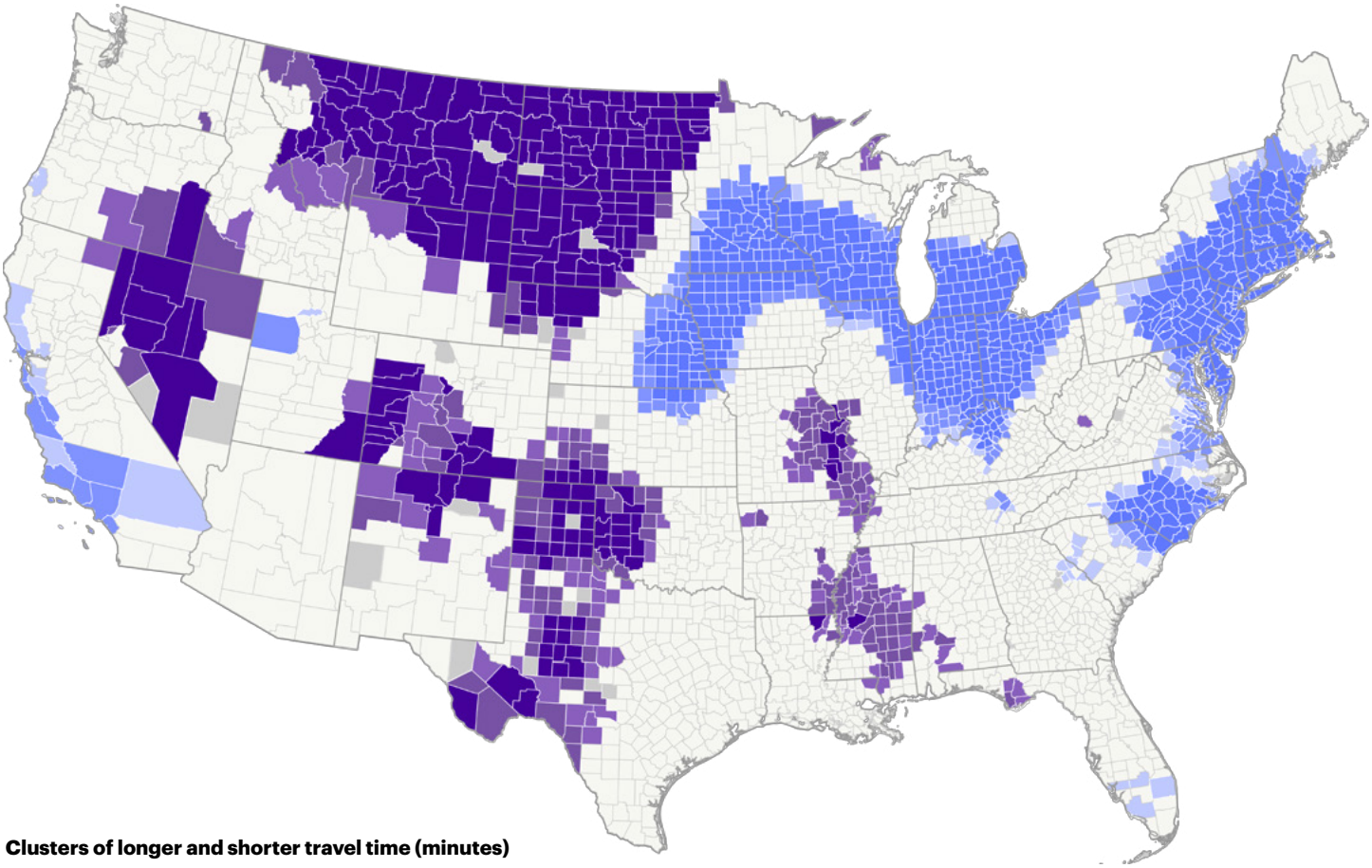


Hot spot analysis

A hot spot analysis of travel durations across the continental US reveals spatial clusters with significantly longer and shorter travel times to maternity care (Figure 23).[63] Regions shaded in purple (hot spots) indicate where travel to birthing hospitals takes considerably longer, highlighting potential accessibility gaps and infrastructure challenges. Conversely, regions shaded in blue (cold spots) signify locations with notably shorter travel times, suggesting quicker access to maternity hospitals by car. States with significant clusters of longer travel times include North Dakota, Montana, Mississippi, South Dakota, Nevada, Colorado, Wyoming, Missouri, Oklahoma, and New Mexico. In contrast, shorter travel times were concentrated in the Northeast, particularly in densely populated metropolitan areas like New York, Connecticut, Maryland, New Jersey, and DC.

Areas in purple represent parts of the US with significantly longer travel time to the closest birthing hospital

Figure 23. Areas indicating longer (purple) and shorter (blue) travel time to birthing hospitals



Sources: US Census Bureau, 2022 American Community Survey 5-Year Fertility Estimates, American Hospital Association, 2022.
Note: Confidence is based on statistical testing for spatial clusters of longer or shorter travel times compared to surrounding areas.

Declining fertility in the US

Several factors play a significant role in determining a community's demand for maternity care services. While certain factors, such as the prevalence of chronic diseases, can amplify this need, others, like declining birth rates, may diminish it. The US fertility rate, or the number of births per 1,000 reproductive-aged women, has been declining for 15 years. Aside from a 1% uptick in 2021, the rate has declined 16% since its peak in 2007, dropping from 65.0 births per 1,000 women to a historic low of 54.4 births per 1,000 women in 2023.[64]

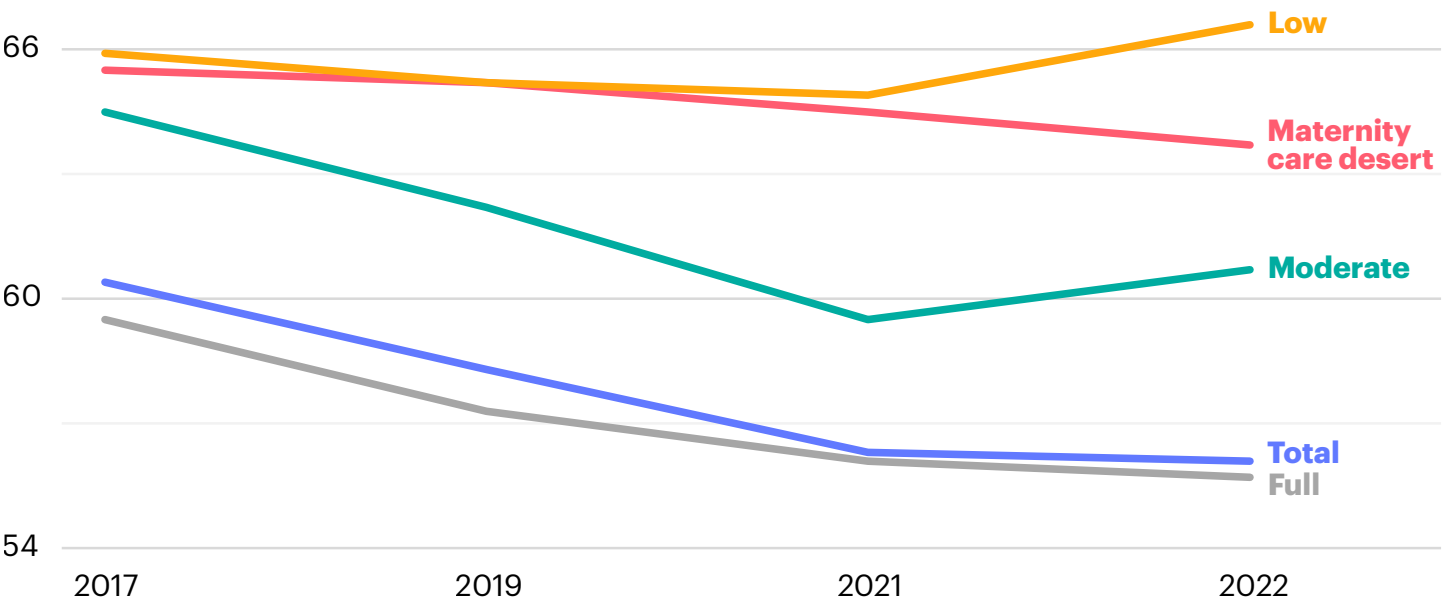
Decreasing fertility rates are a result of advances in reproductive health and various social and economic influences. Increased access to contraception has resulted in lower fertility rates among teens and a reduction in unplanned pregnancies.[65] Increases in educational attainment and employment opportunities for women, coupled with economic uncertainty and lack of affordable childcare options, have all contributed to women having babies later in life or not at all.[66] In contrast, states with restrictions on abortion have seen a rise in fertility rates. Data from 2023 suggests that births rose by 2.3%, on average, in states enforcing total abortion bans compared to states without bans.[67] This change reflects a potential increase in the need for maternity care services in those states.

