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Maternal Care in Rural America

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Maternity Care in Rural Areas

- 18 million reproductive-age women live in rural US communities.
- Half a million babies are born in rural hospitals each year.
- Access to care generally is a frequent challenge in many rural areas; contributing factors include:
 - Transportation,
 - Financial constraints,
 - Workforce shortages, etc.
- Rural areas are not a monolith. They always have been, and are increasingly, diverse on a variety of markers.



Rural Obstetric Unit and Hospital Closures

- From 2004-2014, how many rural communities lost hospital-based obstetric services?



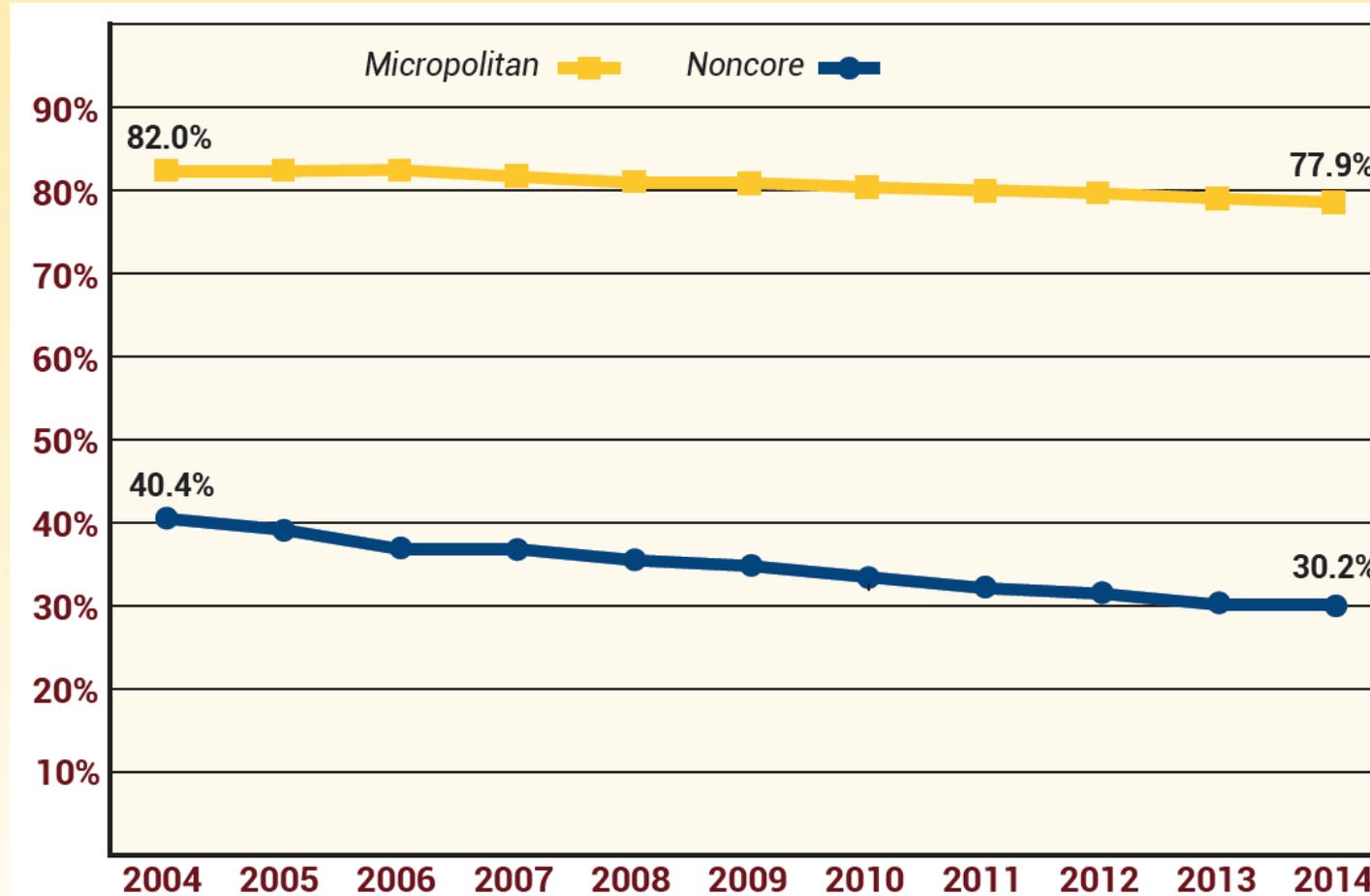
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Data Sources

Hospital-level	American Hospital Association Annual Survey	2003-2014
County-level	Area Health Resources Files	2004, 2014
	US Census data	2000, 2010

