

Neonatal Mortality Risk Among Births in Freestanding Birth Centers, 2015 to 2024

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Introduction: Births in freestanding birth centers have grown over the past decade, particularly during the COVID-19 pandemic. Whether the safety profile of birth center births has remained stable as volumes have grown is an open question. This study examines neonatal mortality risk among births in freestanding birth centers compared with births in hospitals over the period 2015 to 2024.

Methods: This is a retrospective observational study using public-use US Natality Detail Files from 2015 to 2024. The primary outcome is neonatal death. The sample is restricted to term, singleton, and vertex births without major medical risk factors. Logistic regressions are used to consider the odds of neonatal death by setting (freestanding birth centers relative to birth in hospitals) for each year (2015 to 2024).

Results: Across all 10 years in the sample, the adjusted odds ratio for neonatal death in freestanding birth centers fluctuated around 1.0, and no year showed a statistically significant difference in neonatal death between births in freestanding birth centers and hospitals. During the pandemic years (2020–2021), when birth center volumes increased, odds ratios were below 1.0 (0.43 in 2020; 0.78 in 2021), providing no evidence that higher use of freestanding birth centers raised the risk of neonatal death. The relative safety pattern of birth centers was consistent and stable throughout the study period.

Discussion: Freestanding birth centers continue to demonstrate neonatal safety comparable with that of hospitals for low-risk pregnancies. This pattern held through a period of substantial growth in birth center use during the COVID-19 pandemic. These findings reinforce birth centers as a safe, evidence-based option for well-qualified low-risk births and support policies that integrate birth centers into mainstream maternity care systems.

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Keywords: freestanding birth centers, neonatal mortality, community birth, birth setting, low-risk birth

INTRODUCTION

Freestanding birth centers occupy a distinct and growing place in the US maternity care landscape. Operating within a midwifery and wellness model, birth centers provide prenatal, intrapartum, and postpartum care for low-risk individuals outside of hospital settings.^{1,2} The American College of Nurse-Midwives (ACNM) similarly endorses birth centers as a safe option for individuals at low risk and identifies them as one of 3 settings (alongside home and hospital), within which physiologic birth and midwifery care can be provided.³ Likewise, the American College of Obstetricians and Gynecologists (ACOG) recognizes accredited birth centers as an appropriate level of maternal care for low-risk births with uncomplicated, singleton, term, and vertex pregnancies.^{4,5} The National Academies of Sciences, Engineering, and Medicine reached comparable conclusions in its 2020 consensus report on birth settings, finding that birth center care is a reasonable option for low-risk pregnancies when appropriate screening and integrated transfer systems are in place.^{1,2}

Over the past 2 decades, birth center use has gradually increased. Rates of out-of-hospital births became more noticeable with the onset of the COVID-19 pandemic as families sought alternatives to giving birth in a hospital.^{6–8} By 2024, birth centers accounted for approximately 0.6% to 0.7% of all US births (based on the calculations from the Natality Detail File). This growth raises a natural question: Has the safety profile of birth center births remained stable as volumes have increased?

Prior research has generally found that neonatal outcomes of birth centers are comparable to those in hospitals for low-risk births.^{9–13} Landmark studies, including Rooks et al,⁹ Stapleton et al,¹⁰ and more recent national analyses,¹³ have consistently supported birth center safety. In contrast, other studies have raised concerns about neonatal safety in community settings, using national birth certificate data to report elevated rates of neonatal mortality and morbidity among births in freestanding birth centers compared with hospital births.^{14–16} However, most of this evidence predates the pandemic-era expansion in birth center use, and no study has systematically tracked annual changes in the relative odds of neonatal death across birth centers and hospitals over time.

The present study addresses this gap in the literature directly. Thus, the goal of this study is to provide updated, nationally representative evidence on whether birth center safety has remained stable and to assess whether the COVID-19 pandemic-era growth in use was accompanied by changes in relative neonatal mortality risk.¹³

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Quick Points

- ◆ Across a decade, freestanding birth centers in the United States have demonstrated neonatal safety that is on par with hospitals for low-risk births.
- ◆ The relative safety of care provided in freestanding birth centers held steady through the COVID-19 pandemic, even as families increasingly chose birth centers over hospital settings.
- ◆ Freestanding birth centers represent an evidence-based component of US maternity care that warrants continued integration into regional perinatal systems.

METHODS

The study used all available births from the public-use Natality Detail Files that met the study's eligibility criteria over the full 10-year period (2015 to 2024).^{17,18} The analytic sample was therefore determined by data availability rather than a power calculation. The 2015 to 2024 timeframe includes the period of the COVID-19 pandemic. We classify the years 2020 and 2021 to be considered as the peak pandemic years. We followed the Strengthening the Reporting of Observational Studies in Epidemiology guidelines for observational studies¹⁹ (Appendix S1) and present the full set of exclusions and relative sample sizes in Table 1.