Fertility rates in both rural areas and maternity care deserts surpass those in urban areas and counties with full access to care. Furthermore, from 2017 to 2022, fertility rates decreased by 2.7% in areas with no access to maternity care, which is less than the 6.4% decrease observed in full access counties. Figure 24 below shows declining trends in fertility rates overall and by maternity care access designation.

Between 2017 and 2022, fertility rates fell for most of the US

Figure 24. Fertility rates by maternity care access designation, US, 2017-2022

Births per 1,000 reproductive-aged women



Sources: National Center for Health Statistics, final natality data, 2017-2022; US Census Bureau, American Community Survey 5-year Population Estimates, 2017-2022.

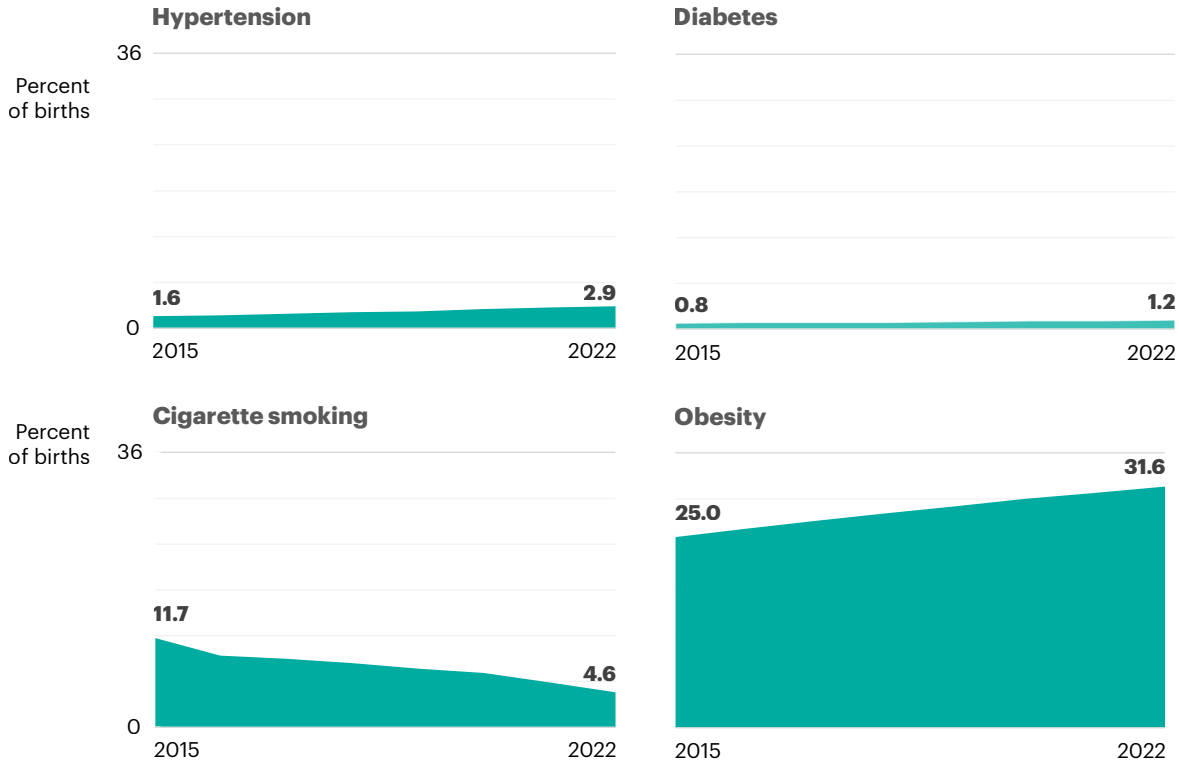
Chronic conditions

People with chronic conditions, such as hypertension, diabetes, kidney disease, depression, and asthma, often require additional medical supervision during pregnancy, delivery, and postpartum.[68] When pregnancy occurs alongside chronic illness, the likelihood of complications, such as severe maternal morbidities, or the necessity for medical interventions like Cesarean birth and postpartum hospital readmission, rises.[69] Infants born to women with chronic conditions can also experience adverse birth outcomes, including preterm birth, fetal growth restriction, macrosomia, birth defects, and even death.[70,71]

The prevalence of chronic diseases has been rising in the US.[68,72] Societal changes have resulted in women having babies later in life when chronic conditions become more prevalent.[68,72–74] Additionally, exposure to tobacco, poor nutrition, lack of physical activity, and excessive alcohol use contribute to obesity, a significant risk factor for the development of chronic disease.[71] According to data on live births, the prevalence of pre-pregnancy conditions including hypertension and diabetes rose by 81.3% and 50.0%, respectively, between 2015 and 2022. In 2022, over 140,000 babies were born to women with pre-pregnancy hypertension or diabetes. While rates of cigarette smoking among women of reproductive age have declined over time (decreasing 60.7% from 2015 to 2022), obesity has been steadily increasing. In 2022, 31.6% of babies were born to women with a pre-pregnancy body mass index (BMI) over 30, the biometric cut-off for obesity (Figure 25).

Chronic health conditions have become more prevalent among birthing people over time

Figure 25. Percentage of births with selected chronic conditions before pregnancy, US, 2015-2022



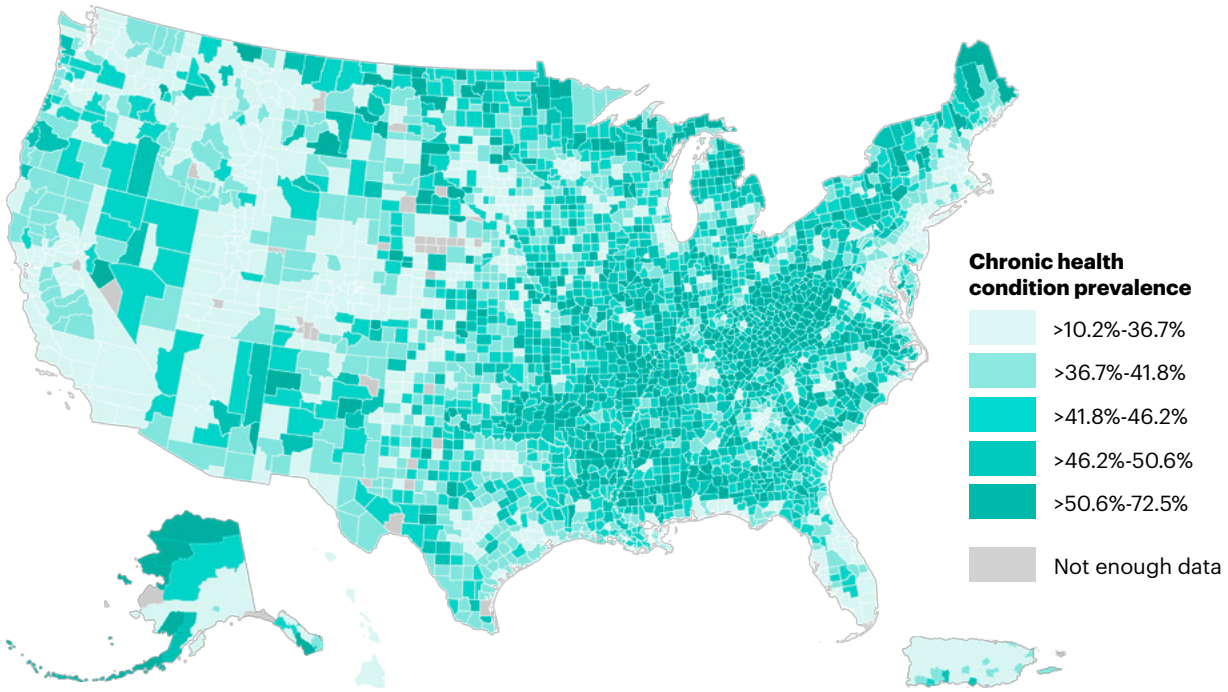
The overall prevalence of chronic hypertension and diabetes among women who had a live birth in 2022 was 2.9% and 1.2%, respectively. Black (5.4% and 1.6%) and AI/AN (3.8% and 2.9%) birthing people experienced the highest prevalence of both chronic conditions compared to all other races/ethnicities (2.5% and 1.7%). The rate of obesity and hypertension among API women remains the lowest of all race groups but has significantly increased in recent years. Between 2015 and 2022, the obesity rate among API increased by 50% from 9.9% to 14.8% and doubled for hypertension (0.9% to 1.8%). Finally, while cigarette smoking rates have declined significantly overall, not all races/ethnicities have benefited equally. Still, 13.5% of AI/AN birthing people reported smoking tobacco in the three months before pregnancy (Appendix).

When comparing data by geography, women in rural counties have a higher prevalence of pre-pregnancy hypertension, diabetes, obesity, and cigarette smoking compared to residents of urban counties. Smoking prevalence among rural county residents is 2.6 times higher than among urban county residents. The disparity in smoking rates persists when comparing residents of maternity care deserts to those living in full access counties (10.8% vs. 4.1%) and birthing people insured by Medicaid compared to those privately insured (8.1% vs. 2.0%). Figure 26 shows the prevalence of 1 or more chronic conditions by county.

