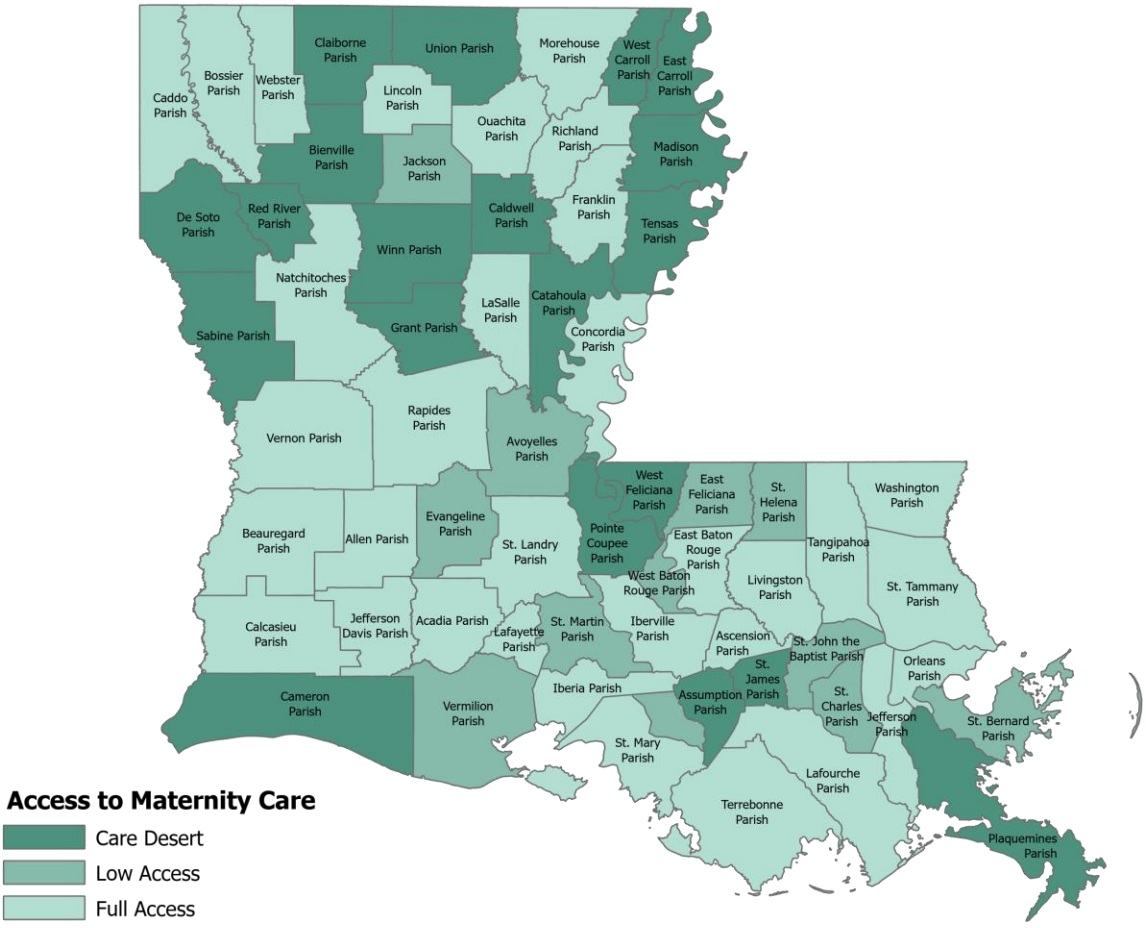
Maternity Care Deserts: A 2026 Report on Louisiana



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Executive Summary

Louisiana has among the poorest maternal and infant health outcomes in the United States, with substantial disparities by race, geography, and socioeconomic status. Evidence indicates that limited access to maternity care is associated with worse maternal and infant outcomes, yet the most recent Louisiana-specific assessment of maternity care deserts relies on 2022 data. Given changes in the health care landscape, including policy changes, workforce constraints, and facility shifts, updated data are needed to understand current availability of maternal healthcare.

This 2026 report provides an assessment of maternity and obstetric physician facility location data across Louisiana using November 2025 data. Provider data were obtained from the National Plan and Provider Enumeration System (NPPES) and sociodemographic data from the American Community Survey; we mapped the availability of (1) maternity care (MC), including obstetric physicians, nurses, or midwives, and (2) obstetric physician care (OPC). We examined how facility concentration varies across parishes and assessed associations with population density, poverty, and racial/ethnic composition. We did not calculate provider density or facilities per capita.

Key Findings

Maternity care deserts are common in Louisiana: Nearly one-third of parishes (29.6%) are MC deserts; almost half (46.8%) are OPC deserts. The majority of MC deserts are in north Louisiana, where OPC deserts are distributed more evenly across the state.

Higher access to maternity care – defined for this report as 2 or more MC facilities in the parish – showed variation across the state. Less than half of Louisiana parishes (48.4%) have higher access to MC facilities, i.e., two or more facilities in the parish; about one-third of Louisiana parishes (35.9%) have higher access to OPC facilities, i.e., two or more OPC sites in the parish.

Population density is the strongest predictor of MC deserts: Low population density (more rural) parishes are significantly more likely to be care deserts, both for MC and OPC. Prior research documents that race/ethnicity and poverty are highly predictive of poor maternal and infant health outcomes, but our report indicates that these factors are not associated with MC deserts.

There is indication of a rise in maternity care deserts in Louisiana: Compared to 2022 estimates of MC deserts in Louisiana conducted by the March of Dimes, we see more MC deserts in 2026. These findings correspond to other research indicating a provider decline in the state.

Conclusions

Maternity care deserts are pervasive and may be increasing in Louisiana, particularly in rural areas. While race/ethnicity and poverty are not associated with where deserts occur, these factors remain critical drivers of poor maternal and infant health outcomes. Availability of services is therefore necessary but not sufficient to ensure access, utilization, or quality of care.

Addressing Louisiana's maternal health crisis will require expanding the maternity care workforce—including nurses and midwives—while also strengthening the state's capacity to recruit and retain obstetric physicians. At the same time, increasing the number of facilities alone will not improve outcomes. Efforts must also ensure high-quality care through training, oversight, and ongoing monitoring of both service availability and health outcomes.

Strengthening both access to and quality of care positions Louisiana to make meaningful progress in improving maternal and infant health statewide.

Introduction

Maternity care deserts—areas lacking hospitals with obstetric services or birth centers, as well as obstetricians, gynecologists, or certified nurse midwives—are associated with poorer quality maternity care in the United States, with particularly pronounced impacts for Black women and those living in rural areas (1). The 2024 March of Dimes report on maternity care deserts further indicates poorer maternal health care access in the U.S. South, including Louisiana (1).

These access challenges are especially concerning in Louisiana, where maternal and child health outcomes rank among the worst in the nation. According to the Louisiana Department of Health, 93% of pregnancy-related deaths in the state are attributable to preventable conditions (2). As of 2023, Louisiana's maternal mortality rate was 41.9 deaths per 100,000 live births, and it had the highest maternal mortality rate (3). Infant outcomes follow a similar pattern, with the state ranking third in infant mortality and second in low birth weight nationally (4). Louisiana ranks last (50th) nationally in women's and children's health, reinforcing its position as one of the highest-risk states in the country (5,6).

Significant racial and ethnic disparities further shape these outcomes. Black women experience substantially higher rates of maternal mortality and adverse birth outcomes compared to white women (2,7,8). While Hispanic women in Louisiana have comparatively lower rates of preterm birth (10.6%) and maternal mortality (4.0%) (7,3), they face elevated risks of severe maternal morbidity, particularly in high-poverty areas (9). Hispanic populations also experience among the highest uninsured rates in the state and lower overall health system performance relative to non-Hispanic white populations (10,11), indicating that apparent advantages in select outcomes do not reflect equitable access to care.