The data for this study were drawn from the public-use Natality Detail Files for 2015 to 2024, made available by the National Center for Health Statistics (NCHS), Division of Vital Statistics, within the Centers for Disease Control and Prevention.²⁰ The Natality Detail Files are the annual data set produced by the NCHS from the US birth certificate records. Each observation in the Natality Detail File, therefore, corresponds to a live birth recorded on a US birth certificate, with variables drawn from the items reported on the birth certificate (including maternal demographic characteristics, prenatal and intrapartum clinical information, attending provider type, and place of birth). These Natality Detail Files standardize US state-level birth certificates and provide national coverage of US live births with all states using the same birth certificate form since 2016.

Sample Selection

The analysis includes births that occurred in hospitals and freestanding birth centers based on the US birth certificate data. Freestanding birth centers are defined by the American Association of Birth Centers (AABC) as health care facilities that provide prenatal, intrapartum, and postpartum care within the midwifery and wellness model.^{21,22} Freestanding birth centers are referred to as birth centers in this study.

Exclusion criteria were applied to align with standard eligibility guidelines for community birth as established by the Commission for the Accreditation of Birth Centers (CABC).^{17,18} Specifically, births were excluded from this study if the pregnant person had chronic hypertension, hypertensive disorders of pregnancy, diabetes (including preexisting and gestational diabetes), gave birth outside the 36 0/7 to 41 6/7 week gestational range, had a multiple gestation, breech presentation, or a birth in which the newborn was diagnosed with

major congenital anomalies. The 36-to-41-week range corresponds to the gestational-age window permitted under CABC risk criteria for birth center care.¹⁸ Births at 42 weeks or beyond were excluded based on ACOG and CABC guidelines that identify this as a postterm threshold in which intervention is recommended and birth center eligibility ends.^{18,23} Individuals were also excluded if they are diagnosed with any form of diabetes or hypertension in an effort to create a medically low-risk sample.

Finally, maternal transfers were excluded from the analytic sample using the maternal transfer indicator on the Natality Detail Files. This indicator flags births in which the pregnant individual was transferred from another facility for birth or after the onset of complications.^{24,25} Although recorded transfers can be identified and removed using this indicator, the indicator may undercount intrapartum transfers from birth centers to hospitals, particularly transfers that occur early in labor before active labor is established.²⁶

In addition, the sample was restricted to births with a documented attending provider categorized as either a certified nurse-midwife/certified midwife (CNM/CM) or a physician (MD/DO). Births attended by providers classified as "other midwife" were excluded. The "other midwife" category in birth certificate data is heterogeneous and includes certified professional midwives (CPMs), licensed midwives, and other variably credentialed attendants whose training and regulatory status differ across states. Restricting the sample to CNM/CM and physician attendants holds provider credentialing constant across the 2 settings being compared, which is the relevant feature for our analysis. It is important to note that the birth certificate records only identify the attendant, not the providers who managed prenatal care. In birth centers and hospitals with mixed staffing models, the attendant and prenatal care provider may not be the same person, and the analysis cannot characterize the full clinical team involved in a given pregnancy.

Outcomes and Covariates

The primary outcome of interest was neonatal death, defined as the death of a live-born neonate prior to the reporting of birth certificate data. Covariates for maternal risk and sociodemographic characteristics were used in reporting adjusted odds ratios (aORs). These control factors include pre-pregnancy body mass index (BMI; underweight [<18.5], normal [18.5 - 24.9], overweight [25.0 - 29.9], and obese [≥ 30.0]), parity (multiparous), marital status, race and ethnicity (Black non-Latinx, Latinx, and other), educational attainment (high

Table 1. Sample Selection From the Natality Detail Files, 2015 to 2024

Sample Restriction	Observations	
	Excluded	Remaining
Full Natality Detail Files, 2015 to 2024	—	37,578,015
Clinical exclusions		
Keep gestational age 36 0/7 to 41 6/7 weeks	4,741,065	32,836,950
Drop congenital anomalies	84,785	32,752,165
Drop hypertension	3,202,099	29,550,066
Drop diabetes	2,116,675	27,433,391
Drop breech presentation	1,120,539	26,312,852
Drop nonsingleton births	385,817	25,927,035
Missing covariate exclusions		
Drop missing marital status	2,529,872	—
Drop missing race and ethnicity	58,905	—
Drop missing BMI	528,516	—
Drop missing parity	92,167	—
Drop missing other controls	170,175	—
Total missing covariate exclusions	3,379,635	22,547,400
Setting and provider restrictions		
Keep hospital, birth center, or home births only	69,419	22,477,981
Keep CNM/CM or physician attendant only	479,301	21,998,680
Transfer and outcome restrictions		
Drop maternal transfers	42,457	21,956,223
Drop missing neonatal death outcome	10,829	21,945,394
Restrict to hospital and freestanding birth center births		
Drop planned home births	82,496	—
Hospital births	—	21,764,560
Freestanding birth center births	—	98,338
Final analytic sample	—	21,862,898