To reduce the risk of complications for birthing people and their babies due to chronic disease and associated risk factors, ACOG and the American Society for Reproductive Medicine (ASRM) recommend that any clinician in contact with women of reproductive potential include pre-pregnancy counseling and care.[75] Pre-pregnancy care is an opportunity to optimize health, address modifiable risk factors, and educate individuals on maintaining a healthy pregnancy. Healthy pregnancies begin long before conception, and ensuring all women have access to preconception care is essential to appropriately diagnose and address chronic illness. Identifying populations with higher rates of chronic health conditions can inform programs, providers, and interventions to ensure optimal outcomes for moms and babies.

One third of all birthing people had 1 or more chronic health conditions prior to pregnancy

Figure 26. Prevalence of 1 or more chronic health conditions by county, US, 2020-2022



Source: National Center for Health Statistics, final natality data, 2015-2022.
Notes: Chronic health conditions include cigarette smoking, hypertension, diabetes, and obesity. All conditions are indicated as pre-pregnancy on the birth record.

Social drivers of health

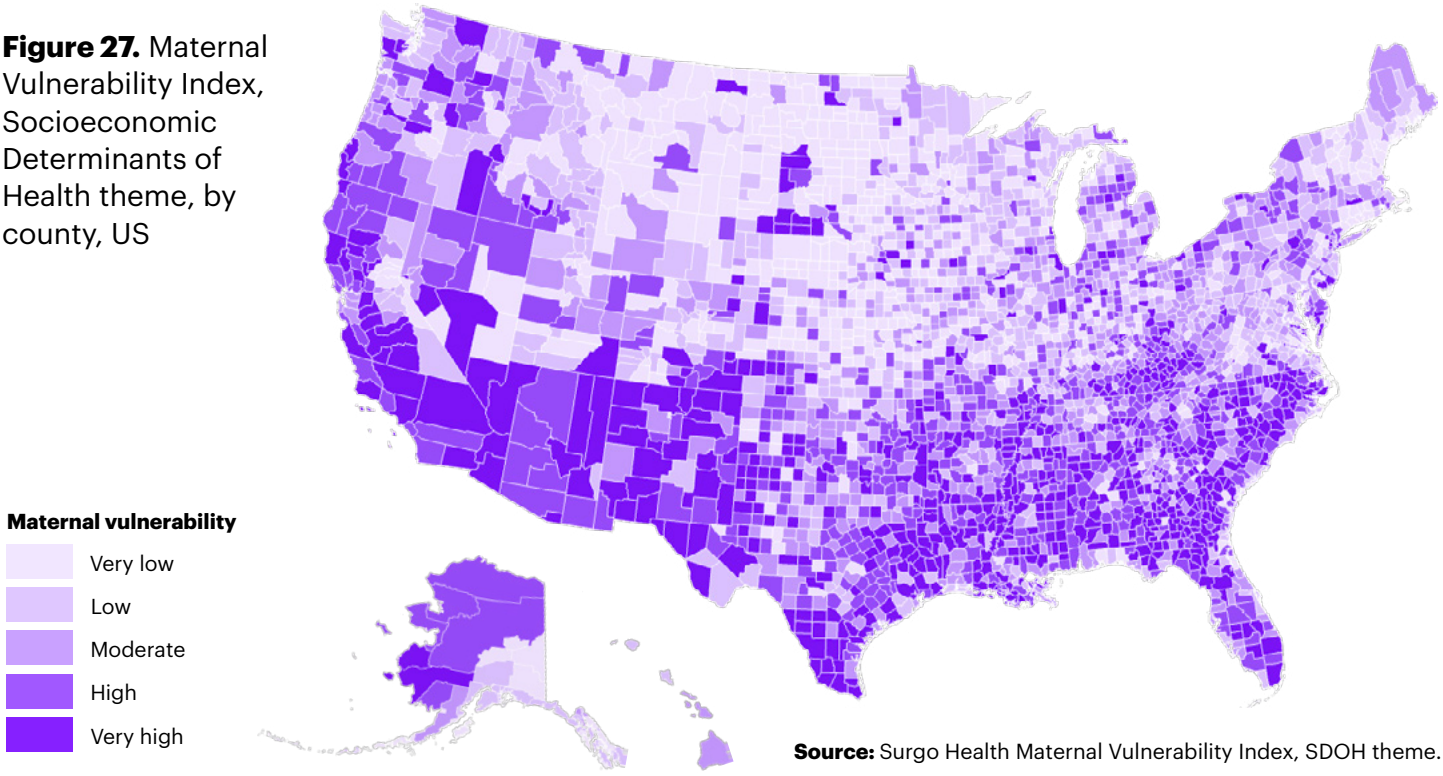
Social drivers of health (SDOH) are the conditions in which people are born, grow, live, work, play, and age that can impact health outcomes.[76] The resources and opportunities available in a community play a key role in shaping the healthcare needs of its residents.[77,78] While some community characteristics are protective, such as social support, access to green spaces, and safe and adequate housing, other SDOH can put women and birthing people at risk for poor health outcomes, like environmental pollutants and lack of access to nutritious foods.[78–80]

Historically, efforts to improve SDOH-related maternal and infant health outcomes have prioritized individual prevention strategies over addressing the critical upstream factors contributing to population-level health disparities. While factors such as higher income or education level typically correlate with better health outcomes, studies reveal that these advantages do not translate equally across all racial or ethnic groups.[78,81] Research indicates that even among individuals with high socioeconomic status and similar pregnancy diagnoses, morbidity and mortality rates are disproportionately higher for Black women, underscoring the need to address racism as an underlying cause for many SDOH.[81,82]

To better understand and target these disparities, tools like Surgo Health's Maternal Vulnerability Index (MVI) provide insight into the complex interplay of socio-behavioral risk and maternal and infant health outcomes (Figure 27). The MVI can be used to identify areas where moms are vulnerable to poor outcomes, including risk of preterm birth and death, and inform targeted interventions to mitigate negative health impacts.[83] States with the highest maternal vulnerability due to SDOH include New Mexico, Nevada, Louisiana, New York, California, and Mississippi.

Darker shaded areas show where women are at risk for poor outcomes due to social drivers of health

Figure 27. Maternal Vulnerability Index, Socioeconomic Determinants of Health theme, by county, US



Source: Surgo Health Maternal Vulnerability Index, SDOH theme.

Racism

Race and ethnicity are not risk factors for maternal outcomes, rather proxies for racism and racism-related exposures.[84,77] Racism is a root cause for many SDOH, influencing socioeconomic environments, institutional organizations, experiences of prejudice, discrimination, and amplifying stress, all of which affect health outcomes.[85] Cumulative exposure to stress and adversity due to racism, known as weathering, contributes to the negative health outcomes seen particularly among Black women and their infants today.[82,86,87] The historical and ongoing nature of racism has led to environments that disproportionately create social and economic disadvantages for people of color. Structural and systemic racism, embedded within institutional policies and practices, have long influenced health outcomes by limiting access to health-promoting activities and resources.[88]

Medical racism, a pervasive issue within healthcare systems, significantly impacts the healthcare experiences and outcomes for people of color, especially during the perinatal period.[89,90] Studies demonstrate that medical racism contributes to delays in diagnosis and treatment, dissatisfaction with care, and dismissal of health concerns among Black women, leading to serious complications during pregnancy and postpartum.[91–93] A 2023 Centers for Disease Control and Prevention report found that 1 in 3 women reported experiencing discrimination during maternity care, with rates soaring to 40% among Black birthing people.[8] This systemic bias fosters distrust in the healthcare system, delays care-seeking behaviors, and undermines adherence to medical recommendations.[94]

Addressing medical racism necessitates promoting diversity and cultural competence in the maternal health workforce.

This can be achieved through the following initiatives:

- **Embedding training into curriculum for all maternity care providers**
- **Implementing anti-racism policies and protocols in all hospitals**
- **Establishing feedback mechanisms to hold clinicians accountable**
- **Diversifying the maternity care workforce**

Policy solutions and actions

March of Dimes recommended policies

March of Dimes advocates for policy actions to improve the health outcomes of moms and babies across the US. Urgent action by policymakers is essential to enhance services for birthing individuals and infants nationwide. The following policy opportunities represent critical steps toward achieving these goals.

Improving Medicaid access for pregnancy care: Addressing reimbursement and administrative barriers

To improve Medicaid access, policymakers should increase reimbursement rates and streamline administrative processes for providers and institutions.

Low Medicaid reimbursement rates and cumbersome administrative hurdles are associated with difficulty accessing care for enrollees.[95] Providers often encounter more obstacles when billing Medicaid than other insurers, contributing to access issues as much as the program's payment rates.[96] In most cases, Medicaid typically pays less than private health plans for pregnancy and childbirth care,[97] intensifying financial challenges for hospitals, particularly in rural areas where Medicaid is the predominant payer for obstetric services.

These disparities in reimbursement and the varying income eligibility criteria across states further exacerbate inequalities in access to obstetric care, especially in rural communities.[98]

Addressing these financial and administrative challenges can increase the likelihood of Medicaid enrollees, particularly those in rural areas, having better access to essential pregnancy and childbirth care.