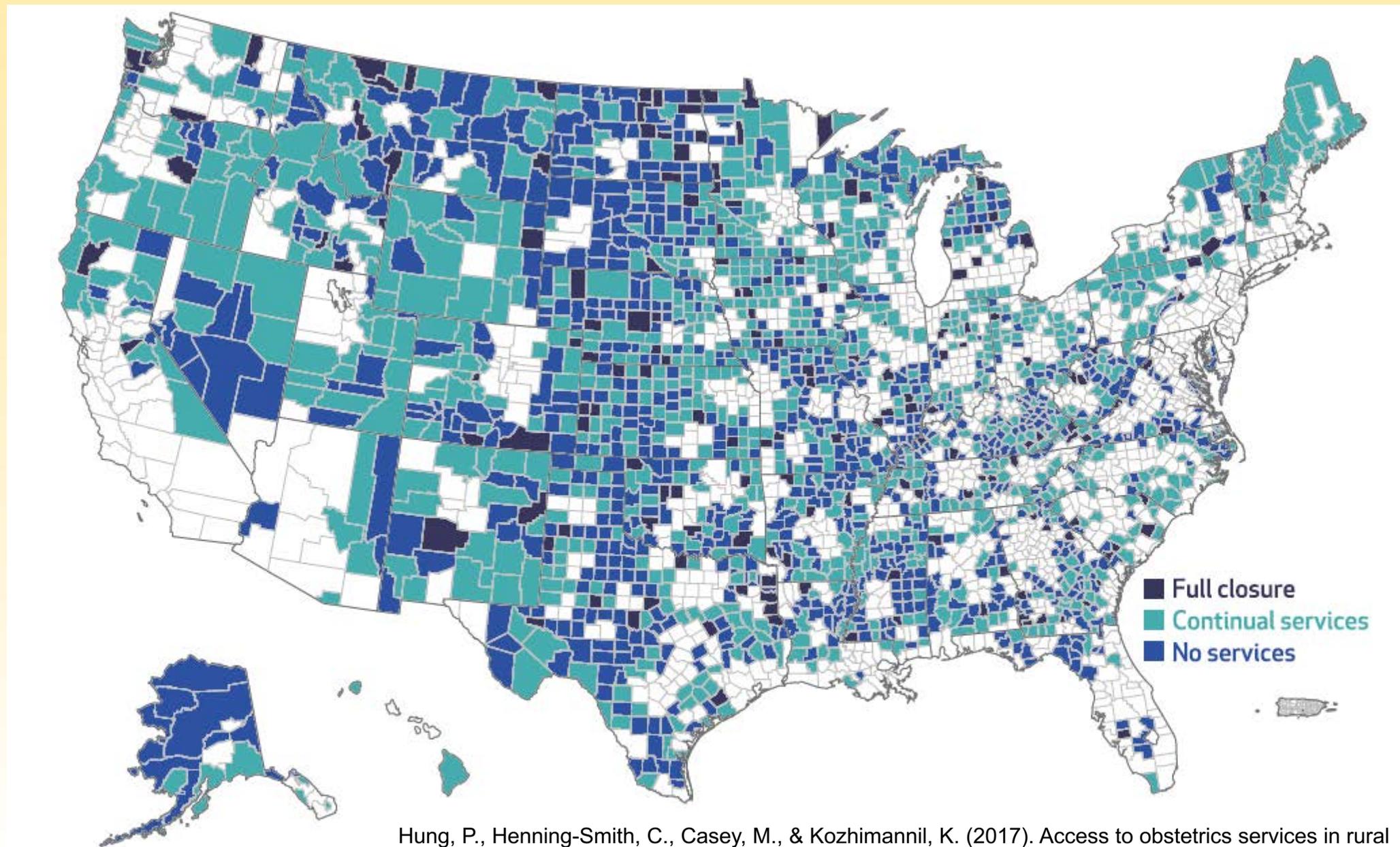


Percent of Rural Counties with Hospital OB Services, 2004-2014



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Hospital Obstetric Services in Rural Counties, 2004-2014



Hung, P., Henning-Smith, C., Casey, M., & Kozhimannil, K. (2017). Access to obstetrics services in rural counties still declining, with 9 percent losing services, 2004-2014. *Health Affairs*, 36(9), 1663-1671.

Factors Associated with OB Unit Loss

- Counties that had higher rates of obstetric unit loss had, on average:
 - Lower birthrates
 - More Black residents
 - Lower median income
 - Fewer family practice doctors and OBGYNs



What are the consequences of losing hospital-based obstetric services?

- For rural counties that lost hospital-based obstetric services between 2004-2014, what were the associated changes in birth location and birth outcomes?