Maternal health care is a critical pathway through which these disparities translate into outcomes. Access to timely and appropriate care enables the identification and management of conditions such as anemia, hypertension, and infectious diseases, as well as fetal monitoring and safe delivery. Many leading causes of maternal mortality—including cardiovascular disease, thromboembolism, and hypertensive disorders—are considered preventable with adequate care (12). Consistent with this, national evidence demonstrates that maternity care deserts are associated with worse maternal and infant outcomes. Counties without maternity care facilities have significantly higher maternal mortality rates compared to those with maternity care facilites (13), and recent analyses link care deserts to increased infant mortality, neonatal death, and post-neonatal death (4). Broader trends in the South further suggest that the closure of obstetric units contributes to elevated maternal morbidity and mortality (3).

These risks are compounded by constraints within the health system. Louisiana faces longstanding shortages in primary care and OB/GYN providers, limiting baseline access to care even prior to recent policy changes (14). Provider attrition has multiplier effects: the loss of even a small number of maternal health providers can destabilize entire regional care systems, increasing travel distances, wait times, and delays in emergency care. Financial pressures on rural hospitals have further reduced access, with more than 160 hospital closures nationally and hundreds of facilities discontinuing obstetric services over the past decade (15).

At the same time, provider decision-making is increasingly shaped by legal and professional constraints. Following *Dobbs v. Jackson Women's Health Organization*, clinicians report uncertainty regarding permissible care, fear of legal consequences, and delayed interventions in obstetric emergencies, affecting adherence to standard-of-care practices (16). These constraints also limit the ability to provide evidence-based, guideline-concordant care, contributing to

burnout and intent to leave restrictive states (16). A central but under-measured driver of provider attrition is moral injury—the ethical distress experienced when clinicians are unable to provide medically indicated care. These dynamics extend into the training pipeline, as medical students and residents are less likely to train in restrictive states and may graduate without competency in essential reproductive health procedures (17).

The implications for patient access and equity are substantial. Workforce shortages affect the full spectrum of maternal and reproductive health services, including prenatal care, miscarriage management, infertility services, and emergency obstetric care (18,19). These gaps disproportionately affect rural populations, low-income communities, and communities of color, who face barriers to accessing care (19). As provider availability declines, patients experience longer travel distances and delays in receiving time-sensitive care, increasing the risk of complications and adverse outcomes (18,19).

Emerging evidence suggests that these combined system and policy pressures are associated with worsening population health outcomes. National trends indicate increases in infant mortality following the *Dobbs* decision (20). State-level evidence from Texas similarly demonstrates increases in infant and neonatal mortality following abortion restrictions (21). Additional research indicates that restrictive policy environments are associated with higher maternal mortality rates and increased risks of violent death, including homicide and suicide, particularly in states with multiple abortion restrictions (22). Broader comparative analyses further suggest shifting patterns in maternal and neonatal morbidity between restrictive and non-restrictive states (23).

Taken together, these factors—limited provider capacity, uneven geographic distribution of care, health system instability, and evolving policy constraints—create a high-risk environment for maternal and infant health in Louisiana. Maternity care desert data provide an essential tool for identifying gaps in access, informing the placement of services, and guiding targeted policy interventions. However, the most recent comprehensive assessment of maternity care deserts in Louisiana relies on data from 2022 (1). Given the substantial policy changes and health system shifts over the past several years, an updated and more detailed analysis of maternity care facility locations in Louisiana is both timely and necessary.

This report provides 2026 maps on maternity care deserts, as well as maps on maternal and obstetric facilities individually to examine care clusters in the state. We also examine whether deserts correspond to rural areas, poverty, and Black and Hispanic communities.

Methods

In November 2025, we ascertained facilities of clinics and providers from public data sources and obtained sociodemographic indicators from U.S. Census data and mapped these using ArcGIS.

Measures and Data Sources

Maternity Care Deserts. We used the November 2025 NPI NPPES Data Dissemination file (24) to obtain data on availability and location of maternity clinics and the following types of providers: obstetric physicians, obstetric nurses, or midwives.[1] The NPI NPPES Data Dissemination File is a public, quarterly, or monthly updated dataset from the Centers for Medicare & Medicaid Services (CMS) containing comprehensive, FOIA-disclosable information on all active and deactivated health care providers with a National Provider Identifier (NPI). This file includes provider names, specialties, and addresses. We used the March of Dimes definition of maternity care deserts: "counties where there is no access to birthing hospitals, birth centers offering obstetric care, or obstetric providers" (1). We additionally dichotomized parishes based on their level of care, with parishes with only one associated hospital or clinic offering care labelled as Low Access to care and parishes with 2 or more hospitals or clinics labelled as Full Access to care. Finally, we also mapped Obstetric Physician Care (OPC) Deserts, which we defined as parishes which have no access to obstetric physicians, to assess care access in situations of high medical need. It is important to note that the label of Full Access does not consider facility concentration per capita, provider concentration, public transportation availability, or other structural variables which might impact the ability to receive care from an existing location. While we wanted to stay consistent with the March of Dimes definition, individuals within Full Access parishes might still face barriers towards care, regardless of the physical proximity of a facility. Additionally, unlike the March of Dimes definition, we did not consider provider per-capita concentration when designating levels of access, due to difficulties with verifying active providers.

Maternity Health Clusters. Clusters were defined as a Metropolitan Statistical Area (MSA) with at least 10 facilities of maternity health_care, in reference to the designations from the Office of Management and Budget 2023 bulletin (25). The designation of clusters enabled us to define areas with increased numbers of care facilities via spatial analysis. When conducting spatial analysis, mapping providers at the exact facility, we also considered whether care deserts were over or underrepresented in certain classification ranges.

Sociodemographics. We used data from the U.S. Census to obtain information by parish on population density, poverty rate, and race/ethnicity (26). Population density was calculated as population size divided by land area in miles. Poverty rate was measured as the percent of

[1]The November 2025 Data Dissemination File was filtered to show providers who have practice facilities in the state of Louisiana and taxonomy codes related to maternity care and obstetric provider. Relevant taxonomy codes were obtained via website from the National Uniform Claim Committee (NUCC) and included codes 207V00000X (Obstetrics & Gynecology Physician), 163WX0002X (High-Risk Obstetric Registered Nurse), 163WX0003X (Inpatient Obstetric Registered Nurse), 175M00000X (Lay Midwife) and 176B00000X (Midwife) (1). All data were filtered to remove duplicate addresses. As NPPES NPI data are not regularly updated to remove practitioners who have changed practice facilities or are no longer active (2), we additionally confirmed all provider data using evidence of a location via google maps or active yelp pages.

Citations:
1. DesRoches, Catherine M., et al. The results are only as good as the sample: Assessing three national physician sampling frames. Journal of General Internal Medicine, vol. 30, no. S3, 24 June 2015, pp. 595–601, https://doi.org/10.1007/s11606-015-3380-9.
2. Health Care Provider Taxonomy Code Set. National Uniform Claim Committee, 2025, taxonomy.nucc.org/. (Accessed March 25, 2026.)

population living below the poverty level, with the poverty level defined as s $33,000 annually for a household of four and $15,960 for the individual, per the U.S. Census definition. Race/ethnicity data were used to calculate the percents of the parish that identified as Black (alone or in combination with one or more other races) and Hispanic (of any race), respectively.

Data Analysis

Parish-level Mapping. We mapped maternity care (inclusive of physicians, nurses, and midwives) and obstetric physician care separately by parish. Additionally, we mapped each of the maternal health care variables alongside each of our sociodemographic variables (population density, poverty rate, Black population proportion, and Hispanic population proportion) to evaluate whether vulnerable populations are more likely to reside in care deserts. We did not map the White population as Louisiana's racial composition is majority Black and white, such that these two variables had extremely high collinearity.