Alternative payment methods for maternity care: Increase incentives and innovation for adopting value-based payment models in maternity care

Policymakers, purchasers, payors, and providers should collaborate to leverage the flexibility and innovation of various scalable and hybrid payment models.

Traditionally, providers in the US have been paid through a "fee-for-service" (FFS) model, where they receive payment for every covered service provided. Alternatively, value-based payments (VBP) incentivize providers to deliver cost-efficient, high-quality, and coordinated care. Unlike the FFS model, VBP programs offer greater flexibility for physician practices and healthcare systems, reduce the pressure to increase patient visit volume, and lower administrative burden.[103]

Effective VBP models are designed to include evidence-based quality performance measures and financial accountability, and they should be continually implemented, evaluated, and refined.[104] Providers agree to take on a certain amount of financial risk while gaining a more flexible payment structure that allows them to tailor patient care to individual needs.[105,106]

Policymakers, purchasers, payors, and providers should collaborate to leverage the flexibility and innovation of various scalable models and hybrids, such as pay-for-performance, limited population, episode bundles, maternity care homes, and total cost of care models. Although VBP is not a new concept, its adoption in provider-focused maternity care services is increasing. Additionally, expanding VBP within hospital settings, which account for a large share of delivery costs, presents a significant opportunity.[105,107]

By increasing incentives and fostering innovation in VBP models, we can ensure that maternity care is more cost-efficient, high-quality, and accessible, ultimately improving outcomes for moms and babies.

Adoption of Medicaid extension and expansion in all states: Ensuring comprehensive Medicaid coverage after birth

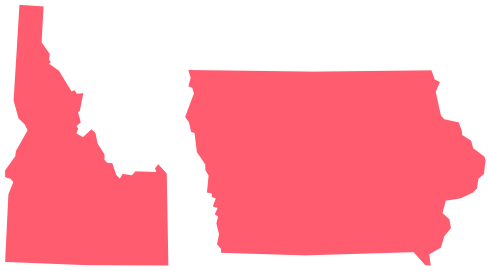
Congress must mandate 1 year of Medicaid coverage after birth nationwide and ensure all states expand Medicaid requirements to cover individuals up to 138% of the FPL.

Medicaid extension after birth for 1 year: Recent data indicates that 53% of pregnancy-related deaths occur between 1 week and 1 year after delivery.[55] In some states, Medicaid maternity coverage ends just 60 days after childbirth, cutting off access to crucial care during a period when risks of maternal complications and death remain high. Comprehensive Medicaid coverage should be extended to at least 12 months postpartum, as provided for under the American Rescue Plan Act.[99] Ensuring every mom receives the necessary coverage to maintain their health and well-being after childbirth should be a mandatory national priority, not left to optional state discretion.

Medicaid expansion: Research shows that improving the health of birthing individuals before pregnancy is crucial for achieving healthy pregnancies.[100] Expanding Medicaid to cover individuals up to 138% of the federal poverty level is vital to improve outcomes.

A national study revealed improvements in key pre-pregnancy health indicators among low-income women following Medicaid expansion, including increased access to pre-pregnancy health counseling, higher rates of folic acid intake before pregnancy, and increased use of effective contraception after birth.[101] Furthermore, research indicates that Medicaid expansion has enhanced hospital financial stability and reduced closure rates, particularly in rural counties with previously high numbers of uninsured adults.[102]

46 states and DC have extended Medicaid through 12 months postpartum



Idaho and Iowa are planning to implement Medicaid extension through 12 months postpartum.

Wisconsin currently extends Medicaid only through 90 days postpartum.

Arkansas has not taken action towards extending Medicaid.

Birth centers: Expand access to accredited and licensed freestanding birth centers by reviewing state regulatory barriers to maintain and establish birth centers

Expanding birth centers will also require policymakers and stakeholders to examine state midwifery regulations to eliminate further barriers to care.

While research supports the benefits of birth centers,[21] many states have policies that create barriers to opening and sustaining licensed freestanding birth centers. These centers provide comprehensive prenatal, delivery, postpartum, and overall gynecological care, typically through the midwifery care model.[108]

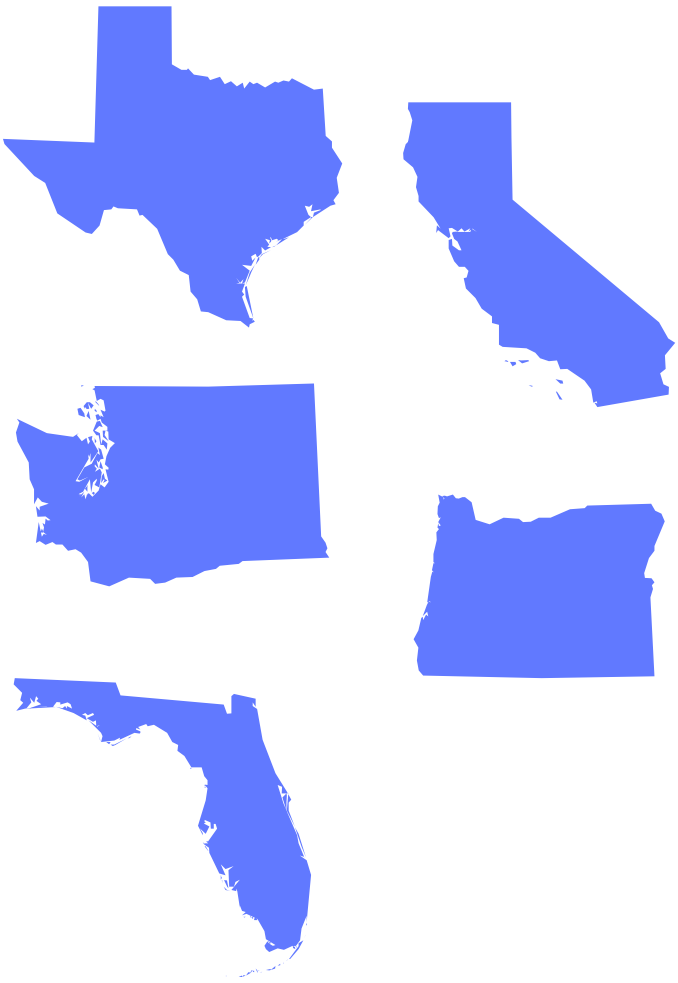
The Commission for the Accreditation of Birth Centers (CABC) most often accredits licensed freestanding birth centers. Although Medicaid covers licensed birth centers, many still face reimbursement difficulties due to low Medicaid reimbursement rates and administrative burdens, including payment delays.[109] States have different licensure requirements, and some do not have accredited birth centers.

To increase access to birth centers, policymakers and stakeholders should adopt the following measures to eliminate prohibitive regulations:[25,110,111]

- Exempt birth centers from state Certificate of Need requirements.
- Support the adoption of CABC accreditation, evidence-based, high-quality practice measures and regulations.
- Establish equitable Medicaid reimbursement fees and support services at a minimum of 100% of the Medicaid fee schedule.
- Establish and adopt standards for freestanding birth center facility coding and contracting, and include birth centers in preferred provider networks.

Addressing these regulatory and financial challenges will allow us to expand access to accredited birth centers to provide more comprehensive and high-quality care for moms and babies.

Texas, California, Washington, Oregon, and Florida have strong birth center access policies



Workforce: Expand opportunities for full midwifery integration

Removing regulatory barriers restricting and limiting midwifery practices is essential to integrating midwives fully into the healthcare system.

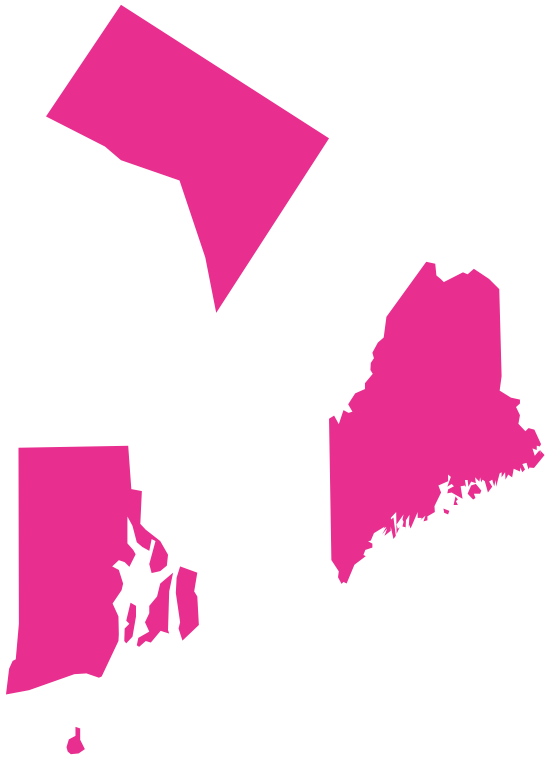
The midwifery model of care is a crucial strategy to improve access to maternity care, particularly in underserved areas.[112] Policy changes are necessary to maximize the potential of midwives within the healthcare workforce. This includes enabling midwives to practice to the full extent of their education, eliminating requirements for midwives to be collocated with physicians, allowing telehealth technologies, and ensuring equitable inclusion in reimbursement systems.[113]

To achieve full integration, addressing the following regulatory and practice restrictions nationwide is crucial for CNMs and CMs:[113]

- Review and adopt state statutes and hospital policies that grant midwives full medical staff privileges, including the authority to admit and discharge patients independently and prescribe medication.
- Amend state statutes to provide licensure for CMs. By addressing these regulatory hurdles, we can enable midwives to provide comprehensive, accessible, and high-quality care to birthing people across the US.
- Eliminate state statutes and licensing requirements mandating midwives to establish contractual relationships with physicians to practice midwifery care.
- Adjust state regulations to ensure parity in reimbursement rates between midwives and physicians, both in private and public payor systems, reimbursing midwives at 100% of the physician rate for the same services.

