



MIDWIFERY AND RATES OF OBSTETRIC PROCEDURE UTILIZATION AT NEW YORK STATE HOSPITALS

Laura Attanasio,
PhD, University of
Massachusetts, Amherst

Katy Kozhimannil, PhD,
MPA, University of
Minnesota

KEY FINDINGS

In New York State in 2014:

- Hospitals varied substantially in midwifery presence, as measured by the percentage of midwife-attended births.
- Over a quarter (26.4%) of New York hospitals providing childbirth services had no midwife-attended births, while only 12% of hospitals had more than 40% of births attended by midwives.
- Hospitals with greater proportions of births attended by midwives had lower rates of cesarean delivery and episiotomy.

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PURPOSE

The purpose of this policy brief is 1) to describe the distribution of midwifery presence across New York hospitals that provide childbirth services, and 2) to characterize the relationship between hospital-level percentage of midwife-attended births and hospital rates of obstetric procedure utilization.

BACKGROUND AND POLICY CONTEXT

Each year, nearly 4 million women give birth in the United States. Childbirth is the most common reason for hospitalization, and 45% of births are covered by Medicaid,^{1,2} making the quality and value of maternity care a concern for state and federal policymakers as well as women, clinicians, administrators, health plans, and employers. Despite well-established findings that low-risk women whose perinatal care is provided by midwives have excellent outcomes, fewer than 10% of U.S. births are attended by midwives.^{3,4}

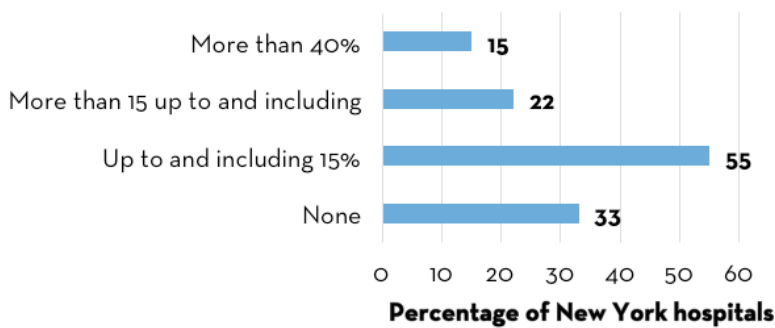
Potential overuse of obstetric procedures – particularly cesarean delivery – and associated costs have become an increasing focus of research and policy attention.⁵⁻⁷ Use of cesarean delivery varies substantially by hospital, and is not explained by differences in patients' health characteristics.^{8,9} However, no research currently documents the relationship between hospital-level midwifery presence and obstetric procedure utilization.

DATA AND ANALYSIS

Data for this analysis came from two sources: Healthcare Cost and Utilization Project (HCUP) State Inpatient Database (SID) data for New York in 2014, and New York State Department of Health data on the percentage of midwife-attended births at hospitals in the state in 2014. Midwife-attended births included those attended by Certified Nurse-Midwives (CNMs) and Certified Midwives (CMs). Both groups complete similar midwifery education, but CMs do not have a nursing background.

We identified childbirth hospitalizations and low-risk pregnancies according to previously validated algorithms.^{10,11} We categorized hospital midwifery presence into 4 groups: 1) no births attended by midwives, 2) 1-15% of births attended by midwives, 3) 15-40% of births attended by midwives, and 4) over 40% of births attended by midwives. We then used SID data to calculate hospital rates for five common obstetric procedures and outcomes: labor induction, non-indicated labor induction, episiotomy (among vaginal births), cesarean delivery, and severe maternal morbidity. The analysis included all 125 New York hospitals with a sufficient number of births in 2014 to have data released through the Department of Health.

Figure 1. Hospital percent of midwife-attended births in New York State.



LIMITATIONS

Hospitals with higher proportions of midwife-attended births may vary in unmeasured ways from hospitals with fewer midwives; these differences may be associated with the outcomes examined. Additionally, because the analysis is limited to hospitals in New York, results may not be generalizable to all states, as maternity care environments, including laws regulating midwifery, vary substantially across states.^{12,13}

RESULTS

Figure 1 shows the distribution of midwife-attended births at New York hospitals in 2014. Over a quarter of hospitals (26.4%) had no midwife-attended births, and 44% of hospitals had 1-15 % of births attended by midwives. Nearly 18% of hospitals had 15-40% of births attended by midwives. At a smaller but substantial proportion of hospitals (12%), over 40% of births were attended by midwives.