Spatial Analysis. We used ArcGIS Pro to perform spatial analysis of all indicators. We first mapped parishes by maternal care (MC) and obstetric physician care (OPC) access, classifying them as deserts (no access), low access (access to one or two facilities), or full access (access to more than two facilities). We then examined spatial associations between MC and OPC facilities and key sociodemographic variables (poverty rate, population density, and the proportions of Black and Hispanic populations). These variables were visualized as base layers using graduated color scales, with data grouped into ranges based on the Jenks natural breaks method (27). Natural breaks is a default data classification method that groups similar values together, maximizing differences between classes by placing breaks where large gaps exist in data distribution. It is ideal for unevenly distributed data, as it minimizes within-class variance, though it is not suited for comparing different datasets. MC and OPC data were then overlaid as geographic coordinates after geocoding their address. We also noted the number and location of care deserts as well as clusters of care for analysis, in order to identify areas with high concentrations of MC and OPC care. This resulted in eight distinct maps, four maps for each of our maternal health care variables (MC and OPC), with the four maps per maternal health care displaying population density, percent under poverty, percent Black, and percent Hispanic. Additionally, the mean, standard deviation, range and variance of variables included in spatial analysis were also generated.

Statistical Analysis. We statistically assessed whether our sociodemographic variables are associated with our maternity care desert variables (MC and OPC). First, we used t-tests and Pearson correlations to assess simple associations between each of our four sociodemographic variables of interest and each of our maternal care outcomes (MC and OPC). Then, we constructed adjusted logistic regression models for each of our maternity care outcomes; we included our four sociodemographics of focus as well as the following additional sociodemographics: age, percentage of population with a high school degree as the highest educational attainment, the uninsured rate, the non-citizen population, and the household vacancy status. All sociodemographics were collected from the ACS 2024 5-year files as controls in regressions (26). We verified non-collinearity among predictor variables by calculating the Variance Inflation Factors (VIFs) for the bivariate associations. See Appendix A for further details on these.

Finally, we checked for robustness to an alternative model specification by running negative binomial regressions, where the number of OPC and MC facilities were the respective dependent variables within each model. While the logistic regressions predicted the odds of being an MC or OPC desert, these models measure factors that are correlated with higher or lower number of care facilities. These models are presented in Appendix A and referenced in our results section. Statistical analysis of the data was done via SPSS Statistics Version 31. Significance testing for all analyses was set at $p<.05$, or the equivalent 95% confidence interval.

Results

Maternity Care Deserts

Figures 1.a and 1.b depict parish-level concentration of MC and OPC facilities, respectively. In 2025, in accordance to our definition of access, 48.4% (31/64) of parishes had full access (two or more) to MC facilities, 21.8% (14/64) had low access (one facility), and 29.6% (19/64) were MC deserts (no clinics or providers). The majority of MC deserts were located in the northern half of Louisiana (Figure 1.a). Access to OPC facilities was more limited. Only 35.9% (23/64) of parishes had full access, 17.1% (11/64) had low access, and 46.8% (30/64) were classified as OPC deserts, which are defined as having no clinics or hospitals with obstetric physicians on staff. Unlike MC deserts, the geographic distribution of OPC deserts was more uniform throughout Louisiana (Figure 1.b).

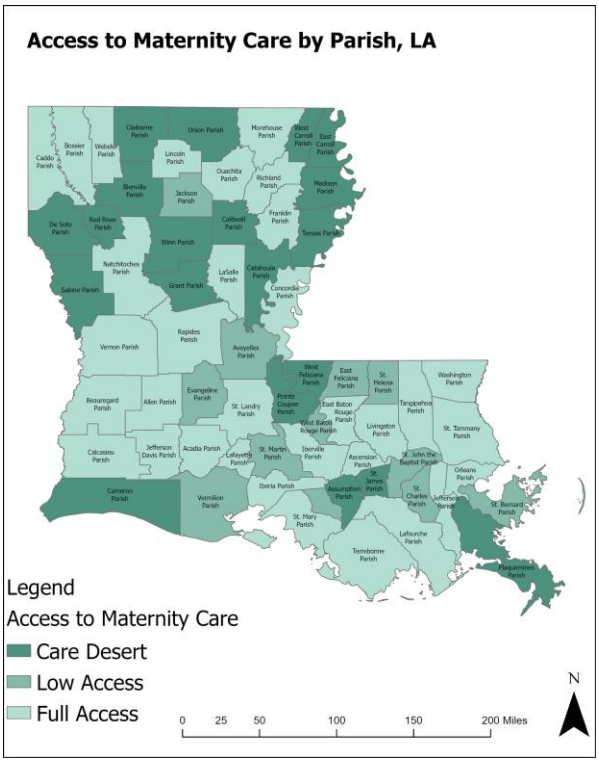


Figure 1.a: Maternity Care by Parish

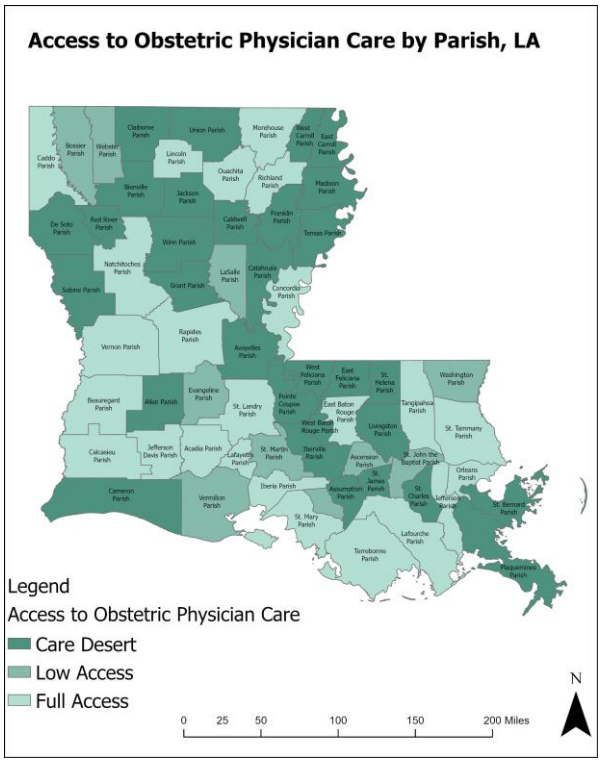


Figure 1.b: Obstetric Physician care by Parish

Next, we identified MC and OPC clusters, which were defined as metropolitan statistical areas (MSAs, i.e., metro areas) with at least 10 facilities of care. There are 10 Louisiana MSAs: Alexandria MSA, Baton Rouge MSA, Hammond MSA, Houma–Thibodaux MSA, Lafayette MSA, Lake Charles MSA, Monroe MSA, New Orleans–Metairie MSA, Shreveport–Bossier City MSA, Slidell–Mandeville–Covington MSA. All MSAs except for Lake Charles MSA were defined as an MC Cluster (90%). All MSAs except for Lake Charles MSA, Alexandria MSA and Hammond MSA, were defined as an OPC Cluster.