Abbreviations: BMI, body mass index; CM, certified midwife; CNM, certified nurse-midwife. Sample restrictions are applied sequentially. The analytic sample is restricted to 36 0/7 to 41 6/7 weeks' gestation, singleton, and vertex births in hospitals or freestanding birth centers by a CNM/CM or physician (MD/DO), without major medical risk factors (chronic hypertension, hypertensive disorders of pregnancy, or diabetes) or congenital anomalies, and with complete data on all key covariates. The 36 0/7-to-41 6/7-week range and the exclusion of hypertension and diabetes correspond to risk-out criteria specified by the Commission for the Accreditation of Birth Centers. Maternal transfers are excluded using the maternal transfer indicator on the US Standard Certificate of Live Birth.

school, some college, college), payer type (self-pay, Medicaid, and other insurance), and maternal age.

Statistical Analysis

The study examined neonatal mortality risk among births that occurred in freestanding birth centers relative to births oc-

curring in hospitals for each year from 2015 to 2024. Neonatal death was evaluated using logistic regression models estimated separately for each year, with birth in hospitals as the reference category. ORs, aORs, and 95% CIs are reported for each year. The rarity of neonatal death (0.02% in both settings) limited statistical power for year-specific estimates, producing wide CIs as reported.

All analyses were conducted in Stata 16.1. Only the main analysis was performed; no subgroup and no formal sensitivity analyses were conducted. The secondary analysis of de-identified, publicly available vital statistics data did not require institutional review board approval.

RESULTS

Descriptive Characteristics

Detailed sociodemographic and clinical characteristics obtained from the Natality Detail Files data set comparing hospital and birth center births are provided in Table 2. From 2015 to 2024, 21.9 million births in the United States were coded as medically low risk per the sample exclusion criteria (Table 1). Of these, 98,338 (0.45%) occurred in a freestanding birth center. Significant differences in sociodemographic and clinical characteristics were noted between individuals who gave birth in a birth center compared to those giving birth in a hospital. Compared with individuals in the final sample who gave birth in a hospital, individuals who gave birth in a birth center were older (25-34 years), White non-Latinx (79.5% vs 54.0%), college graduates (50.2% vs 34.7%), married (86.6% vs 60.2%), and self-pay (26.5% vs 3.4%). The main outcome of focus, neonatal death, occurred in 0.02% of births in both birth center and hospital settings, with no statistically significant difference between groups.

Neonatal Mortality Among US Births in Freestanding Birth Centers, 2015 to 2024

Figure 1 shows the odds of neonatal death among births in freestanding birth centers compared with births in hospitals for each year from 2015 to 2024, before and after adjusting for maternal risk factors and sociodemographic characteristics. An aOR of 1.0 indicates the risk of neonatal death is identical in both settings; values above 1.0 indicate higher odds of neonatal death among births in birth centers, whereas values below 1.0 indicate lower odds of neonatal death among births in birth centers. The vertical lines around each estimate are 95% CI; when the CI crosses the 1.0 line, the difference between settings is not statistically significant at the 5% level. Across all 10 years, no estimate is statistically significant, indicating that neonatal mortality among births in freestanding birth centers was not statistically distinguishable from that among births in hospitals in any single year. This pattern is consistent across the models with and without covariates, and even when the threshold is lowered to the 10% significance level.

In the years before the pandemic (2015-2019), ORs fluctuated above and below 1.0 without a clear pattern (aOR, 0.65-1.43). The wide CIs in these years reflect the rarity of neonatal deaths in both settings, making precise year-by-year estimates difficult. Over 2020 to 2021, the odds of neonatal death

Table 2. Sociodemographic and Clinical Characteristic, of Births in Freestanding Birth Centers Versus Hospitals, 2015 to 2024 (N = 21,862,898)