By addressing these regulatory hurdles, we can enable midwives to provide comprehensive, accessible, and high-quality care to birthing people across the US.

DC, Rhode Island, and Maine have policies that support the integration of midwives



Investing in digital technologies and telehealth: Enhancing healthcare delivery through innovative solutions

Continued investment in innovative digital practices and technologies is crucial to expanding access and providing more options for healthcare delivery, including telehealth, remote patient monitoring (RPM), affordable broadband/internet access, and mobile apps, with the integration of closed caption devices for disabled and hearing impaired individuals.

Telehealth plays a pivotal role in delivering high-quality care for pregnant and postpartum individuals, particularly benefiting underserved populations vulnerable to poor health outcomes and those with limited access to high-risk care.[114] Its integration across healthcare specialties like obstetrics, maternal-fetal medicine, and mental health has been transformative.[115] In maternity care, telehealth has enabled virtual consultations with specialists, remote ultrasound monitoring by maternal-fetal medicine experts, postpartum blood pressure monitoring using Wi-Fi connected devices, and fertility tracking through patient-generated data.[116]

During the Public Health Emergency, Congress established the Affordable Connectivity Program (ACP) to provide eligible low-income households, especially in rural areas, with affordable broadband and internet services crucial for telehealth access. As of June 1, 2024, federal funding for ACP has ceased, although some communication companies continue to offer low-cost internet plans for enrollees. Congress should prioritize extending funding for the ACP program to ensure continued access to essential telehealth services.[117]

Investing in digital technologies and telehealth is critical for improving healthcare access and outcomes. Renewed congressional support is required to ensure universal access to essential services like telehealth and broadband connectivity.

Call to action

By taking immediate action, policymakers can lay the foundation for a healthcare system that provides accessible, equitable, and high-quality care for all moms and babies across the US. This proactive approach will improve health outcomes and foster a more resilient healthcare infrastructure capable of addressing the diverse needs of all moms and babies in the 21st century. March of Dimes stands ready to collaborate with policymakers, healthcare providers, communities, and families to advocate for and implement these critical changes.

Conclusion

The findings in this report underscore the critical need for equitable access to maternity care across the US. Hospitals, birth centers, and the obstetric workforce all play pivotal roles in ensuring that birthing people receive the care they need, yet significant disparities in access persist.

The US maternity care system faces significant challenges, including clinician shortages, insufficient insurance coverage, long travel times to care, rising prevalence of chronic conditions, and the impact of SDOH and racism. Over half of US counties lack a hospital or birth center with obstetric services, creating barriers to care, particularly in rural areas. Policies that adequately address insurance reimbursement rates and payment structure could prevent future obstetric unit closures due to financial challenges. Although birth centers offer a promising alternative, with evidence indicating improved outcomes and cost savings, numerous states have policies hindering their establishment and operation. Diversifying ownership and management of birth centers, coupled with licensing policy reform, could enhance their integration and broaden their reach.

The shortage of obstetric clinicians, including OB-GYNs, midwives, and family physicians trained in obstetric care, further compounds access issues. Efforts to expand training opportunities, address policy barriers, and promote diversity within the obstetric workforce are imperative to bridging this gap. Additionally, addressing systemic issues such as insurance coverage, chronic illness before pregnancy, and social drivers of health, including racism, are critical steps toward ensuring all individuals have access to quality maternity care and positive birth outcomes.

The solutions to improving access to maternity care are as diverse as the barriers. However, by addressing these multifaceted challenges and implementing targeted interventions and policy solutions, we can work towards a future where all moms and babies receive the care they need, regardless of their geographic location, socioeconomic status, sexual orientation, or racial background. Stakeholders at all levels must collaborate to enact policy reforms, invest in workforce development, and prioritize equity to improve maternal health outcomes nationwide.

"My plan is... I actually think I'll give birth in my car."

Claudia Torres lives in a maternity care desert and has struggled with making it to the hospital in time for all four of her birthing experiences.

Scan to learn more about her experience living in rural Texas.

Abbreviations and definitions

AABC - American Association of Birth Centers

ACOG - American College of Obstetricians and Gynecologists

ACP - Affordable Connectivity Program

AI/AN - American Indian/Alaska Native

A/PI - Asian/Pacific Islander

APCU - Adequacy of Prenatal Care Utilization

ASRM - American Society for Reproductive Medicine

BMI - Body mass index

CABC - Commission for the Accreditation of Birth Centers

CDC - Centers for Disease Control and Prevention

CM - Certified Midwife

CNM - Certified Nurse Midwife

FPL - Federal Poverty Level

HPSAs - Health Professional Shortage Areas

HRSA - Health Resources and Services Administration

MCD - Maternity care desert

MCTA - Maternity Care Target Area

MVI - Maternal Vulnerability Index

NICU - Neonatal intensive care unit

NHSC - National Health Service Corps

OB-GYN - Obstetrician-gynecologist

PMAD - Perinatal Mood and Anxiety Disorders

PNC - Prenatal care

SDOH - Social drivers of health

Topic	Definition	Associated data source
Adequacy of Prenatal Care Utilization Index	An index to assess the timing and frequency of prenatal care received by pregnant individuals.	National Center for Health Statistics, Natality file
Birth center	A healthcare facility that follows the midwifery model of care and provides maternity care to low-risk birthing people.	American Association of Birth Centers
Body mass index	A measure calculated from an individual's weight and height, used to categorize underweight, normal weight, overweight, and obesity.	National Center for Health Statistics, Natality file
Certified Nurse-Midwife	A registered nurse with additional training in midwifery, providing care to women throughout pregnancy, childbirth, and postpartum period.	Centers for Medicare and Medicaid Services, National Provider Identifier file, American College of Nurse-Midwives
Certified Midwife	A midwife who meets specific educational and certification requirements to provide care to women during pregnancy, childbirth, and postpartum period.	Centers for Medicare and Medicaid Services, National Provider Identifier file
Family physician	A doctor trained to care for common and chronic illnesses among both children and adults with an emphasis on person-centered care and general wellbeing.	American Board of Family Medicine
Federal Poverty Level	Measure used by the federal government to determine eligibility for certain programs and benefits based on income.	US Census Bureau, American Community Survey
Health Professional Shortage Area	Designation by HRSA indicating areas lacking primary medical providers, impacting access to healthcare services.	Health Resources and Services Administration, Area Health Resources File
Maternity care desert	A county with no birthing facilities or obstetric clinicians.	March of Dimes
Maternity Care Target Area	Index score measuring the need for maternity care services in counties, influencing placement of healthcare providers.	Health Resources and Services Administration, Primary Care Shortage Area file
Maternal Vulnerability Index	An index used to assess and identify areas where moms are vulnerable to poor health outcomes, helping to target interventions and resources effectively.	Surgo Ventures
Obstetrician-Gynecologist	A physician specializing in women's health, particularly in pregnancy, childbirth, and disorders of the reproductive system.	Health Resources and Services Administration, Area Health Resources File
Obstetric hospital	A hospital with a dedicated maternity ward or labor and delivery unit.	American Hospital Association, Annual Survey
Prenatal care	Healthcare services provided to pregnant individuals to monitor pregnancy and ensure the health of mom and baby.	National Center for Health Statistics, Natality file
Preterm birth	A live birth before 37 weeks gestation.	National Center for Health Statistics, Natality file