Maternity Care Deserts and Population Density

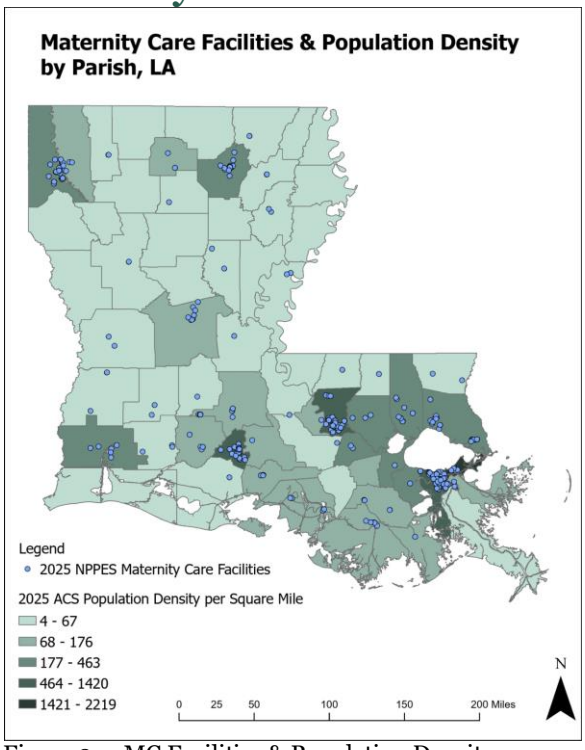


Figure 2.a: MC Facilities & Population Density

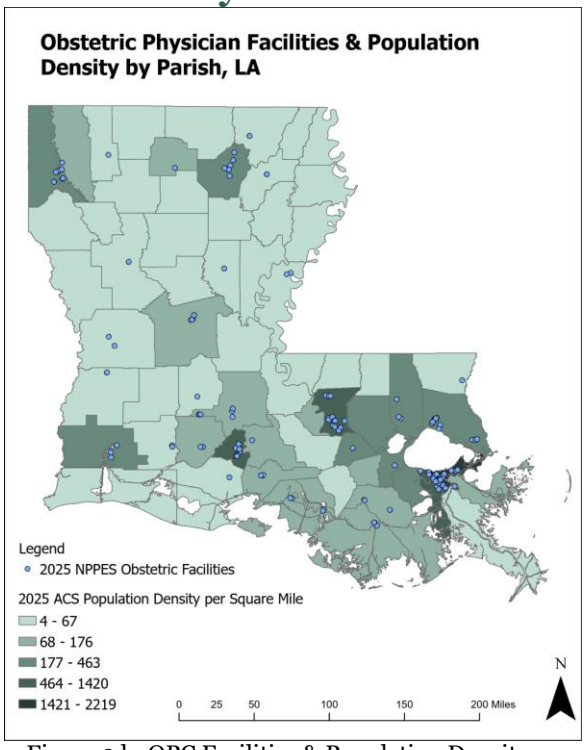


Figure 2.b: OPC Facilities & Population Density

Table 1. Characteristics of Louisiana Parishes: Population Density, Maternity Care (MCs) Deserts, and Obstetric Physician Care (OPC) Deserts; Number of MC and OPC Clusters, 2025

Population Density[1]	% MC Deserts	% OPC Deserts	Number of MC Clusters	Number of OPC Clusters
4 – 67	50.0%	65.8%	0	0
68 – 176	7.1%	21.4%	0	0
177 – 463	0%	25.0%	2	1
464 - 1420	0%	0%	6	5
1421 - 2219	0%	0%	1	1

[1]Number of people per square mile in the parish.

Figures 2.a and 2.b illustrate the spatial distribution of MC and OPC facilities across Louisiana, overlaid on parish-level poverty rates. The visual patterns indicate a strong correlation between facility presence and the population density. Table 1 indicates that the percentage of MC deserts is notable only for the lowest population density bracket, where OPC deserts are seen in mid-level population density areas. Additionally, there are no MC or OPC clusters within the lowest two brackets of population density (4 – 67, 68-176), and the majority of MC and OPC care deserts are located within the second highest bracket of population density.

Maternity Care Deserts and Poverty

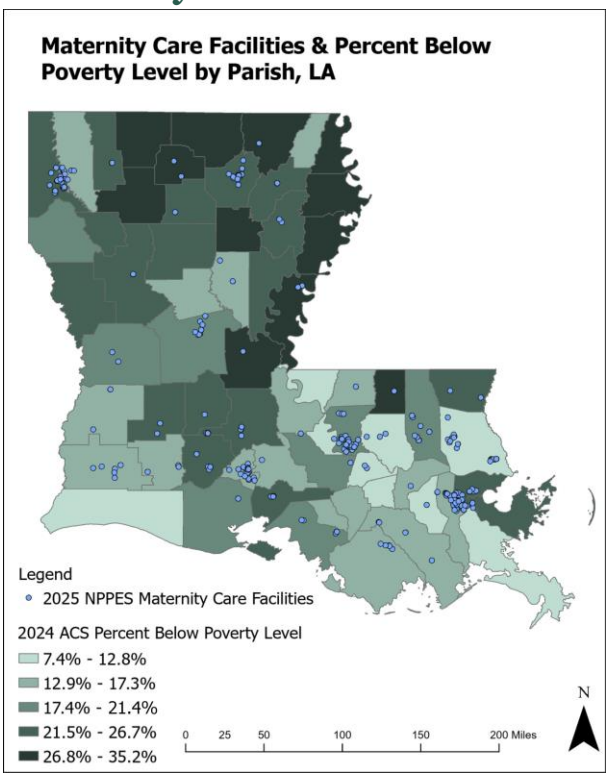


Figure 3.a: MC Facilities & Poverty

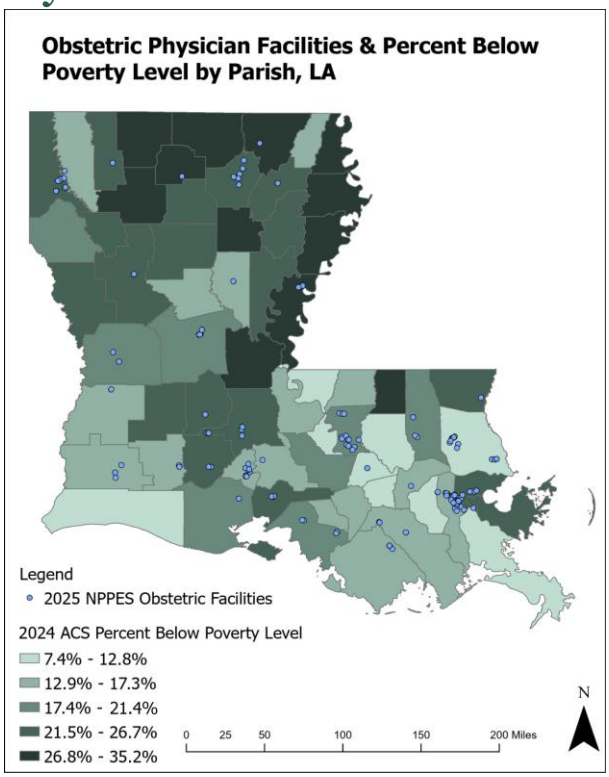


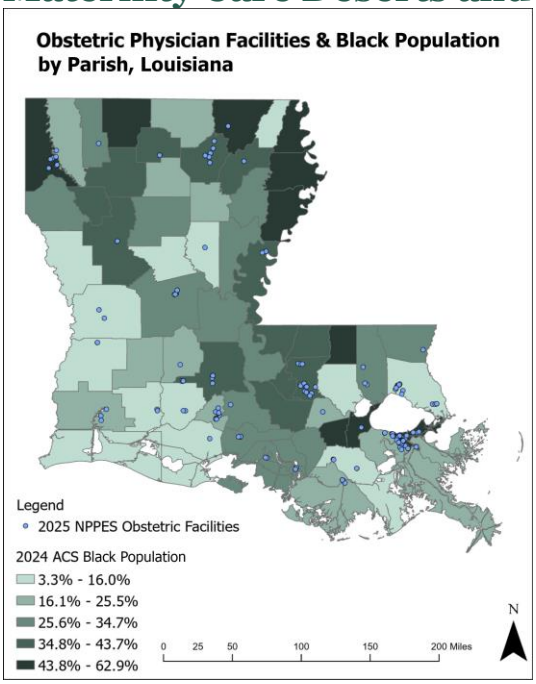
Figure 3.b: OPC Facilities & Poverty

Table 2. Characteristics of Louisiana Parishes: Percent of Hispanic Residents, Maternity Care (MCs) Deserts, and Obstetric Physician Care (OPC) Deserts; Number of MC and OPC Clusters, 2025

% Living in Poverty	% MC Deserts	% OPC Deserts	Number of MC Clusters	Number OPC Care Clusters
7.4 - 12.8%	50.0%	75.0%	1	1
12.9 - 17.3%	25.0%	37.5%	2	2
17.4 - 21.4%	11.1%	22.2%	3	1
21.5 - 26.7%	22.2%	38.9%	3	3
26.8 - 35.2%	53.9%	69.2%	0	0

Figures 3.a and 3.b illustrate the spatial distribution of MC and OPC facilities across Louisiana, overlaid on parish-level poverty rates. The visual patterns do not indicate a strong correlation between facility presence and poverty rate. As seen in Table 2, there is not a strong pattern among poverty rate brackets and the percentage of MC or OPC care deserts. However, it is interesting to note that the lowest and highest poverty brackets have higher percentages of MC and OPC care deserts than do the middle brackets. Care clusters are widely dispersed among all poverty rate brackets—excluding the highest poverty bracket (26.8-35.2%), which has none.