Characteristics	Birth Center, n (%)	Hospital Birth, n (%)	Total, n (%)
Education			
Less than high school	13,800 (14.0)	2,613,075 (12.0)	2,626,875 (12.0)
High school	11,076 (11.3)	5,661,794 (26.0)	5,672,870 (26.0)
Some college	24,083 (24.5)	5,931,065 (27.3)	5,955,148 (27.2)
College	49,379 (50.2)	7,558,626 (34.7)	7,608,005 (34.8)
Race and ethnicity			
White non-Latinx	78,223 (79.5)	11,755,465 (54.0)	11,833,688 (54.1)
Black non-Latinx	6391 (6.5)	3,120,691 (14.3)	3,127,082 (14.3)
Latinx	8764 (8.9)	4,950,381 (22.7)	4,959,145 (22.7)
Other	4,960 (5.0)	1,938,023 (8.9)	1,942,983 (8.9)
Age, y			
19 and under	721 (0.7)	1,098,717 (5.0)	1,099,438 (5.0)
20 to 24	13,288 (13.5)	4,382,813 (20.1)	4,396,101 (20.1)
25 to 29	31,212 (31.7)	6,396,820 (29.4)	6,428,032 (29.4)
30 to 34	34,590 (35.2)	6,286,414 (28.9)	6,321,004 (28.9)
35 to 39	15,839 (16.1)	2,998,981 (13.8)	3,014,820 (13.8)
40 and over	2688 (2.7)	600,815 (2.8)	603,503 (2.8)
Insurance			
Private	52,505 (53.4)	11,101,521 (51.0)	11,154,026 (51.0)
Medicaid	15,925 (16.2)	9,025,719 (41.5)	9,041,644 (41.4)
Self-pay	26,066 (26.5)	748,379 (3.4)	774,445 (3.5)
Other	3842 (3.9)	888,941 (4.1)	892,783 (4.1)
Marital status			
Unmarried	13,148 (13.4)	8,658,516 (39.8)	8,671,664 (39.7)
Married	85,190 (86.6)	13,106,044 (60.2)	13,191,234 (60.3)
Parity			
Nulliparous	26,018 (26.5)	6,824,268 (31.4)	6,850,286 (31.3)
Multiparous	72,320 (73.5)	14,940,292 (68.6)	15,012,612 (68.7)
BMI			
Underweight	5,630 (5.7)	1,103,106 (5.1)	1,108,736 (5.1)
Normal	56,754 (57.7)	9,296,609 (42.7)	9,353,363 (42.8)
Overweight	23,321 (23.7)	5,915,420 (27.2)	5,938,741 (27.2)
Obese	12,633 (12.8)	5,449,425 (25.0)	5,462,058 (25.0)
Neonatal death			
No	98,318 (99.98)	21,759,630 (99.98)	21,857,948 (99.98)
Yes	20 (0.02)	4,930 (0.02)	4,950 (0.02)

Abbreviation: BMI, body mass index.

among births in birth centers were lower than births in hospitals, rather than rising (aOR, 0.43 in 2020 and 0.78 in 2021).

In 2022 to 2024, estimates returned to values near or modestly above 1.0 (aORs, 0.40, 0.89, and 1.34). The 2024 estimate is the highest in the series, but the CI remains wide, reflecting the small number of neonatal deaths in birth centers. The absolute risk of neonatal death was 0.02% (2 per 10,000 births) in both freestanding birth centers and hospitals across the full study period.

DISCUSSION

This study provides annual, nationally representative evidence on the risk of neonatal mortality among US births in freestanding birth centers relative to births in hospitals from 2015 to 2024. The central finding is clear and consistent: neonatal mortality among births in freestanding birth centers was not statistically distinguishable from that in hospitals across all study years. This pattern of relative safety holds through COVID-19 prepandemic, pandemic,