References

1. Institute of Medicine Committee on Monitoring Access to Personal Health Care Services. *Access to Health Care in America*. (Millman M, ed.). National Academies Press (US); 1993. Accessed May 23, 2024. http://www.ncbi.nlm.nih.gov/books/NBK235882/
2. What Is Shortage Designation? | Bureau of Health Workforce. Accessed May 13, 2024. https://bhw.hrsa.gov/workforce-shortage-areas/shortage-designation
3. Corman H, Dave DM, Reichman N. Effects of Prenatal Care on Birth Outcomes: Reconciling a Messy Literature. NBER Working Paper No. 24885. Published August 2018. Accessed May 23, 2024. https://www.nber.org/papers/w24885
4. Kotelchuck M. Overview of Adequacy of Prenatal Care Utilization Index. Published online September 1994. https://www.mchlibrary.org/databases/HSNRCPDFs/Overview_APCUIndex.pdf
5. Gadson A, Akpovi E, Mehta PK. Exploring the social determinants of racial/ethnic disparities in prenatal care utilization and maternal outcome. *Semin Perinatol*. 2017;41(5):308-317.
6. Kotelchuck M. The Adequacy of Prenatal Care Utilization Index: its US distribution and association with low birthweight. *Am J Public Health*. 1994;84(9):1486-1489.
7. What are the risk factors for preterm labor and birth? | NICHD - Eunice Kennedy Shriver National Institute of Child Health and Human Development. Published May 9, 2023. Accessed May 23, 2024. https://www.nichd.nih.gov/health/topics/preterm/conditioninfo/who_risk
8. Mohamoud YA, Cassidy E, Fuchs E, et al. Vital Signs: Maternity Care Experiences - United States, April 2023. *MMWR Morb Mortal Wkly Rep*. 2023;72(35):961-967.
9. Sugar S, Peters C, De Lew N, Sommers BD. *Medicaid Churning and Continuity of Care: Evidence and Policy Considerations Before and After the COVID-19 Pandemic (Issue Brief No. HP-2021-10)*. Office of the Assistant Secretary for Planning and Evaluation, U.S. Department of Health and Human Services; 2021. https://aspe.hhs.gov/sites/default/files/private/pdf/265366/medicaid-churning-ib.pdf
10. Jones E, Lattof SR, Coast E. Interventions to provide culturally-appropriate maternity care services: factors affecting implementation. *BMC Pregnancy Childbirth*. 2017;17(1):267.
11. Shmerling A, Hoss M, Malam N, Staton EW, Lyon C. Prenatal Care via Telehealth. *Prim Care*. 2022;49(4):609-619.
12. Lynch CD, Conroy S, Jackson KA, Smith RM, Hade EM. Access to rideshare and satisfaction, prenatal healthcare utilisation, and preterm delivery among pregnant Medicaid recipients: A randomised controlled trial. *Paediatr Perinat Epidemiol*. 2023;37(3):201-211.
13. Enns JE, Nickel NC, Chartier M, et al. An unconditional prenatal income supplement is associated with improved birth and early childhood outcomes among First Nations children in Manitoba, Canada: a population-based cohort study. *BMC Pregnancy Childbirth*. 2021;21(1):312.
14. Lang AY, Boyle JA, Fitzgerald GL, et al. Optimizing preconception health in women of reproductive age. *Minerva Ginecol*. 2018;70(1):99-119.
15. Fischer SJ, Royer H, White CD. Health Care Centralization: The Health Impacts of Obstetric Unit Closures in the US. Published online June 1, 2022. https://www.nber.org/papers/w30141
16. Hung P, Kozhimannil KB, Casey MM, Moscovice IS. Why Are Obstetric Units in Rural Hospitals Closing Their Doors? *Health Serv Res*. 2016;51(4):1546-1560.
17. Valencia Z, Sen A, Kurowski D, Martin K, Bozzi D. Average Payments for Childbirth Among the Commercially Insured and Fee-for-Service Medicaid. HCCI. Accessed May 23, 2024. https://healthcostinstitute.org/hcci-originals-dropdown/all-hcci-reports/average-payments-for-childbirth-among-the-commercially-insured-and-fee-for-service-medicaid
18. ACOG Policy Priorities: Payment Parity for Obstetric Services. Accessed June 2, 2024. https://www.acog.org/advocacy/policy-priorities/payment-parity-for-obstetric-services
19. MFM: Low-Risk Pregnancies | Obstetrics, Gynecology & Reproductive Sciences. Accessed May 13, 2024. https://obgyn.ucsf.edu/maternal-fetal-medicine/low-risk-pregnancies
20. Moore JE, George KE, Bakst C, Shea K. *Improving Maternal Health Access, Coverage, and Outcomes in Medicaid: A Resource for State Medicaid Agencies and Medicaid Managed Care Organizations*. Institute for Medicaid Innovation. Accessed May 13, 2024. https://medicaidinnovation.org/wp-content/uploads/2022/11/2020-IMI-Improving_Maternal_Health_Access_Coverage_and_Outcomes-Report-2.pdf
21. Alliman J, Bauer K, Williams T. Freestanding Birth Centers: An Evidence-Based Option for Birth. *J Perinat Educ*. 2022;31(1):8-13.
22. Almanza JI, Karbeah J 'Mag, Tessier KM, et al. The Impact of Culturally-Centered Care on Peripartum Experiences of Autonomy and Respect in Community Birth Centers: A Comparative Study. *Matern Child Health J*. 2022;26(4):895-904.
23. Howell E, Palmer A, Benatar S, Garrett B. Potential Medicaid cost savings from maternity care based at a freestanding birth center. *Medicare Medicaid Res Rev*. 2014;4(3):mmrr2014-004-03-a06.
24. Courtot B, Hill I, Cross-Barnet C, Markell J. Midwifery and Birth Centers Under State Medicaid Programs: Current Limits to Beneficiary Access to a High-Value Model of Care. *Milbank Q*. 2020;98(4):1091-1113.
25. BC Regulations - American Association of Birth Centers. Accessed May 13, 2024. https://www.birthcenters.org/bc-regulations
26. Knox-Kazimierczuk F, Trinh S, Odems D, Shockley-Smith M. Challenges and lessons learned birthing during the COVID-19 pandemic: A scoping review. *Health Sci Rep*. 2023;6(7):e1387.
27. Sakala C, Hernández-Cancio S, Wei R. Improving Our Maternity Care Now Through Community Birth Settings. *J Perinat Educ*. 2022;31(4):184-187.
28. *Projections of Supply and Demand for Women's Health Service Providers: 2018-2030*. U.S. Department of Health and Human Services, Health Resources and Services Administration, National Center for Health Workforce Analysis; 2021. Accessed May 14, 2024. https://bhw.hrsa.gov/sites/default/files/bureau-health-workforce/data-research/projections-supply-demand-2018-2030.pdf