Maternity Care Deserts and Black Populations



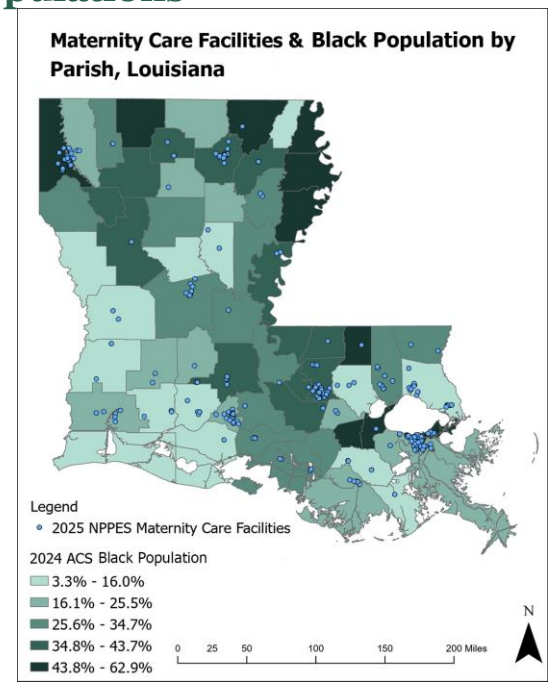


Figure 4.a: MC Facilities & % Black
Figure 4.b: OPC Facilities & % Black

Table 3. Characteristics of Louisiana Parishes: Percent of Black Residents, Maternity Care (MCs) Deserts, and Obstetric Physician Care (OPC) Deserts; Number of MC and OPC Clusters, 2025

% of Black Residents	% MC Deserts	% OPC Deserts	Number of MC Clusters	Number of OPC Clusters
3.3 - 16.0%	30.8%	38.5%	1	1
16.1 - 25.5%	21.5%	42.9%	2	2
25.6 - 34.7%	30.8%	46.2%	2	0
34.8 - 43.7%	26.7%	46.7%	2	2
43.8 - 62.9%	50.0%	60.0%	2	2

Figures 4.a and 4.b illustrate the spatial distribution of MC and OPC facilities across Louisiana, overlaid on parish-level Black population shares. Overall, the visual patterns do not indicate a strong correlation between facility presence and the Black population. Clusters are dispersed throughout different Black population brackets and are not concentrated at a specific level. However, table 3 indicates the highest percent of MC deserts for the parishes with the largest percentages of Black residents as well as a notable gradient increase in OPC deserts corresponding with percent of the population that is Black.

Maternity Care Deserts and Hispanic Populations

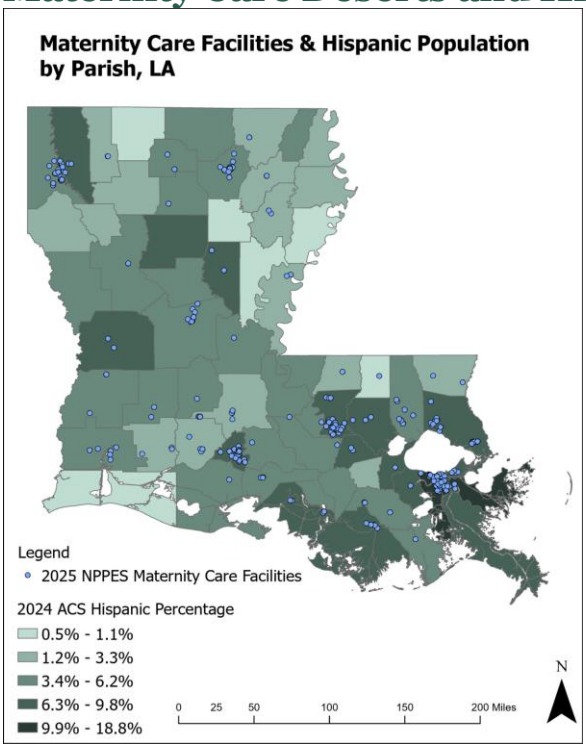


Figure 5.a: MC Facilities & % Hispanic

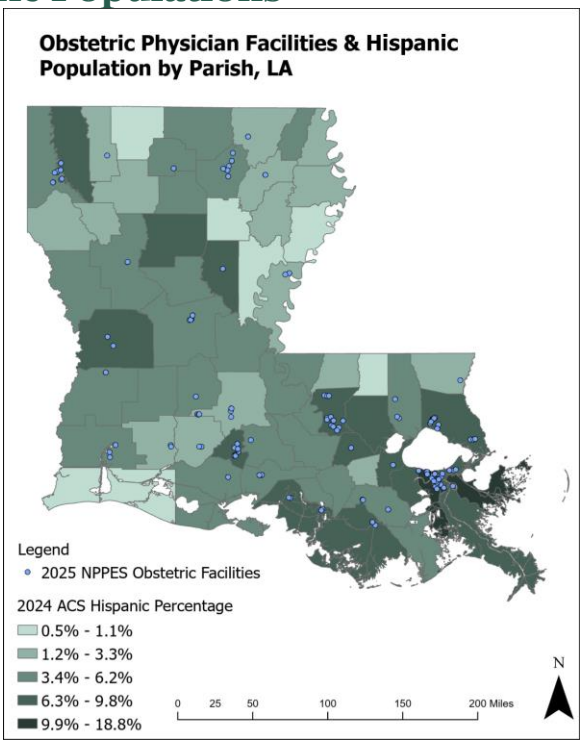


Figure 5.b: OPC Facilities & % Hispanic

Table 4. Characteristics of Louisiana Parishes: Percent of Hispanic Residents, Maternity Care (MCs) Deserts, and Obstetric Physician Care (OPC) Deserts; Number of MC and OPC Clusters, 2025

% of Hispanic residents	% MC Deserts	% OPC Deserts	Number of MC Clusters	Number of OPC Clusters
0.5 - 1.1%	83.3%	100.0%	0	0
1.2 - 3.3%	37.5%	50.0%	0	0
3.4 - 6.2%	24.0%	44.0%	4	2
6.3 - 9.8%	24.0%	16.0%	4	4
9.9 - 18.8%	0%	50.0%	1	1

Figures 5.a and 5.b illustrate the spatial distribution of MC and OPC facilities across Louisiana, overlaid on parish-level Hispanic population shares. Visual patterns indicate that there is a correlation between facility presence and the share of Hispanic population, and that this correlation seems stronger for OPC facilities. Table 4 indicates that MC Deserts are greatest with there are fewer Hispanics; a similar trend largely holds true for OPC deserts. All MC and OPC clusters correspond with parishes with a Hispanic population of at least 3.4%, and most OPC clusters are in parishes with a Hispanic population of at least 6.3%. While OPC deserts are more likely where the Hispanic population is most present, this statistic is skewed, as there are only 2 parishes within this category. Similarly, the small number of clusters within this category can be attributed to the small number of parishes with a Hispanic population above 9.9%.