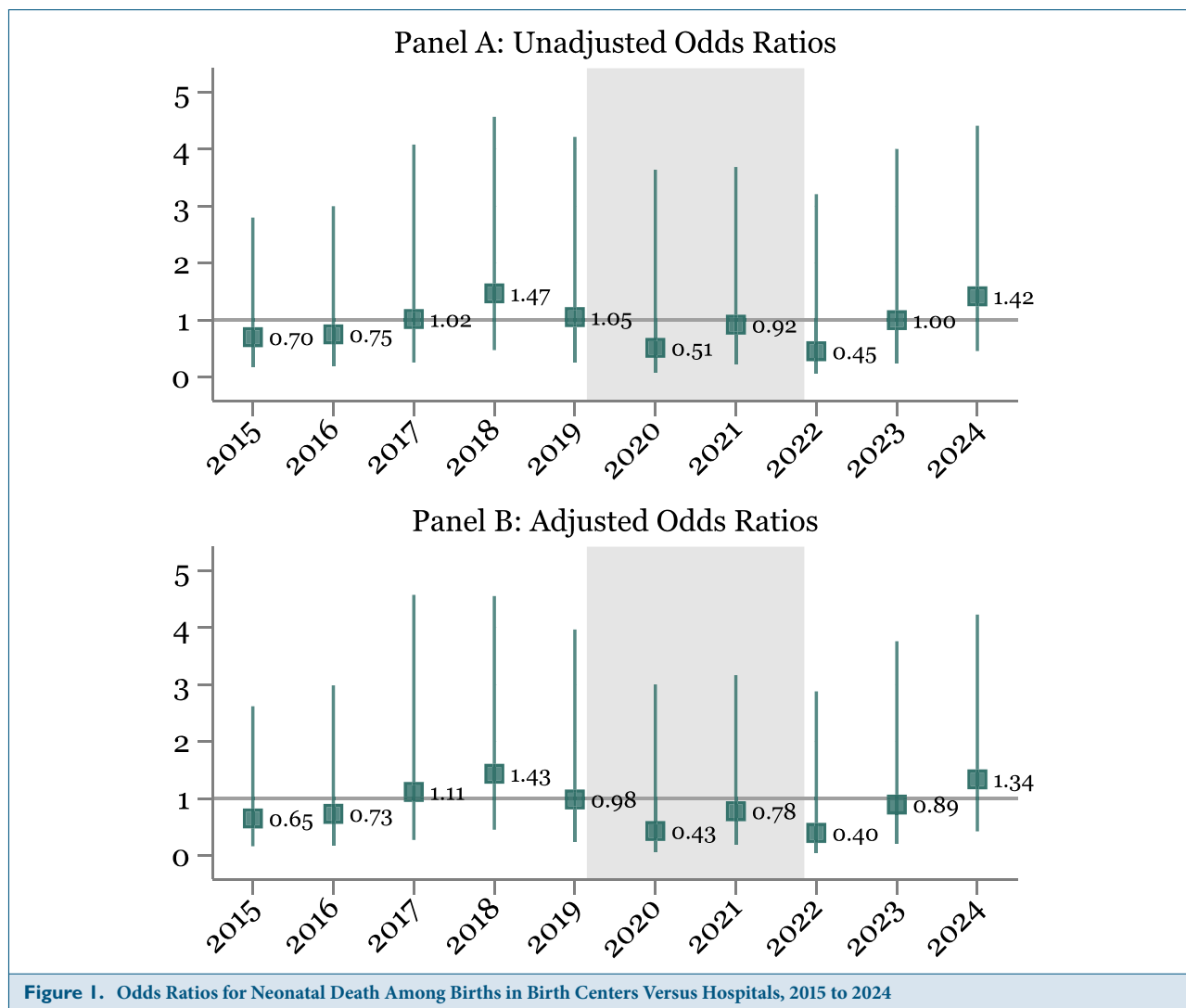


Figure 1. Odds Ratios for Neonatal Death Among Births in Birth Centers Versus Hospitals, 2015 to 2024

Vertical lines represent 95% confidence intervals for neonatal death among freestanding birth center births relative to birth in hospitals. Each point represents a separate logistic regression for each year.

and postpandemic periods, including years of elevated birth center use.

Comparison With Prior Work

These findings are consistent with and extend a substantial body of prior research on freestanding birth center safety. Early national studies, including the National Birth Center Study, demonstrated comparable neonatal outcomes among births in birth centers relative to hospitals in the 1980s and 1990s.⁹ More recent analyses have confirmed this pattern with larger and more contemporary samples.^{10–13} Our findings contrast with studies using national birth certificate data that report elevated neonatal mortality risk among births in freestanding birth centers compared with hospital births.^{14–16} A key distinction of the present study is the restriction of the sample to medically low-risk births meeting CABC eligibility criteria and births attended by known midwife type (CNMs/CMs).

The present study contributes a longitudinal perspective, showing that the relative safety of freestanding birth centers has been maintained over a 10-year period, including a signif-

icant disruption from the COVID-19 pandemic, a meaningful test of whether birth center safety is robust in growth in use.

Implications for Clinical Practice

The consistency of the neonatal safety profile documented here supports the continued role of freestanding birth centers as a clinical option for well-qualified low-risk births. Within the continuum of maternity care, birth centers offer a setting that emphasizes physiologic birth while achieving safety outcomes comparable to hospital-based birth for an equivalent-risk population. These findings reinforce the appropriateness of risk-based referral pathways, directing risk-based assessment to the proper setting.

Implications for Policy

The safety profile documented in this study is only part of the picture. Whether birth centers can expand access to low-risk births depends on several policy factors. Deep understanding of these factors is outside of the scope of our study, but they do impact the quality of birth options.

Reimbursement

Inequitable reimbursement remains a significant barrier to birth center sustainability and midwife practice.^{27,28} Although the Affordable Care Act required state Medicaid programs to provide separate facility payments for licensed birth centers, implementation has been uneven across states.^{29,30} Reimbursement rates that do not reflect the true cost of providing birth center care threaten the financial viability of existing centers and discourage the establishment of new ones.

Licensure and Certificate of Need Laws

Birth centers are licensed in 41 states and the District of Columbia, with 2 additional states using deemed-status arrangements; a handful of states have no licensure pathway, which means birth centers in those states cannot bill Medicaid.^{2,31} Roughly a dozen states also require a Certificate of Need (CON) to open a freestanding birth center.^{31,32} These CON processes can take years, run high legal costs, and allow competing hospitals to file letters of opposition that effectively veto a new center, even when local demand is clear.^{32,33} Removing or narrowing CON requirements as they apply to birth centers would address one of the most visible structural barriers to expansion.

Scope of Practice and Integration

Whether birth centers can operate effectively also depends on midwifery scope-of-practice laws, hospital admitting, and transfer privileges. Many states require physician supervision or collaboration agreements that are often hard to secure, particularly in rural areas.^{31,34} Mandatory transfer agreements pose a similar problem: birth centers in some states cannot open until a local hospital agrees to accept transfers, and hospitals are not always willing to enter into such an agreement.^{33,34} Policies that support collaborative practice, streamline transfer protocols, and include birth centers in formal levels-of-care frameworks would align the regulatory environment with the evidence on birth center safety.

