

Obstetric care may differ at rural versus urban hospitals

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Rates of unnecessary cesarean section and other potentially risky obstetric procedures show some significant differences between rural and urban hospitals in the United States, reports a study in the January issue of *Medical Care*.

Both rural and urban hospitals showed increases in cesarean section over the last decade, while rates of non-indicated induction of labor rose more sharply at [rural hospitals](#), according to the new research by Katy B. Kozhimannil, PhD, MPA, of University of Minnesota School of Public Health and colleagues. Although the differences in these trends may seem small, the authors believe they have important implications for maternal and infant health and for [public health](#) policy—especially at rural hospitals, which serve a high proportion of Medicaid patients.

Rising Cesarean Section Rates at both Rural and Urban Hospitals

Using a national hospital database (the Nationwide Inpatient Sample), the researchers analyzed data on more than seven million births between 2002 and 2010. The analysis compared trends in potentially unnecessary cesarean section and induction of labor at rural versus urban hospitals. The study included approximately 6.3 million births at urban hospitals and 840,000 at rural hospitals. About 15 percent of U.S. infants are born at rural hospitals.

Both rural and urban hospitals showed steady increases in cesarean section rates among low-risk women from 2002 to 2010. By 2010, cesarean sections in low-risk pregnancies accounted for 15.5 percent of deliveries at rural hospitals and 16.1 percent at urban hospitals. Rates of non-indicated (for no medical reason) cesarean section were 16.9 percent at rural hospitals and 17.8 percent at urban hospitals.

Rates of medically induced labor with no indication

also increased significantly: to 16.5 percent at rural hospitals and 12.0 percent at urban hospitals in 2010. The rate of vaginal birth in women with previous cesarean section—which is safe in most cases—decreased over time, to five percent at rural hospitals and ten percent at urban hospitals.

Women who gave birth at rural hospitals were younger, more likely to be white, more likely to be on Medicaid, and had fewer pregnancy complications compared to women at urban hospitals. After adjustment for these factors, the increase in non-indicated induction of labor occurred faster at rural hospitals: by five percent per year, compared to four percent per year at urban hospitals.

Financial and Policy Implications for Obstetric Care

"This analysis indicates that women giving birth in rural and urban hospitals may experience different childbirth-related benefits and risks," according to Dr Kozhimannil and coauthors. They believe their findings have important implications for financing and public health policy related to obstetric care.

"Due to Medicaid's important role in financing childbirth care, particularly in rural hospitals, Medicaid payment policy has great potential to inform and catalyze quality improvement in obstetric care," the researchers write. For example, financial incentives could be put in place to encourage hospitals to follow evidence-based guidelines for [cesarean section](#) and induction of labor.

However, such reforms may "face different implementation challenges" at rural versus urban hospitals, according to the authors. They note that more than half of babies born at rural hospitals are covered by Medicaid.

While the differences between rural and [urban](#)

[hospitals](#) may appear small, they likely have a significant impact on the population level. "With approximately four million births per year in the United States, a one percentage point difference in the use of a procedure affects 40,000 women and infants annually," Dr Kozhimannil comments.

"Based on our findings, we estimate that differences due to rural or urban location—rather than differences in patient or hospital characteristics—may affect between 24,000 and 200,000 mothers and their babies each year."

Provided by Wolters Kluwer Health

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