29. *The State of the World's Midwifery 2021.* United Nations Population Fund https://www.unfpa.org/sites/default/files/pub-pdf/21-038-UNFPA-SoWMy2021-Report-ENv4302_0.pdf
30. Rayburn WF. *The Obstetrician-Gynecologist Workforce in the United States: Facts, Figures, and Implications, 2017.* American Congress of Obstetricians and Gynecologists; 2017.
31. Sabbath EL, McKetchnie SM, Arora KS, Buchbinder M. US Obstetrician-Gynecologists' Perceived Impacts of Post-Dobbs v Jackson State Abortion Bans. *JAMA Netw Open.* 2024;7(1):e2352109.
32. Cahan E. Lawsuits, Reimbursement, and Liability Insurance-Facing the Realities of a Post-Roe Era. *JAMA.* 2022;328(6):515-517.
33. Hammoud MM, Morgan HK, George K, et al. Trends in Obstetrics and Gynecology Residency Applications in the Year After Abortion Access Changes. *JAMA Netw Open.* 2024;7(2):e2355017.
34. Vinekar K, Karlapudi A, Bauer CC, et al. Abortion training in U.S. obstetrics and gynecology residency programs in a post-Dobbs era. *Contraception.* 2024;130:110291.
35. Rosenblatt RA, Cherkin DC, Schneeweiss R, et al. The structure and content of family practice: current status and future trends. *J Fam Pract.* 1982;15(4):681-722.
36. HHS Invests $11 Million to Expand Medical Residencies in Rural Communities. Published July 26, 2023. Accessed May 14, 2024. https://www.hhs.gov/about/news/2023/07/26/hhs-invests-11-million-expand-medical-residencies-rural-communities.html
37. Barreto TW, Eden A, Hansen ER, Peterson LE. Opportunities and Barriers for Family Physician Contribution to the Maternity Care Workforce. *Fam Med.* 2019;51(5):383-388.
38. *Defining Competent Maternal and Newborn Health Professionals.* World Health Organization; 2018. https://iris.who.int/bitstream/handle/10665/272817/9789241514200-eng.pdf
39. A Brief History of Midwifery in America | OHSU. Accessed May 14, 2024. https://www.ohsu.edu/womens-health/brief-history-midwifery-america
40. Sandall J, Fernandez Turienzo C, Devane D, et al. Midwife continuity of care models versus other models of care for childbearing women. *Cochrane Database Syst Rev.* 2024;4(4):CD004667.
41. Guerra-Reyes L, Hamilton LJ. Racial disparities in birth care: Exploring the perceived role of African-American women providing midwifery care and birth support in the United States. *Women Birth.* 2017;30(1):e9-e16.
42. Hayward A, Cidro J. Indigenous Birth as Ceremony and a Human Right. *Health Hum Rights.* 2021;23(1):213-224.
43. Vedam S, Stoll K, MacDorman M, et al. Mapping integration of midwives across the United States: Impact on access, equity, and outcomes. *PLoS One.* 2018;13(2):e0192523.
44. Vanderlaan J. *Access to Midwifery Care National Chartbook.* Accessed May 22, 2024. https://www.midwife.org/midwifery-workforce
45. Baker MV, Butler-Tobah YS, Famuyide AO, Theiler RN. Medicaid Cost and Reimbursement for Low-Risk Prenatal Care in the United States. *J Midwifery Womens Health.* 2021;66(5):589-596.
46. Herndon A, Vanderlaan J. Associations Between State Practice Regulations and Access to Midwifery Care. *J Midwifery Womens Health.* 2024;69(1):17-24.
47. Barker AR, Li L. The cumulative impact of health insurance on health status. *Health Serv Res.* 2020;55 Suppl 2(Suppl 2):815-822.
48. Tolbert J, Drake P, Damico A. Key Facts about the Uninsured Population. Kaiser Family Foundation (KFF). Published December 18, 2023. Accessed May 9, 2024. https://www.kff.org/uninsured/issue-brief/key-facts-about-the-uninsured-population/
49. Daw JR, MacCallum-Bridges CL, Kozhimannil KB, Admon LK. Continuous Medicaid Eligibility During the COVID-19 Pandemic and Postpartum Coverage, Health Care, and Outcomes. *JAMA Health Forum.* 2024;5(3):e240004.
50. Margerison CE, MacCallum CL, Chen J, Zamani-Hank Y, Kaestner R. Impacts of Medicaid Expansion on Health Among Women of Reproductive Age. *Am J Prev Med.* 2020;58(1):1-11.
51. Medicaid and CHIP Income Eligibility Limits for Pregnant Women as a Percent of the Federal Poverty Level. Kaiser Family Foundation (KFF). Accessed May 9, 2024. https://www.kff.org/affordable-care-act/state-indicator/medicaid-and-chip-income-eligibility-limits-for-pregnant-women-as-a-percent-of-the-federal-poverty-level/?currentTimeframe=0&sortModel=%7B%22colId%22:%22Location%22,%22sort%22:%22asc%22%7D
52. Johnson K, Posner SF, Biermann J, et al. Recommendations to improve preconception health and health care--United States. A report of the CDC/ATSDR Preconception Care Work Group and the Select Panel on Preconception Care. *MMWR Recomm Rep.* 2006;55(RR-6):1-23.
53. Community-Based Models to Improve Maternal Health Outcomes and Promote Health Equity. The Commonwealth Fund. Published March 4, 2021. Accessed May 9, 2024. https://www.commonwealthfund.org/publications/issue-briefs/2021/mar/community-models-improve-maternal-outcomes-equity
54. Gordon SH, Lee S, Steenland MW, Deen N, Feinberg E. Extended Postpartum Medicaid in Colorado Associated with Increased Treatment for Perinatal Mood and Anxiety Disorders. *Health Aff (Millwood).* 2024;43(4):523-531.
55. Trost SL, Beauregard J, Chandra G, et al. *Pregnancy-Related Deaths: Data from Maternal Mortality Review Committees in 36 US States, 2017–2019.* Centers for Disease Control and Prevention, US Department of Health and Human Services; 2022. Accessed May 9, 2024. https://www.cdc.gov/maternal-mortality/php/data-research/index.html
56. Medicaid Postpartum Coverage Extension Tracker. Kaiser Family Foundation (KFF). Published May 7, 2024. Accessed May 9, 2024. https://www.kff.org/medicaid/issue-brief/medicaid-postpartum-coverage-extension-tracker/
57. Status of State Medicaid Expansion Decisions: Interactive Map. Kaiser Family Foundation (KFF). Published May 8, 2024. Accessed May 9, 2024. https://www.kff.org/affordable-care-act/issue-brief/status-of-state-medicaid-expansion-decisions-interactive-map/
58. Roa L, Uribe-Leitz T, Fallah PN, et al. Travel Time to Access Obstetric and Neonatal Care in the United States. *Obstet Gynecol.* 2020;136(3):610-612.
59. Minion SC, Krans EE, Brooks MM, Mendez DD, Haggerty CL. Association of Driving Distance to Maternity Hospitals and Maternal and Perinatal Outcomes. *Obstet Gynecol.* 2022;140(5):812-819.

60. Gutvirtz G, Wainstock T, Landau D, Sheiner E. Unplanned Out-of-Hospital Birth-Short and Long-Term Consequences for the Offspring. *J Clin Med*. 2020;9(2):339.
61. Örtqvist AK, Haas J, Ahlberg M, Norman M, Stephansson O. Association between travel time to delivery unit and unplanned out-of-hospital birth, infant morbidity and mortality: A population-based cohort study. *Acta Obstet Gynecol Scand*. 2021;100(8):1478-1489.
62. Kozhimannil KB, Hung P, Henning-Smith C, Casey MM, Prasad S. Association Between Loss of Hospital-Based Obstetric Services and Birth Outcomes in Rural Counties in the United States. *JAMA*. 2018;319(12):1239-1247.
63. ESRI. Optimized Hot Spot Analysis (Spatial Statistics)—ArcGIS Pro. Accessed May 24, 2024. https://pro.arcgis.com/en/pro-app/3.1/tool-reference/spatial-statistics/optimized-hot-spot-analysis.htm
64. Hamilton BE, Martin JA, Osterman MJK. *Births: Provisional Data for 2023. Vital Statistics Rapid Release;* No 35. April 2024. https://www.cdc.gov/nchs/data/vsrr/vsrr035.pdf
65. Chandra-Mouli V, Akwara E. Improving access to and use of contraception by adolescents: What progress has been made, what lessons have been learnt, and what are the implications for action? *Best Pract Res Clin Obstet Gynaecol*. 2020;66:107-118.
66. Oberhauser AM. Women in the U.S. are having fewer babies. What's driving this trend? World Economic Forum. Published July 9, 2021. Accessed May 13, 2024. https://www.weforum.org/agenda/2021/07/declining-fertility-rates-research/
67. Dench D, Pineda-Torres M, Myers CK. The Effects of the Dobbs Decision on Fertility. IZA Discussion Paper No. 16608. Published November 27, 2023. Accessed May 13, 2024. https://papers.ssrn.com/abstract=4636864
68. Barfield WD, Warner L. Preventing chronic disease in women of reproductive age: opportunities for health promotion and preventive services. *Prev Chronic Dis*. 2012;9:E34.
69. Stanhope KK, Worrell N, Jamieson DJ, Geary FH, Boulet SL. Double, Triple, and Quadruple Jeopardy: Entering Pregnancy with Two or More Multimorbid Diagnoses and Increased Risk of Severe Maternal Morbidity and Postpartum Readmission. *Womens Health Issues*. 2022;32(6):607-614.
70. Mitanchez D, Yzydorczyk C, Simeoni U. What neonatal complications should the pediatrician be aware of in case of maternal gestational diabetes? *World J Diabetes*. 2015;6(5):734-743.
71. Madi SRC, Garcia RMR, Souza VC de, Rombaldi RL, Araújo BF de, Madi JM. Effect of Obesity on Gestational and Perinatal Outcomes. *Rev Bras Ginecol E Obstet*. 2017;39(7):330-336.
72. Hayes DK, Robbins CL, Ko JY. Trends in Selected Chronic Conditions and Related Risk Factors Among Women of Reproductive Age: Behavioral Risk Factor Surveillance System, 2011-2017. *J Womens Health (Larchmt)*. 2020;29(12):1576-1585.
73. Admon LK, Winkelman TNA, Moniz MH, Davis MM, Heisler M, Dalton VK. Disparities in Chronic Conditions Among Women Hospitalized for Delivery in the United States, 2005-2014. *Obstet Gynecol*. 2017;130(6):1319-1326.
74. Temkin SM, Barr E, Moore H, Caviston JP, Regensteiner JG, Clayton JA. Chronic conditions in women: the development of a National Institutes of health framework. *BMC Womens Health*. 2023;23(1):162.
75. ACOG Committee Opinion No. 762: Prepregnancy Counseling. *Obstet Gynecol*. 2019;133(1):e78-e89.
76. US Department of Health and Human Services. Social Determinants of Health. Healthy People 2030. Accessed May 23, 2024. https://health.gov/healthypeople/priority-areas/social-determinants-health
77. Grobman WA, Entringer S, Headen I, et al. Social determinants of health and obstetric outcomes: A report and recommendations of the workshop of the Society for Maternal-Fetal Medicine. *Am J Obstet Gynecol*. 2024;230(2):B2-B16.
78. Kramer MR, Strahan AE, Preslar J, et al. Changing the conversation: applying a health equity framework to maternal mortality reviews. *Am J Obstet Gynecol*. 2019;221(6):609.e1-609.e9.
79. Dagher RK, Linares DE. A Critical Review on the Complex Interplay between Social Determinants of Health and Maternal and Infant Mortality. *Child Basel Switz*. 2022;9(3):394.
80. Salazar EG, Montoya-Williams D, Passarella M, et al. County-Level Maternal Vulnerability and Preterm Birth in the US. *JAMA Netw Open*. 2023;6(5):e2315306.
81. McLemore MR, D'Efilippo V. To Prevent Women from Dying in Childbirth, First Stop Blaming Them. Scientific American. Published May 1, 2019. Accessed May 23, 2024. https://www.scientificamerican.com/article/to-prevent-women-from-dying-in-childbirth-first-stop-blaming-them/
82. Larrabee Sonderlund A, Schoenthaler A, Thilsing T. The Association between Maternal Experiences of Interpersonal Discrimination and Adverse Birth Outcomes: A Systematic Review of the Evidence. *Int J Environ Res Public Health*. 2021;18(4):1465.
83. Valerio VC, Downey J, Sgaier SK, Callaghan WM, Hammer B, Smittenaar P. Black-White disparities in maternal vulnerability and adverse pregnancy outcomes: an ecological population study in the United States, 2014-2018. *Lancet Reg Health Am*. 2023;20:100456.
84. Crear-Perry J, Correa-de-Araujo R, Lewis Johnson T, McLemore MR, Neilson E, Wallace M. Social and Structural Determinants of Health Inequities in Maternal Health. *J Womens Health 2002*. 2021;30(2):230-235.
85. Malawa Z, Gaarde J, Spellen S. Racism as a Root Cause Approach: A New Framework. *Pediatrics*. 2021;147(1):e2020015602.
86. Liu SR, Glynn LM. The contribution of racism-related stress and adversity to disparities in birth outcomes: evidence and research recommendations. *F S Rep*. 2022;3(2 Suppl):5-13.
87. Hux VJ, Catov JM, Roberts JM. Allostatic load in women with a history of low birth weight infants: the national health and nutrition examination survey. *J Womens Health*. 2014;23(12):1039-1045.
88. Clark A, Wescott P, Mitchell N, Mahdi I, Crear-Perry J. Centering equity: addressing structural and social determinants of health to improve maternal and infant health outcomes. *Semin Perinatol*. 2022;46(8):151661.
89. Smith TM. How legacy of medical racism shapes U.S. health care today. American Medical Association. Published January 31, 2022. Accessed May 23, 2024. https://www.ama-assn.org/delivering-care/health-equity/how-legacy-medical-racism-shapes-us-health-care-today