Public Awareness and Professional Support

Public awareness of birth centers as an option for low-risk birth remains limited. Continued endorsement and clear guidance from professional organizations, including ACOG, ACNM, AABC, and the National Academies of Sciences, Engineering, and Medicine,¹⁻³ help establish birth centers as a recognized component of mainstream maternity care, which in turn supports informed decision-making by families and clinicians.

Data Collection

A final, less visible policy lever concerns the quality of national data on community birth. The limitations described above (the inability to fully distinguish planned from actual place of birth, undercounting of intrapartum transfers, and the absence of detailed midwife credentialing in vital records) constrain the current evidence on place of birth. Investment in registry systems that capture the intended place of birth, transfer status, attendant credential type, and clinical outcomes

across settings would substantially improve the ability of researchers, regulators, and professional organizations to monitor the comparative performance of the US maternity care system as a whole. Taken together, these policy levers determine whether the safety profile documented in this study can be sustained as birth center use grows and whether birth center care can be made accessible to a broader range of families.

Limitations

This study has limitations that are worth acknowledging. Selection bias is present in the study, as individuals with preexisting health conditions who are predisposed to worse outcomes are disproportionately admitted to hospitals. Restricting the sample to CABC-eligible low-risk births in both settings partially mitigates this by ensuring that the hospital comparison group is drawn from a clinically similar population; however, selection on unobservable characteristics cannot be fully addressed with the current methods.

Birth certificate data also lack detailed clinical information and may misclassify place of birth.^{16,35} A related concern is the misattribution of neonatal deaths between birth centers and hospitals. In the primary sample, maternal transfers are excluded from the analysis to limit misattribution. However, the transfer indicator on the birth certificate likely undercounts intrapartum transfers.²⁶ Reported intrapartum transfer rates from birth centers to hospitals are approximately 12% in prospective registry studies,¹⁰ so even a modest undercount of the maternal transfer indicator could affect a meaningful number of births. Births that began as planned birth center births but were transferred to a hospital during labor without the transfer indicator being recorded are coded as births in hospitals, and any neonatal deaths among them are attributed to hospitals rather than to the birth center where care began. This biases mortality estimates for births in birth centers downward, and estimates for births in hospitals slightly upward, which would overstate the relative safety of birth centers.

Another limitation is that neonatal death is a relatively rare outcome, which produces wide CIs that limit the ability to detect modest differences in risk across settings, particularly in smaller birth center samples.^{36,37} Large prospective registry-based studies that track planned place of birth alongside birth location and transfer status would provide more precise estimates of neonatal death by birth setting.

Additionally, national birth certificate data do not distinguish among types of non-CNM/CM midwives attending births at birth centers. CPMs, licensed midwives, and other unlicensed or variably credentialed attendants are grouped into a single "other midwife" category, precluding analysis of how attendant credential type may affect neonatal outcomes. Because there is debate in the literature over whether midwife certification status is associated with neonatal mortality risk for births in community settings,^{14,38} the present study's restriction to CNM/CM-attended births is both a strength and a limitation: it ensures a clinically homogeneous provider group. But this restriction to CNMs/CMs also means that the findings cannot be generalized to birth center births attended by other midwife types. Non-CNM/CM midwives account for a significant share of community births nationally. Future

studies using registry data that capture attendant credentials would provide a more complete picture of how provider type interacts with birth setting to determine neonatal outcomes.

A final limitation is the inability to identify the CABC accreditation status. The Natality Detail Files record the place of birth and the type of attendant, but not whether a freestanding birth center is CABC-accredited. The present study uses CABC eligibility criteria to define a clinically low-risk analytic sample, but it cannot distinguish births occurring in accredited centers from those occurring in nonaccredited ones. The findings, therefore, speak to outcomes in freestanding birth centers in general, not specifically to accredited birth centers.

These findings are then primarily applicable to low-risk births attended by CNMs/CMs in freestanding birth centers in the United States. The analysis excludes births attended by non-CNM/CM midwives, and the results cannot be generalized to births at community birth centers attended by non-CNM/CM midwives, which represent a meaningful share of community births nationally. The study also does not speak to settings outside the United States, where midwifery credentials, birth center accreditation standards, and transfer systems differ substantially.

CONCLUSION

Neonatal death is rare across all US birth settings, and freestanding birth centers have demonstrated safety levels that are comparable to hospitals across the full decade from 2015 to 2024. The relative safety of birth center births was maintained during a period of growth in birth center use. These results reinforce the role of freestanding birth centers as a safe, evidence-based option within the continuum of maternity care for well-qualified low-risk births.

ACKNOWLEDGMENTS

The data that support the findings of this study are available in the public domain via the US Vital Statistics Data at <https://www.nber.org/research/data/vital-statistics-birth-data-nber> and cdc.gov/nchs/data_access/vitalstatsonline.html. Claude and ChatGPT were used to transfer this article from LaTeX/PDF to Word. Claude and Grammarly were used to rewrite and improve portions of the article. All authors reviewed and edited all changes and take full responsibility for the content.