Cesarean delivery rates were significantly lower at hospitals with greater midwifery presence (Figure 2); for example, among hospitals with 15-40% of births attended by midwives, 14.9% of births were by cesarean, compared to 21% at hospitals with no midwife-attended births. Hospitals with no midwife-attended births had an average episiotomy rate of 15.5%, while hospitals with 15% or more of

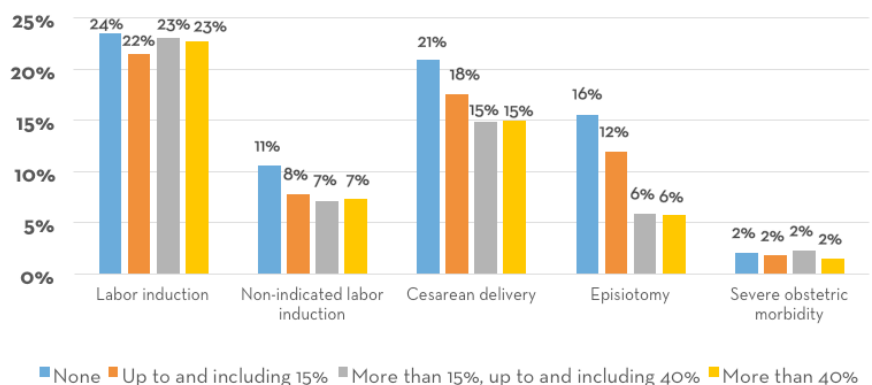
births attended by midwives had episiotomy rates under 6%. There were no statistically significant differences in use of labor induction, non-indicated labor induction, or severe obstetric morbidity by hospital-level percentage of midwife-attended births.

In additional analyses, we used statistical controls to adjust for other factors that might account for differences in procedure use across hospitals: hospital proportions of age, race, payer, weekend births, diabetes, and hypertension. These results were consistent with the unadjusted findings; higher hospital proportion of midwife-attended births was associated with lower rates of cesarean delivery and episiotomy (results not shown).

DISCUSSION AND POLICY IMPLICATIONS

This analysis documents lower rates of episiotomy and cesarean delivery at New York state hospitals that have a greater midwifery presence. These findings build on previous studies showing lower procedure use for midwife-attended births³ and highlighting hospital variation in childbirth-related care,^{8,14} and suggest that midwifery presence may be one factor impacting the hospital environment in a way that shapes procedure utilization in childbirth. The results from this analysis at the aggregate (hospital) level are consistent with what has been found when looking at individual women's chances of obstetric procedures

Figure 2. Mean hospital-level outcomes among low risk births, by percentage of midwife-attended births.



based on hospital-level midwifery presence.¹⁵ The relationship between midwifery presence and fewer cesarean births and episiotomies may result from both direct and indirect influences of midwives on hospital rates of procedure utilization. That is, midwives themselves may use fewer procedures in the births that they attend. Secondly, the presence of midwives may influence the hospital practice environment for all clinicians attending births at that hospital.

State Medicaid programs, which pay for close to half of U.S. births, have an interest in identifying ways to improve value in maternity care. These findings suggest that increasing hospital midwifery presence may be associated with fewer procedures, but not with adverse effects on morbidity. Given that less than 10% of U.S. births are attended by midwives, identifying and adopting policies that increase the availability of midwifery services and uptake among childbearing women.

In states where Certified Nurse-Midwives (CNMs) are able to practice autonomously (without written collaborative agreements with or supervision by physicians), more CNMs practice and births are more likely to be attended by midwives.¹² New York State law currently allows CNMs autonomous practice, and is one of the states to give CNMs the most professional authority in the country.¹³

CONCLUSION

Hospitals with higher proportions of midwife-attended births had lower rates of episiotomy and cesarean delivery, indicating that greater presence of midwives may lead to higher quality care with reduced costs.

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