90. Chambers BD, Taylor B, Nelson T, et al. Clinicians' Perspectives on Racism and Black Women's Maternal Health. *Womens Health Rep (New Rochelle)*. 2022;3(1):476-482.
91. Alhusen JL, Bower KM, Epstein E, Sharps P. Racial Discrimination and Adverse Birth Outcomes: An Integrative Review. *J Midwifery Womens Health*. 2016;61(6):707-720.
92. Beach MC, Saha S, Park J, et al. Testimonial Injustice: Linguistic Bias in the Medical Records of Black Patients and Women. *J Gen Intern Med*. 2021;36(6):1708-1714.
93. Sim W, Lim WH, Ng CH, et al. The perspectives of health professionals and patients on racism in healthcare: A qualitative systematic review. *PLoS One*. 2021;16(8):e0255936.
94. Ben J, Cormack D, Harris R, Paradies Y. Racism and health service utilisation: A systematic review and meta-analysis. *PLoS One*. 2017;12(12):e0189900.
95. Ford TN, Michener J. Medicaid Reimbursement Rates Are a Racial Justice Issue. The Commonwealth Fund. Published June 16, 2022. Accessed June 25, 2024. https://www.commonwealthfund.org/blog/2022/medicaid-reimbursement-rates-are-racial-justice-issue
96. Dunn A, Gottlieb J, Shapiro A, Sonnenstuhl DJ, Tebaldi P. A Denial a Day Keeps the Doctor Away. BFI Working Paper. Accessed June 25, 2024. https://bfi.uchicago.edu/working-paper/2021-80/
97. *The Cost of Having a Baby in the United States*. Truven Health Analytics; 2013. https://nationalpartnership.org/wp-content/uploads/2023/02/the-cost-of-having-a-baby-in-the-us.pdf
98. Hung P, Henning-Smith CE, Casey MM, Kozhimannil KB. Access to Obstetric Services in Rural Counties Still Declining, with 9 Percent Losing Services, 2004-14. *Health Aff (Millwood)*. 2017;36(9):1663-1671.
99. Ranji U, Salganicoff A, Published IG. Postpartum Coverage Extension in the American Rescue Plan Act of 2021. Kaiser Family Foundation (KFF). Published March 18, 2021. Accessed June 26, 2024. https://www.kff.org/policy-watch/postpartum-coverage-extension-in-the-american-rescue-plan-act-of-2021/
100. Preconception health | Office on Women's Health. Accessed June 26, 2024. https://www.womenshealth.gov/pregnancy/you-get-pregnant/preconception-health
101. Myerson R, Crawford S, Wherry LR. Medicaid Expansion Increased Preconception Health Counseling, Folic Acid Intake, and Postpartum Contraception. *Health Aff (Millwood)*. 2020;39(11):1883-1890.
102. Lindrooth RC, Perraillon MC, Hardy RY, Tung GJ. Understanding the Relationship Between Medicaid Expansions and Hospital Closures. *Health Aff (Millwood)*. 2018;37(1):111-120.
103. Opportunities to Improve Maternal Health Through Value-Based Payments. AHIP. Accessed June 25, 2024. https://www.ahip.org/resources/opportunities-to-improve-maternal-health-through-value-based-payments
104. *Realizing the Transformational Potential of Maternity Care Payment Reform*. National Partnership for Women & Families; 2024. Accessed June 25, 2024. https://nationalpartnership.org/wp-content/uploads/maternityAPM-report.pdf
105. Value-Based Payment for Maternity Care in Medicaid: Findings from Five States. MACPAC. Accessed June 25, 2024. https://www.macpac.gov/publication/value-based-payment-for-maternity-care-in-medicaid-findings-from-five-states/
106. Cunningham SD, Herrera C, Udo IE, et al. Maternal Medical Complexity: Impact on Prenatal Health Care Spending among Women at Low Risk for Cesarean Section. *Womens Health Issues*. 2017;27(5):551-558.
107. Kerby T, Bidgood R, Le D. Why effective maternity care requires an innovative, value-based strategy. HFMA. Published October 22, 2020. Accessed June 25, 2024. https://www.hfma.org/payment-reimbursement-and-managed-care/value-based-payment/why-effective-maternity-care-requires-an-innovative-value-based/
108. Hill I, Dubay L, Courtot B, et al. *Strong Start for Mothers and Newborns Evaluation: Year 5 Project Synthesis. Volume 1: Cross-Cutting Findings*. Urban Institute Accessed June 26, 2024. https://downloads.cms.gov/files/cmmi/strongstart-prenatal-finalevalrpt-v1.pdf
109. Williams T, Bixiones C, Standard V, Orton R. *How Freestanding Birth Centers Can Health Solve the Maternal Health Crisis in the U.S.* Maternal Health Learning & Innovation Center. Accessed June 26, 2024. https://maternalhealthlearning.org/resources/how-freestanding-birth-centers-can-health-solve-the-maternal-health-crisis-in-the-u-s/
110. Moore JE. New Roadmap & Checklist on High-Value, Evidence-Based Maternal Models of Care in Medicaid. Institute for Medicaid Innovation. Published May 21, 2021. Accessed June 26, 2024. https://medicaidinnovation.org/new-roadmap-checklist-on-high-value-evidence-based-maternal-models-of-care-in-medicaid/
111. *Getting Payment Right: How to Unlock High-Value Care Through Appropriate Birth Center Reimbursement*. American Association of Birth Centers. Accessed June 25, 2024. https://www.birthcenters.org/products/getting-payment-right
112. Jeffers NK. Confronting the Issue of Maternity Care Deserts. Published August 28, 2023. Accessed June 26, 2024. https://nursing.jhu.edu/magazine/articles/2023/08/confronting-the-issue-of-maternity-care-deserts/
113. Vanderlaan J, Jefferson K. *Midwifery Policy Toolkit*. American College of Nurse-Midwives. Accessed June 26, 2024. https://www.midwife.org/acnm/files/cclibraryfiles/filename/000000009130/2024_policy_advocacy_toolkit_final.pdf
114. *Availability of Hospital-Based Obstetric Care in Rural Areas*. GAO (U.S. Government Accountability Office); 2022. Accessed June 25, 2024. https://www.gao.gov/assets/gao-23-105515.pdf
115. *A Framework for Defining Telehealth*. Telehealth Resource Centers. Accessed June 25, 2024. https://cdn.cchpca.org/files/2018-10/Telehealth%20Definintion%20Framework%20for%20TRCs_0.pdf
116. DeNicola N, Grossman D, Marko K, et al. Telehealth Interventions to Improve Obstetric and Gynecologic Health Outcomes: A Systematic Review. *Obstet Gynecol*. 2020;135(2):371-382.
117. Affordable Connectivity Program | Federal Communications Commission. Accessed June 26, 2024. https://www.fcc.gov/acp