CONFLICT OF INTEREST

The authors have no conflicts of interest to disclose.

SUPPORTING INFORMATION

Additional supporting information may be found online in the Supporting Information section at the end of the article.

Appendix S1: STROBE Checklist

REFERENCES

- National Academies of Sciences, Engineering, and Medicine. *Birth Settings in America: Outcomes, Quality, Access, and Choice*. The National Academies Press; 2020. doi:10.17226/25636
- Alliman J, Bauer K, Williams T. Freestanding birth centers: an evidence-based option for birth. *J Perinat Educ*. 2022;31(1):8-13. doi:10.1891/JPE-2021-0024
- Position Statement: Planned Home Birth. American College of Nurse-Midwives website. December 2005. Updated December 2025. Accessed March 2026. https://midwife.org/wp-content/uploads/2026/03/2025-ps_planned_home_birth_final.pdf
- Committee on Obstetric Practice. Committee Opinion No. 697: planned home birth. *Obstet Gynecol*. 2017;129(4):e117-e122. doi:10.1097/AOG.0000000000002024
- American College of Obstetricians and Gynecologists and Society for Maternal-Fetal Medicine. Obstetric Care Consensus No. 9: levels of maternal care. *Obstet Gynecol*. 2019;134(2):428-434. doi:10.1097/AOG.0000000000003383
- MacDorman MF, Barnard-Mayers R, Declercq E. United States community births increased by 20% from 2019 to 2020. *Birth*. 2022;49(3):559-568. doi:10.1111/birt.12627
- Osterman MJK, Hamilton BE, Martin JA, Driscoll AK, Valenzuela CP. Births: final data for 2021. *Natl Vital Stat Rep*. 2023;72(1):1-53.
- Bovbjerg ML, Cheyney M, Hoehn-Velasco L, et al. Planned home births in the United States have outcomes comparable to planned birth center births for low-risk birthing individuals. *Med Care*. 2024;62(12):820-829. doi:10.1097/MLR.0000000000002074
- Rooks JP, Weatherby NL, Ernst EK, Stapleton S, Rosen D, Rosenfield A. Outcomes of care in birth centers: the National Birth Center Study. *N Engl J Med*. 1989;321(26):1804-1811. doi:10.1056/NEJM198912283212606
- Stapleton SR, Osborne C, Illuzzi J. Outcomes of care in birth centers: demonstration of a durable model. *J Midwifery Womens Health*. 2013;58(1):3-14. doi:10.1111/jmwh.12003
- Alliman JR, Phillippi JC. Maternal outcomes in birth centers: an integrative review of the literature. *J Midwifery Womens Health*. 2016;61(1):21-51. doi:10.1111/jmwh.12356
- Phillippi JC, Danhausen K, Alliman J, Phillippi RD. Neonatal outcomes in the birth center setting: a systematic review. *J Midwifery Womens Health*. 2018;63(1):68-89. doi:10.1111/jmwh.12701
- Hoehn-Velasco L, Ross L, Phillippi RD, et al. Neonatal morbidity and mortality in birth centers in the United States 2018–2021: an observational study of low-risk birthing individuals. *Birth*. 2024;51(3):659-666. doi:10.1111/birt.12823
- Grünebaum A, McCullough LB, Sapra KJ, et al. Early and total neonatal mortality in relation to birth setting in the United States, 2006–2009. *Am J Obstet Gynecol*. 2014;211(4):390.e1-7. doi:10.1016/j.ajog.2014.03.047
- Grünebaum A, Bornstein E, McLeod-Sordjan R, et al. The impact of birth settings on pregnancy outcomes in the United States. *Am J Obstet Gynecol*. 2023;228(5S):S965-S976. doi:10.1016/j.ajog.2022.08.011
- Grünebaum A, McCullough LB, Bornstein E, et al. Neonatal outcomes of births in freestanding birth centers and hospitals in the United States, 2016–2019. *Am J Obstet Gynecol*. 2022;226(1):116.e1-116.e7. doi:10.1016/j.ajog.2021.06.093
- Accredited Birth Centers. Commission for the Accreditation of Birth Centers website. Accessed April 30, 2026. <https://www.birthcenteraccreditation.org/find-accredited-birth-centers/>
- CABC Indicators of Compliance with Standards for Birth Centers. Commission for the Accreditation of Birth Centers website. September 1997. Updated September 2023. Accessed April 30, 2026. https://birthcenteraccreditation.org/wp-content/uploads/2023/09/CABC_IndicatorsRefEd-2.3_2023-0915.pdf
- Vandenbroucke JP, von Elm E, Altman DG, et al. STROBE Initiative. Strengthening the Reporting of Observational Studies in Epidemiology (STROBE): explanation and elaboration. *PLoS Med*. 2007;4(10):e297. doi:10.1371/journal.pmed.0040297
- National Center for Health Statistics. Vital Statistics Natality Birth Data: National Vital Statistics System (NVSS). National Bureau of Economic Research website. Updated September 2025. <https://www.nber.org/research/data/vital-statistics-natality-birth-data>