Statistical Analysis to Assess Sociodemographics Associated with Maternity Care Deserts

Table 5. Simple associations between sociodemographics and Maternal Care (MC) and Obstetric Physician Care (OPC) Deserts by Parish in Louisiana, 2025

	Maternity Care			Obstetric Physician Care		
	Low or Full MC (n=45)	MC Desert (n=19)	t-test p-value	Low or Full OPC (n=34)	OPC Desert (n=30)	t-test p-value
Average Population Density	215	36	0.07+	262	48	0.02*
Average % Living in Poverty	20.9%	21.3%	0.84	20.6%	21.8%	0.38
Average % Black	30.7%	30.6%	0.99	29.0%	32.6%	0.31
Average % Hispanic	5.5%	3.7%	0.049*	5.8%	4.0%	0.03*

Note: ** p≤0.01, *p≤0.05, +p≤0.1

Table 5 indicates that higher population density corresponds to greater access to care, with marginally significant findings seen for all forms of maternity care (MC) and significant findings seen for obstetric physician care (OPC)d with access to care. We also see that parishes with a higher percentage of Hispanic residents are significantly more likely to have MC and OPC facilities. Neither poverty nor percent of Black population residents were correlated with MC or OPC.

Table 6. Simple associations between sociodemographics and number of Maternal Care (MC) and Obstetric Physician Care (OPC) facilities by Parish in Louisiana, 2025

	Population Density	% Living in Poverty	% Black	% Hispanic
Number of MC facilities	0.54**	-0.02	0.17	0.26*
Number of OPC facilities	0.69**	-0.10	0.08	0.21

Pearson Correlation Coefficients shown

Note: ** p≤0.01, *p≤0.05, +p≤0.1

Table 6 reveals findings that correspond to Table 4, with population density significantly and positively associated with number of MC and OPC facilities, and percentage of Hispanics in a parish significantly and positively associated with a higher number of MC facilities in the parish. Again, poverty and Black race was not associated with these outcomes.

Table 7. Multivariable logistic regression models to assess associations between sociodemographic and Maternal Care (MC) deserts among parishes in Louisiana (2025)

	Maternity Care (MC) Deserts	Obstetric Physician Care (OPC) Deserts
	AOR (95% CI)	AOR (95% CI)
Population Density (log)	**0.12 (0.02, 0.62)**	**0.11 (0.03, 0.45)**
Poverty Rate	0.93 (0.78, 1.10)	0.95 (0.79, 1.14)
Black Population	0.997 (0.92, 1.08)	1.04 (0.98, 1.11)
Hispanic Population	0.72 (0.45, 1.17)	1.03 (0.78, 1.36)
Median Age	0.94 (0.68, 1.30)	**1.65 (1.11, 2.46)**
Highest Ed: High School	0.97 (0.75, 1.25)	0.84 (0.70, 1.00)
Unemployment	0.66 (0.44, 0.99)	0.86 (0.67, 1.10)
Uninsured	0.68 (0.39, 1.20)	1.12 (0.62, 2.01)
Non-Citizen Population	1.28 (0.61, 2.69)	1.25 (0.67, 2.31)
Vacancy Rate	0.95 (0.79, 1.13)	0.99 (0.83, 1.18)
Adjusted R-Squared	0.521	0.591

Note: AOR: adjusted odds ratio; 95% CI: 95% confidence interval. Significant findings are bolded.
Adjusted R-squared is used to assess "goodness of fit" in regression analysis, representing the proportion of variance in the dependent variable explained by the independent variable, with a range of 0-1 and 1 being a perfect fit.

Table 7 results from our adjusted logistic regression models again show that population density is significantly and negatively associated with both MC desert (AOR: 0.12, 95% CI: 0.02, 0.62) and OPC desert (AOR: 0.11, 95% CI: 0.03, 0.45). Importantly, in this adjusted model, Hispanic population was no longer significant. The only other variable in the model significantly associated with a care outcome is older median age, and it is associated with higher odds of an OPC desert (AOR: 1.65, 95% CI: 1.11, 2.46). These models also document that population density is a robust predictor of these outcomes, given the adjusted R-squared for both models is greater than 0.50, which indicates that each model respectively explains over half the variance in the outcomes.

We also conducted analyses to predict number of MC and OPC facilities. (See Appendix Table 4.) Corresponding with regression findings, these models showed significant and positive associations between population density and number is MC and OPC facilities. Parishes with higher percentages of Hispanic residents and those with higher prevalence of people living in poverty have more MC facilities but not more OPC facilities, and parishes with higher prevalence of non-citizen residents have lower numbers of MC and OPC facilities. These findings indicate a complexity of findings related to Hispanic ethnicity and non-citizen status, which are significantly correlated factors. It may be that non-citizen Hispanics may face lower access to care than citizen Hispanics, but current analyses were not able to distinguish these groups.

Study Limitations

This study has several limitations. First, while the National Plan and Provider Enumeration System (NPPES) is a comprehensive data source, it does not ensure that all listed providers are actively practicing. We implemented manual verification procedures to reduce overcounting of inactive providers; however, this approach may introduce bias. Specifically, reliance on web-based verification may lead to undercounting in areas with limited digital presence. According to 2024 American Community Survey data, approximately 9.5% of Louisiana residents lack broadband access, and in 4 of 64 parishes, more than one-third of residents lack broadband connectivity (28). As a result, providers in rural or lower-resource areas without a strong online presence may have been incorrectly excluded.

Second, our approach may also overestimate the number of care facilities. Provider-reported practice addresses in NPPES are not standardized, and large hospital systems often list multiple associated addresses. Although we applied manual de-duplication and geocoding procedures using ArcGIS to minimize duplication, some overcounting may persist, particularly for large or multi-site health systems.

Third, our definition of maternity care deserts—aligned with the March of Dimes to enable comparison—may not fully capture functional access to care. Parish-level classification does not account for proximity to care across parish boundaries. For example, parishes classified as deserts may be adjacent to areas with available services, while others classified as having access may have care concentrated in limited geographic areas. Moreover, we did not consider provider density, or facility concentration per capita. Facilities in high density areas with low numbers of providers might have high wait times or unavailable providers and might be consequentially inaccessibly to residents. Future work should consider distance- or travel-time–based measures of access and provider and facility concentration to provide a more precise assessment.

Fourth, this study is limited by the absence of parish-level maternal and infant health outcome data. While we include statewide and subgroup-level indicators, the inability to link outcomes directly to parish-level facility locations limits our ability to assess the relationship between care deserts and health outcomes. Additionally, relatively small sample sizes for outcomes such as maternal mortality reduce statistical power and limit robust inference.

Fifth, the cross-sectional design of this study limits causal interpretation. While we identify associations between population density, sociodemographic factors, and the concentration of care facilities, we cannot determine temporal or causal relationships, particularly in the context of recent policy and health system changes.

Finally, our measures of access are based on provider presence rather than capacity, quality, or availability of services. The presence of a provider or facility does not necessarily indicate appointment availability, scope of services, quality of care, or accessibility for patients, including factors such as insurance acceptance, transportation, or language access.

Discussion

This report offers an updated, more granular assessment of maternity care access based on facility locations within Louisiana, incorporating both comprehensive maternity care (MC) and obstetric physician care (OPC) to better understand care availability and clustering across the state. Consistent with prior national and state-level analyses, our findings confirm prior research that availability of maternity care facilities in Louisiana remains limited and uneven (1,3,4). As of 2025, approximately 30% of parishes were identified as MC deserts, while 46% lacked obstetric physician care. These findings underscore the fragility of the maternal health care infrastructure in the state.

Compared to the March of Dimes 2024 report, which similarly classified areas as maternity care deserts based on the absence of obstetric services and providers using 2022 data (1), our findings suggest that care availability may have declined. The March of Dimes analysis identified 17 maternity care deserts and 9 parishes with low access based on 2022 data. In comparison, our analysis identified 20 maternity care deserts and 12 parishes with low access, representing a 17.6% increase in deserts and a 33.3% increase in low-access areas. While there are some differences in data sources and methodology across these two reports, these findings raise concern about a potential worsening of maternity care access in Louisiana and warrant further investigation into provider attrition and facility closures.

