Access to Hospital Maternity Care Units in Rural America

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Rural Maternal Health Forum
Washington, DC
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Agenda

• **What:** Trend of hospital obstetric unit closures

• **Why:** Reasons for rural hospital obstetric units closures

• **Where:** Communities of these obstetric unit closures

• **How:** Association between hospital obstetric unit closures and accessibility
Acknowledgement

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What is happening to hospital obstetric care?

Hospital closures, Medicaid expansion to lead rural health meeting agenda

Maternity wards few and far between in some parts of Pennsylvania

Rural hospitals getting out of the birthing business?

Hospital Maternity Wards Are Closing Across U.S.

Doctors’ chief calls for string of maternity unit closures

Maternity unit closures plotted ‘under radar’
Number of Hospital-based Obstetric Units by Rurality

- Urban
  - 2002: 2,142
  - 2013: 2,018
- Micropolitan
  - 2002: 628
  - 2013: 592
- Noncore
  - 2002: 649
  - 2013: 443

Continuing~

Munson plans to close maternity unit at Manistee hospital

Rural Maternity Wards Are Closing, And Women’s Lives Are On The Line

in the mountains of western North Carolina, pregnant women don’t know where to deliver.

By Catherine Pearson and Frank Taylor

09/25/2017 06:45 am ET  1 Updated Sep 25, 2017

The Chestertown hospital no longer offers maternity or pediatric services. It no longer provides stents for heart patients or dialysis for patients suffering from kidney failure.

Mich. hospital to close maternity ward; only 6 births in March

Associated Press  Published 8:20 p.m. ET April 30, 2019 | Updated 8:22 p.m. ET April 30, 2019

Obstetrics unit at Santa Paula Hospital to close with business plummeting

Kathleen Wilson, Ventura County Star  Published 7:00 a.m. PT May 31, 2019 | Updated 11:30 a.m. PT May 31, 2019
Why are Rural Hospital Obstetric Units Closing?

• Staffing issues
  • Retention, recruitment, liability
• Low birth volume
• Low reimbursement
  • High proportions of patients on Medicaid
• Financial issues
  • Surgical and anesthesia coverage
  • Costs of operating the units
  • Budget cuts

Rural communities affected by hospital obstetric unit closures
County Map of Rural Hospital Obstetric Units 2004-2014

# Black Communities Had Higher Odds of Closures

<table>
<thead>
<tr>
<th>Group</th>
<th>Adjusted Odds Ratio (95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-Hispanic White</td>
<td>1.00 (1.00, 1.00)</td>
</tr>
<tr>
<td>Non-Hispanic Black</td>
<td>4.73 (1.57, 14.50)</td>
</tr>
<tr>
<td>AIAN</td>
<td>1.57 (0.90, 2.74)</td>
</tr>
<tr>
<td>Asian</td>
<td>0.02 (0.00, 3.90)</td>
</tr>
<tr>
<td>Hispanic</td>
<td>0.32 (0.09, 1.18)</td>
</tr>
<tr>
<td>Others</td>
<td>4.06 (1.00, 16.50)</td>
</tr>
</tbody>
</table>

Higher Workforce Supply was Associated with Lower Odds of Full Closures

Adjusted Odds Ratio (95% CI)

<table>
<thead>
<tr>
<th>Profession</th>
<th>Adjusted Odds Ratio (95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>OBGYN per 1,000 female aged 15-44</td>
<td>0.86</td>
</tr>
<tr>
<td>Family physicians per 1,000 county residents</td>
<td>0.88</td>
</tr>
</tbody>
</table>

Spatial Accessibility to Hospital Obstetric Units

Rural-urban differences in access to hospital obstetric and neonatal care: how far is the closest one?

Peiyin Hung, Michelle M. Casey, Katy B. Kozhimannil, Pinar Karaca-Mandic & Ira S. Moscovice
Study Sample

Statewide Inpatient Databases

All-Payer Hospital Discharge Data in 2002 and 2013

- Maternal Childbirth Hospitalization
- Linked Hospital and County Characteristics

6,777 ZIP codes in 2002 and 2013
- 661,240 maternal childbirth hospitalizations in 2002
- 634,807 maternal childbirth hospitalizations in 2013
### Average Driving Distances (Miles) to Nearest Hospital Obstetric Units by Loss of Services & Residence Rurality

#### Pre-Closure (2002)
- **Urban**: 6.2 miles
- **Micropolitan**: 8.7 miles
- **Noncore**: 15.4 miles

#### Post-Closure (2013)
- **Urban**: 8.6 miles
- **Micropolitan**: 15.4 miles
- **Noncore**: 11.6 miles

#### Loss of the Nearest Hospital OB
- **Urban**: 5.3 miles
- **Micropolitan**: 13.4 miles
- **Noncore**: 29.7 miles

#### No Loss of OB Services
- **Urban**: 6.2 miles
- **Micropolitan**: 8.6 miles
- **Noncore**: 29.8 miles
Implications

• **Low birth volume:** Additional rural hospitals may be vulnerable to obstetric unit closure in the future.

• **Staffing concern:** Challenges faced by rural communities in recruiting and retaining obstetric providers are concerning.

• **Community factor:** The overall financial status of the local population may influence a hospital’s capacity or decision to maintain obstetric services.

• **Continuity of maternity care:** When hospital obstetric units close, it’s important to ensure communication between local prenatal care providers and more distant hospitals and clinicians providing inpatient intrapartum care.

• **Driving distance** to the nearest hospital obstetric units: closures increased travel distance to obstetric care
Future Research

Optimal distribution of hospital obstetric units

• How far is too far?

Closures and perinatal care continuity

• Differential effects by residential proximity to care

Evidence-based maternity care
Thank you!

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Potential Solutions?

- Transfer & Referral
- Education
- Transport
- Telemedicine
- Care Regionalization
- Care Provider Allocation
- Payment Reform