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Background: Rural Obstetric Care

• Childbirth is the most common and costly reason for hospitalization in the US
  – Half a million babies are born each year in rural hospitals
  – Total costs of ~$30 billion annually for hospital care; half of births covered by Medicaid

• Decline in access to obstetric services at rural hospitals
  – More than half (54%) of rural counties have no obstetric services, closures more common in remote, rural communities (only 40% of noncore counties have OB services)
  – Variability across states; in 2014, more than two-thirds of rural counties in Florida (78%), Nevada (69%), and South Dakota (66%) had no in-county hospital OB services.

• Among rural hospitals that do provide obstetric services, there a need for data on patterns of care, quality of care, and workforce.
Research Questions

Who attends births in rural hospitals?

• What types and combinations of clinicians are delivering babies in rural hospitals?
• What is the relationship between hospital birth volume and staffing models?
• What staffing challenges are rural hospitals facing?
Data

• HCUP SID data included all hospital births to rural residents in nine states

• Telephone survey of all 306 rural hospitals in these 9 states with at least ten births in 2010 conducted Nov 2013 – Mar 2014
  – Advisory Committee of rural obstetric nurse managers
  – Content: closed and open-ended questions on delivery volume, types & numbers of attending clinicians, staffing challenges & changes
  – Response rate 86% (n=263)
Methods

- Hospital annual birth volume quartiles:
  - low (10-110), medium (111-240),
  medium-high (241-460), or high (> 460)
- Multivariable regression analysis of associations between hospital birth volume and obstetric workforce
- Qualitative analysis of workforce changes and staffing challenges
Results: Average Number of OBs/FPs in Surveyed Rural Hospitals, by Birth Volume

- **Obstetricians**
- **Family Physicians**

- **All Rural Hospitals** (n=244)
- **Low** (n=43)
- **Medium** (n=75)
- **Medium-High** (n=65)
- **High** (n=61)
Results: Percent of OBs/FPs Employed by Surveyed Rural Hospitals, by Birth Volume
Results: Dedicated and Shared Nurses, by Birth Volume

- <300 births:
  - Dedicated nurse staffing: 20%
  - Shared nurse staffing: 80%

- ≥300 births:
  - Dedicated nurse staffing: 80%
  - Shared nurse staffing: 20%
Results: Midwifery in Rural Hospitals

• CNMs attend deliveries at one-third of rural maternity hospitals in 9 US states, with significant variability across states.
• In rural maternity hospitals with CNMs, midwives practice alongside obstetricians in 86% of hospitals and with family physicians in 44% of hospitals.
• Larger volume rural hospitals were more likely to have CNMs attending births.
Results: Percent of Surveyed Rural Hospitals Citing Particular Staffing Challenges (n=244)

- **Scheduling**: 36.2%
- **Training**: 23.0%
- **Recruitment and Retention**: 20.6%
- **Census Fluctuation**: 19.8%
- **Intra-Hospital Relationships**: 11.9%
Summary of Findings

- Hospitals with lower birth volume (<240 births per year) are more likely to have family physicians and general surgeons attending deliveries.
- Hospitals with a higher birth volume more frequently have obstetricians and midwives attending deliveries.
- Employment of physicians decreases as birth volume increases.
- ¾ of rural hospitals with <300 births a year have shared nurse staff.
- Midwives attend deliveries in 1/3 of rural hospitals.
- Workforce challenges reported by surveyed hospitals are related to their rural location and low birth volume.
The Way Forward – National Policy

• Federal policy efforts to address workforce shortages.
  – Improving Access to Maternity Care Act
The Way Forward – State Policy

- 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
  - Collaboration between clinicians, health care systems
For Additional Information


Hung P, Kozhimannil KB, Casey M, Moscovice IS. **Why are obstetric units in rural hospitals closing their doors?** *Health Services Research,* 2016; 51(4):1546-60.

Thank You!

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