A central finding of this study is the dominant role of population density in shaping proximity to care locations. Across both logistic and linear regression models, population density emerged as the most consistent and robust predictor of both the presence of care deserts and the number of available care facilities. Lower population density (or rurality) was strongly associated with higher odds of both MC and OPC deserts, while higher density was associated with greater availability of care facilities. These findings align with prior evidence demonstrating that healthcare workforce availability and maternal outcomes are closely linked to geographic distribution of providers and regional health system capacity (19). The strength of this association, reflected in adjusted R-squared values exceeding 0.50, indicates that population density rather than race/ethnicity and poverty are the primary drivers of maternity care availability in Louisiana.

Importantly, these findings help clarify relationships observed in unadjusted analyses. While initial results suggested that parishes with higher proportions of Hispanic residents had more maternity and obstetric care facilities, this association was no longer significant after adjusting for population density. This indicates that the observed relationship is likely driven by settlement patterns, with Hispanic populations more concentrated in higher-density areas where care is more available. Nonetheless, the finding is counter to what might be expected given studies documenting lower prenatal care uptake among Hispanic mothers (29). However, additional analyses revealed that higher proportions of non-citizen residents were associated with fewer MC and OPC facilities, suggesting that immigrant communities may still face disadvantages in access to care. These findings are consistent with broader evidence documenting disparities in access to health care and insurance coverage across racial/ethnic minority and immigrant populations (30,31).

The association between poverty and care availability presents a more complex pattern. Contrary to expectations, higher parish-level poverty rates were associated with a greater number of MC facilities, though not OPC facilities. This may reflect targeted placement of safety-net services in higher-poverty areas. However, the absence of a similar association for physician-level obstetric care suggests that access to specialized services to treat high-risk pregnancies remains uneven, even in areas where basic maternity care infrastructure exists. Importantly, prior research in

Louisiana indicates that poverty may be a more significant predictor of severe maternal morbidity than residence in a maternity care desert, with particularly elevated risk among Black women living in high-poverty settings (9). This suggests that individuals who are more likely to have high-risk pregnancies are less likely to have access to providers who specialize in high-risk care. These findings suggest that while close proximity to MC is important, it is not sufficient to improve maternal health outcomes among the most vulnerable populations within Louisiana.

These results align with broader evidence that maternal health outcomes are shaped by multiple intersecting factors beyond proximity to care. Racial/ethnic disparities in comorbid conditions—including hypertension and obesity—as well as structural barriers such as transportation, childcare, and time constraints may limit the ability of individuals to access and utilize care even when services are available (32). Historical and ongoing inequities in the health care system may also contribute to differences in care utilization and trust (33). Additionally, disparities in insurance coverage persist, particularly among Black and Hispanic populations, further constraining access to continuous and preventive care (30).

Taken together, these findings point to a maternal health system that is highly sensitive to structural and geographic constraints. The strong relationship between population density and access suggests that market-driven health care delivery models may be insufficient to ensure equitable access in rural and low-density areas. At the same time, the divergence between MC and OPC availability indicates that the presence of some services does not necessarily equate to adequate or comprehensive care. This is particularly important given evidence that many maternal deaths are preventable with timely and appropriate care (11,20), and that lack of access to maternity services is associated with worse maternal and infant outcomes (4,23).

These results should be understood within the context of ongoing health system and policy changes. As prior research has documented, provider shortages, hospital closures, and evolving legal environments have placed additional strain on maternal health care systems, particularly in the South (9,15). Evidence following the *Dobbs v. Jackson Women's Health Organization* U.S. Supreme Court decision further indicate that policy environments that restrict reproductive health care provision may contribute to worsening maternal and infant outcomes, including increased infant mortality and maternal health risks (20–23). Our findings suggest that these pressures are likely to exacerbate existing geographic disparities, further concentrating care in urban areas and increasing barriers for rural populations.

Implications and Recommendations

Findings from this study indicate that maternity care availability in Louisiana is shaped primarily by population density, but research more broadly highlights that maternal and infant health are affected by broader socioeconomic conditions, co-morbid health conditions, and quality of care, as well as care availability. Accordingly, responses should focus on addressing availability of care, quality of care, and underlying determinants of maternal health.

1. Prioritize Access in Low-Density and Rural Areas

Population density emerged as the strongest and most consistent predictor of both maternity care (MC) and obstetric physician care (OPC) availability. Lower-density parishes were significantly more likely to be classified as care deserts and to have fewer care facilities. Whereas traditional models of care delivery may be less sustainable in rural and low-population density areas, there should be concerted efforts to improve the availability of maternity care via high-quality maternal healthcare providers, e.g., nurse practitioners and midwives.

2. Expand Workforce Capacity Across Levels of Care

The study demonstrates that access to obstetric physician care is more limited than access to maternity care overall, with nearly half of parishes lacking OPC. This suggests that increasing the number and distribution of maternal health providers across different levels of care is critical. In particular, expanding the availability of non-physician providers may help address gaps in areas where physician supply is limited, while also supporting broader access to maternity services. Midwives and nurses may be especially important to fill gaps in care and extend reach to diverse populations. Linkage to health training programs and support for practice placements for trainees may also help fill gaps and extend reach. Ensuring a safe policy environment for physicians working in the areas of maternal and reproductive health will also be important.

3. Distinguish Between Presence of Care and Adequacy of Care

Findings indicate that the presence of maternity care services does not necessarily equate to comprehensive access. Pregnancy Crisis Centers are not licensed under the LDH and do not require medical providers to be on staff, despite how many offer medical care, including pregnancy tests, ultrasounds, and STD testing. Additionally, any parishes classified as having maternity care lacked physician-level obstetric services, suggesting that residents may still face limitations in accessing specialized or emergency care. These results highlight the importance of considering the availability, scope, and quality of services when assessing access to care. Telehealth may be able to offer high quality care in settings that may have limited access, although it might be less helpful in rural areas with low levels of internet access.

4. Acknowledge Social Determinants of Maternal Health

The study finds that poverty is associated with patterns of care availability, and prior evidence in Louisiana indicates that poverty is a stronger predictor of severe maternal morbidity than residence in a care desert. These findings suggest that improving access to care alone is unlikely to fully address disparities in maternal health outcomes. Social factors, such as economic conditions, play a critical role and must be considered alongside access.

5. Update Paid Family Leave Policies

An estimated 74% of workers in Louisiana lack paid family leave and private companies within the state are not required to have any paid family leave policies. While state employees who have worked for 1250 hours within the past 12 months are entitled to 6 weeks of paid family leave, this can be restrictive for individuals with pregnancy complications who need to take more time off. Requiring every company to have a paid family leave policy, expanding the length of time, and reducing the criteria for receiving benefits would give parents more time to go to appointments and receive medical care.

6. Consider the Needs of Diverse Populations in Access Planning

Initial analyses suggested higher access to care in parishes with larger Hispanic populations; however, this association was explained by population density in adjusted models. At the same time, additional analyses indicated that higher proportions of non-citizen residents were associated with fewer care facilities. These findings suggest that access patterns are shaped by both geography and population characteristics, and that certain communities may face compounded barriers to care.

7. Strengthen Data and Monitoring of Maternity Care Availability and Use

Given the dynamic nature of the maternal health care landscape, including changes in workforce distribution and care availability, ongoing monitoring is essential. This study demonstrates that access patterns may shift over time and that updated, geographically detailed data are necessary to accurately assess and respond to gaps in care.

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Appendix A: Data Source Details and Supplemental Analyses

Maternal And Obstetric Facility Data

Obstetric and Maternity care data was obtained from the NPPES NPI Registry, via the November 2025 Data Dissemination File. The NPI registry is updated on a daily basis by the Centers for Medicare & Medicaid Services (CMS), and updated Data Dissemination files are published on a weekly and monthly basis (24). The NPPES NPI Registry includes data on all HIPAA covered healthcare providers who bill electronically and coordinate with public and private health insurance plans. Data are self-reported by physicians and include the name, mailing and practice address, state of licensure, specialty via taxonomy code, license number, NPI code and the date of NPI activation of all relevant healthcare providers. While the AMA Masterfile is the most widely utilized source in research regarding healthcare access, the NPPES NPI Registry includes additional information on nurses and midwives. Consequently, it offers a more complete portrait of maternity care, which is not solely provided by physicians. Some evidence also suggests that the NPPES NPI Registry might have higher accuracy in matching physicians to their address of practice, which is vital for the scope of this study. We also sought to use open access data so that our methodology could be replicated by others.