Association Between Loss of Hospital-Based Obstetric Services and Birth Outcomes in Rural Counties in the United States

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← Editorial and Viewpoint
 + Supplemental content

IMPORTANCE Hospital-based obstetric services have decreased in rural US counties, but whether this has been associated with changes in birth location and outcomes is unknown.

OBJECTIVE To examine the relationship between loss of hospital-based obstetric services and location of childbirth and birth outcomes in rural counties.

DESIGN, SETTING, AND PARTICIPANTS A retrospective cohort study, using county-level regression models in an annual interrupted time series approach. Births occurring from 2004 to 2014 in rural US counties were identified using birth certificates linked to American Hospital Association Annual Surveys. Participants included 4 941 387 births in all 1086 rural counties with hospital-based obstetric services in 2004.

EXPOSURES Loss of hospital-based obstetric services in the county of maternal residence, stratified by adjacency to urban areas.

MAIN OUTCOMES AND MEASURES Primary outcomes were county rates of (1) out-of-hospital births; (2) births in hospitals without obstetric units; and (3) preterm births (<37 weeks' gestation).

RESULTS Between 2004 and 2014, 179 rural counties lost hospital-based obstetric services. Of the 4 941 387 births studied, the mean (SD) maternal age was 26.2 (5.8) years. A mean (SD) of 75.9% (23.2%) of women who gave birth were non-Hispanic white, and 49.7% (15.6%) were college graduates. Rural counties not adjacent to urban areas that lost hospital-based obstetric services had significant increases in out-of-hospital births (0.70 percentage points [95% CI, 0.30 to 1.10]); births in a hospital without an obstetric unit (3.06 percentage points [95% CI, 2.66 to 3.46]); and preterm births (0.67 percentage points [95% CI, 0.02 to 1.33]), in the year after loss of services, compared with those with continual obstetric services. Rural counties adjacent to urban areas that lost hospital-based obstetric services also had significant increases in births in a hospital without obstetric services (1.80 percentage points [95% CI, 1.55 to 2.05]) in the year after loss of services, compared with those with continual obstetric services, and this was followed by a decreasing trend (-0.19 percentage points per year [95% CI, -0.25 to -0.14]).

CONCLUSIONS AND RELEVANCE In rural US counties not adjacent to urban areas, loss of hospital-based obstetric services, compared with counties with continual services, was associated with increases in out-of-hospital and preterm births and births in hospitals without obstetric units in the following year; the latter also occurred in urban-adjacent counties. These findings may inform planning and policy regarding rural obstetric services.

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Data Sources

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County-level	Area Health Resources Files	2004, 2014
	US Census data	2000, 2010
Individual-level	Restricted Use Natality Detail File (NDF) with county identifiers (maternal residence, hospital location)	2004-2014



Outcomes

- Birth location:
 - Out-of-hospital birth
 - Birth in a hospital without an obstetric unit
- Birth outcomes: Preterm birth (<37 weeks' gestation)
- Secondary outcomes:
 - Low prenatal care (≤ 10 visits)
 - Cesarean delivery
 - Low infant Apgar scores (<7 at 5 minutes)



Changes in Birth Location



Photo credit: Kathleen Henning, 2019

- Increase in out-of-hospital birth (1 to 2%); bigger jump in rural counties not adjacent to urban counties
- Increase in births in hospitals without obstetric units (from <1% to 3%) in non-adjacent rural counties



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Changes in Preterm Birth

- Preterm birth increase of 0.4–percentage points in non–urban-adjacent rural counties and a 0.2–percentage points in urban-adjacent counties



Putting Findings in Context

- Rural residents experience health disparities, relative to their urban peers
- Not all rural people and places have the same opportunities for health
- Addressing maternity care is vital for ensuring the health of parents, children, and the next generation of rural



The Way Forward – Federal Policy

- Federal policy efforts to address workforce shortages, capacity, and data collection.
 - Improving Access to Maternity Care Act (became law, 2018)
 - Rural Maternal and Obstetric Modernization of Services Act (Rural MOMS Act)
- Federal policy efforts to improve maternity care quality
 - Quality of Care for Moms and Babies Act



The Way Forward – State and Local Efforts

- Medicaid policy
- State scope of practice laws
- State and local efforts
 - Subsidies; “home-grown” rural workforce
 - Education and training; rotations that include obstetrics in rural areas
 - Capacity building/training: CME support
 - Telemedicine for obstetrics
 - Training for law enforcement, EMTs, and others who might encounter births
 - Housing and transportation support for rural families
 - Insurance regulation/costs
(for hospitals, doctors)



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The Goal for Rural Communities

- Workable solutions to the challenges that rural communities face to ensure maternity care **access and quality**



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Thank You!

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