21. What is a Birth Center? American Association of Birth Centers website. Accessed April 30, 2026. <https://www.birthcenters.org/what-is-a-bc>
22. Birth Center Standards: National Standards for Birth Centers. American Association of Birth Centers website. Accessed April 30, 2026. <https://www.birthcenters.org/birth-center-standards>
23. American College of Obstetricians and Gynecologists. Practice Bulletin No. 146: management of late-term and postterm pregnancies. *Obstet Gynecol.* 2014;124(2 Pt 1):390-396. 10.1097/01.AOG.0000452744.06088.48
24. National Center for Health Statistics. U.S. Standard Certificate of Live Birth. Centers for Disease Control and Prevention; November 2003. <https://www.cdc.gov/nchs/data/dvs/birth11-03final-ACC.pdf>
25. National Center for Health Statistics. *Revisions of the U.S. Standard Certificates and Reports*. Centers for Disease Control and Prevention website. November 2003. Accessed February, 2026. <https://www.cdc.gov/nchs/nvss/revisions-of-the-us-standard-certificates-and-reports.htm>
26. Reichman NE, Schwartz-Soicher O. Accuracy of birth certificate data by risk factors and outcomes: analysis of data from New Jersey. *Am J Obstet Gynecol.* 2007;197(1):32. e1-e8. 10.1016/j.ajog.2007.02.026
27. Herndon A, Vanderlaan J. Associations between state practice regulations and access to midwifery care. *J Midwifery Womens Health.* 2024;69:17-24. 10.1111/jmwh.13528
28. Beniwal S, Hoehn-Velasco L, Jolles DR. Public health insurance expansions and non-physician providers: evidence from certified nurse midwives. *J Policy Anal Manage.* 2026;45(2):e70032. 10.1002/pam.70032
29. American College of Nurse-Midwives. *Medicaid Coverage of Freestanding Birth Centers: Health Care Reform Law (111-148)*. American College of Nurse-Midwives; 2011. Accessed April 30, 2026. <https://midwife.org/wp-content/uploads/2024/10/Medicaid-Coverage-of-Freestanding-Birth-Centers-Health-Care-Reform-Law-111-148.pdf>
30. 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. 10.1111/1468-0009.12473
31. Medicaid and CHIP Payment and Access Commission. Access to Maternity Providers: Midwives and Birth Centers. MACPAC website. May 2023. Accessed April 30, 2026. <https://www.macpac.gov/publication/access-to-maternity-providers-midwives-and-birth-centers/>
32. Crays A. Structural Barriers Regulating Birth Centers Can Harm Maternal Health Outcomes. O'Neill Institute Georgetown Law website. February 18, 2025. Accessed April 30, 2026. <https://stateline.org/2026/01/05/freestanding-birth-centers-are-closing-as-maternity-care-gaps-grow/>
33. Vollers AC, Hassanein N. Freestanding Birth Centers Are Closing as Maternity Care Gaps Grow. Stateline website. January 5, 2026. Accessed April 30, 2026. <https://stateline.org/2026/01/05/freestanding-birth-centers-are-closing-as-maternity-care-gaps-grow/>
34. Hoehn-Velasco L, Jolles D, Silverio-Murillo A, Plemmons A. Health outcomes and provider choice under independent practice for certified nurse-midwives. *J Health Econ.* 2023;92:102817. 10.1016/j.jhealeco.2023.102817
35. Cheyney M, Bovbjerg M, Everson C, Gordon W, Hannibal D, Vedam S. Outcomes of care for 16,924 planned home births in the United States: the Midwives Alliance of North America Statistics Project, 2004 to 2009. *J Midwifery Womens Health.* 2014;59(1):17-27. 10.1111/jmwh.12172
36. Hutton EK, Reitsma A, Simioni J, Brunton G, Kaufman K. Perinatal or neonatal mortality among women who intend at the onset of labour to give birth at home compared to women of low obstetrical risk who intend to give birth in hospital: a systematic review and meta-analyses. *EClinicalMedicine.* 2019;14:59-70. 10.1016/j.eclinm.2019.07.005
37. Brocklehurst P, Hardy P, Hollowell J, et al. Birthplace in England Collaborative Group. Perinatal and maternal outcomes by planned place of birth for healthy women with low risk pregnancies: the Birthplace in England national prospective cohort study. *BMJ.* 2011;343:d7400. 10.1136/bmj.d7400
38. Jolles DR, Niemczyk N, Hoehn Velasco L, et al. The birth center model of care: staffing, business characteristics, and core clinical outcomes. *Birth.* 2023;50(4):1045-1056. 10.1111/birt.12745