Data on Sociodemographic Variables of Comparison

Data on poverty rates and the racial composition of parishes were obtained from the American Community Survey (ACS) 2024 5-year files, via the United States Census Bureau (26). Dataset S1701 was used to generate data on poverty rates, and dataset DP05 was used to generate data on Black and Hispanic racial composition. Poverty data were collected from the column “Percent below poverty level Estimate” in dataset S1701. Racial data were collected from columns “Race Alone or in combination with one or more other races, Black or African American” and “HISPANIC OR LATINO AND RACE, Hispanic or Latino (of any race)”, and estimates from the “Total Population” column were also collected from dataset DP05 .

The ACS is a nationwide survey that reaches approximately 3.5 million addresses annually, and is the largest government administered survey within the United States. 5-year estimates reflect averages of data collected over a period of 60 months. Unlike 1-year estimates, 5-year estimates include information on facilities divisions with populations under 65,000, which is necessary for reflecting data on every Parish in Louisiana. Population density estimates and parish level boundaries were accessed through the USA Esri Demographics (Latest) - 2025 Population Density per Square Mile layer within Esri's database (34), which sources data from the ACS. Ersi calculates population density by dividing the corresponding population based on U.S. Census data by the land area in miles and creates state and Parish level boundaries using the TIGER/Line Shapefiles from the United States Census Bureau (35).

Supplemental Analyses

Appendix Table 1. Pearson Correlation Coefficients Between Visually Represented Sociodemographic Variables and All Independent Variables by Louisiana Parish, 2025

	Population Density	Poverty Rate	% Black	% Hispanic
Population Density	1	-0.139	0.098	0.176
Poverty Rate	-0.139	1	.509**	-0.407**
% Black	0.098	0.509**	1	-0.286*
% Hispanic	0.176	-0.407**	-0.286*	1
Median Age	-0.157	-0.001	0.049	-0.260**
Highest Ed: High School	-0.639**	0.275*	-0.075	-0.218
Unemployment	-0.32	0.478*	0.352**	-0.222
Uninsured	0.271*	0.121	0.002	0.067
Non-Citizen Population	0.472**	-0.197	-0.205	0.384**
Vacancy Rate	-0.234	0.372**	0.222	-0.399**

As seen in Appendix Table 1, there is a positive correlation between the Black population and the poverty rate, and a negative correlation between the Hispanic Population and the poverty rate, at the parish level. There is also a smaller, but significant, negative correlation between the Black and Hispanic population. It is also noteworthy that the Black and Hispanic populations had small correlations with the uninsured rate, despite having higher levels overall. In contrast, population density was positively correlated with the uninsured rate, which contrasts literature regarding the link between the uninsured rate and rurality. Additionally, the was a positive correlation between unemployment and the black population and poverty rate. This suggests that these populations are more likely to lack the necessary financial resources for accessing health care.

Appendix Table 2. Pearson Correlation Coefficients Between All Control Variables by Louisiana Parish, 2025

	Median Age	Highest Ed: High School	Unemployment	Uninsured	Non-Citizen Population	Vacancy Rate
Median Age	1	0.435**	0.140	-0.157	-0.175	0.454**
Highest Ed: High School	0.435**	1	0.123	-0.176	-0.397**	0.319*
Unemployment	0.140	0.123	1	0.124	-0.109	0.164
Uninsured	-0.157	-0.176	0.124	1	0.424**	-0.213
Non-Citizen Population	-0.175	-0.397**	-0.109	0.434**	1	-0.305*
Vacancy Rate	0.454**	0.319*	0.164	-0.213	-0.305*	1

Appendix 2 highlights the relationship between control variables. There is a strong relationship between the non-citizen population and the uninsured rate, which has negative implications regarding access to healthcare. It is also noteworthy that the vacancy rate is positively correlated with median age and High School as the Highest Education. While vacancy rates can lower prices for businesses, healthcare facilities might be reluctant to reside in areas with low demand, which can indicate lower rates of access for parishes with older populations, and fewer college graduates.

Appendix Table 3. Variation Inflation Factors Among Sociodemographic Variables included in Multivariable Regression Models with Louisiana Parishes, 2025

Variables	VIF Score
Log Population Density	3.836
Hispanic Population	1.649
Black Population	1.691
Poverty Rate	2.538
Median Age	1.937
Highest Education High School	2.652
Unemployment	1.393
Uninsured	1.429
Non-Citizen Population	1.782
Vacancy Rate	2.522

The Variance Inflation Factor (VIF) identifies multicollinearity, with a VIF of 1 indicating no correlation of variables, values 5–10 suggesting moderate to high correlation, and VIFs >10 indicating serious, problematic multicollinearity. As seen in Table 3, all VIF scores are under 4, allowing inclusion of these variables in our models.

Appendix Table 4. Descriptive Statistics on Number of MC and OPC facilities and sociodemographics by parish in Louisiana, 2025

Variables	Minimum	Maximum	Mean	Standard. Deviation
Maternity Care Facilities	0	38	4.78	8.59
Obstetric Physician Facilities	0	24	2.47	4.62
Population Density	3.8	2218.3	161.7	355.4
Poverty Rate	7.0%	35.0%	21.0%	6.7%
Percent Black	3.0%	63.0%	30.65%	13.9%
Percent Hispanic	1.0%	19.0%	5.0%	3.3%

Appendix Table 4 descriptive statistics show notable standard deviations across all variables of focus in this report, suggesting that there is a high level of dispersion among the data, i.e., parishes are not homogenous on these indicators.

Appendix Table 5. Negative Binomial Regression Predicting Number of MC and OPC Facilities in Parishes in Louisiana, 2025

Variables	Number of MC Facilities B Coefficient (95% CI)	Number of OPC Facilities B Coefficient (95% CI)
Log Population Density	**1.04 (0.45, 1.63)**	**1.17 (0.55, 1.80)**
Hispanic Population	**0.17 (0.06, 0.28)**	0.06 (-0.10, 0.22)
Black Population	-0.03 (-0.06, 0.01)	-0.02 (-0.06, 0.02)
Poverty Rate	**0.11 (0.02, 0.19)**	0.08 (-0.02, 0.19)
Median Age	0.07 (-0.07, 0.20)	-0.08 (-0.24, 0.08)
Highest Education High School	-0.04 (-0.13, 0.05)	0.02 (-0.07, 0.10)
Unemployment	0.04 (-0.10, 0.18)	0.01 (-0.16, 0.18)
Uninsured	0.11 (-0.19, 0.40)	0.11 (-0.27, 0.49)
Non-Citizen Population	**-0.43 (-0.72, -0.14)**	**-0.37 (-0.71, -0.02)**
Vacancy Rate	0.05 (-0.03, 0.13)	-0.05 (-0.15, 0.06)

Corresponding with our primary analyses, population density is positively and significantly associated with more MC facilities (B: 1.04; 95% CI: 0.45, 1.63) and more OPC facilities (B: 1.17; 95% CI: 0.55, 1.80). (See Appendix Table 5.) We also again see indication that parishes with higher proportion of Hispanic residents have more MC facilities (B: 0.17; 95% CI: 0.06, 0.28), but not more OPC facilities. Poverty rate similarly is positively and significantly associated with a higher number of MC facilities (B: 0.11; 95% CI: 0.02, 0.19), but an association with number of OPC facilities was not seen. Significant negative association findings were also seen between percent of the population that is not citizens and number of MC facilities (B: -0.43; 95% CI: -0.72, -0.14) as well as number of OPC facilities (B: -0.37; 95% CI: -0.71, -0.02). These findings were not seen in our primary models and indicate that non-citizen immigrant communities may have lower access to care.