Rural Disparities in Perinatal Care

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Disclosure

I have no actual or potential conflict of interest in relation to this program/presentation.............

...........other than I love living in Idaho........

......and am passionate about Perinatal Health Care, where all good health and well being begins.
Objectives

• Review the current landscape and disparities of Maternal and Obstetric care in rural communities compared to more urban and suburban settings

• Discuss strategies to improve access and quality of Maternal and Obstetric care for rural families
Rural Maternity Care

• Childbirth is the most common and costly reason for hospitalization

• Total costs of $27 billion annually for hospital care;
  ✓ *Half of births covered by Medicaid (more in rural)*

• In 2010, nearly 18 million reproductive-age women lived in rural counties in the United States
Many closures over the last 3 decades

• Approximately 760 U.S. hospitals closed their OB services, from 1985–2002
• In 1985, 24% of rural counties lacked OB services
• By 2002, this number had risen to 44%
• Further, the percentage of rural counties with hospital-based obstetric services declined from 55% to 46% between 2004 and 2014 – less than half
Closures

• Less populated rural counties see more rapid declines
• Distance to maternity care is correlated with outcomes
  ✓ Resuscitation, NICU, infant mortality
• Decline in access to obstetric services at rural hospitals
  ✓ Potential effects: prenatal care, travel distances, costs, risks of complications, stress
When Obstetrics Units Close, Rural Hospitals Save At The Expense Of Women’s Health

Hospitals blame Texas Medicaid for low reimbursement rates. But when they close units, women have to travel hours to deliver and often skimp on prenatal care.

Texas Standard

By Natalie Krebs | December 10, 2018 10:17 am | Health & Science [texasstandard.org], Spotlight on Health
What is the scope of obstetric unit and hospital closures resulting in loss of obstetric services in rural US counties between 2004-2014?

• University of Minnesota Rural Health Research Center
• Hospital – Level Data
  ✓ American Hospital Association Annual Survey
• County – Level Data
  ✓ Area Health Resource Files and US Census Data
• Individual – Level Data
  ✓ Restricted Use Natality Files with county identifiers
Number of Rural Hospitals with OB Services, 2004-2014

Henning-Smith; UM Rural Health Research Center, 2018
Number of Rural Counties with OB Services

2004-2014
Percent of Rural Counties with Hospital OB Services

2004-2016

Henning-Smith; UM Rural Health Research Center, 2018
Counties with Lower Birthrates Had Higher Odds of Losing OB Services

<table>
<thead>
<tr>
<th>County-level Number of Annual Births</th>
<th>Adjusted Odds Ratio (95% CI)</th>
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<tbody>
<tr>
<td>&lt;=90</td>
<td>8.32</td>
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<tr>
<td>91-200</td>
<td>3.49</td>
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<td>201-400</td>
<td>1.75</td>
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<td>&gt;400</td>
<td>1</td>
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</tbody>
</table>

Henning-Smith; UM Rural Health Research Center, 2018
Counties with More Black Residents Had Higher Odds of Losing OB Services

Adjusted Odds Ratio (95% CI)

- Non-Hispanic White: 1
- Non-Hispanic Black: 4.73
- AIAN: 1.57
- Asian: 0.02
- Hispanic: 0.32
- Others: 4.06

Henning-Smith; UM Rural Health Research Center, 2018
Higher Workforce Supply was Associated with Lower Odds of Losing OB Services
Variability Across States

Henning-Smith; UM Rural Health Research Center, 2018

- No in-county OB hospital services in 2/3 of rural counties
  - FL (78%), NV (69%), and SD (66%)
- Greatest decline in access
  - SC (25%), WA (22%), and ND (21%)
- Lowest percentages of counties with OB hospital services
  - ND (15%), FL (17%), and VA (21%)
- Closures in rural noncore areas of ND and VA
  - Closures in micropolitan areas of FL
Key findings on rural maternity care

• More than half of rural counties have no hospital-based obstetrics services
• 9% of rural counties lost OB services between 2004-2014
• Most vulnerable communities: black, low-income, shortage areas, remote, stingy Medicaid programs
The Rural Obstetric Workforce
Kozhimannil, J Rural Health, 2015

• Telephone survey of rural facilities providing OB services
• Included all 306 facilities including CAHs (51%) and non-CAH rural hospitals
• Distribution of CAH vs Non varied by state
• Non-CAH tended to be busier and offer more services
Rural hospital delivery attendants

Kozhimannil, J Rural Health, 2015
Providers

Average Number of Obstetricians and Family Physicians in Rural Hospitals by Birth Volume

Kozhimannil, J Rural Health, 2015
Providers

Proportion of Obstetricians and Family Physicians Employed by Rural Hospital (vs Private Practice), Stratified by Birth Volume

Kozhimannil, J Rural Health, 2015
Workforce Changes

Over the prior 3 years

• Hospitals reporting changes;
• FP’s decreased in 24 with 16 increased
  ✓ Usually associated with FP ceasing deliveries or retiring
• OB’s decreased in 28 with 21 increased
• CNM’s increased in 17 with decreases in 11
• 77% were hoping to increase providers
Nursing

Obstetric Staffing Challenges in Surveyed Rural Hospitals (N = 238)

- 98% of hospitals reported challenges staffing OB care
- Scheduling – 36%
- Training – 23%
- Recruitment and Retention – 21%
- Census Fluctuation – 19.8%
- Intrahospital Relationships – 11.9%
Pressures on Rural Hospitals

Financial Stability

- Primarily Fee for Service
- National trend of decreased inpatient admissions
- Payor Mix highly government based
  - Medicare – Medicaid
- Social determinants of health less optimal
  - Higher economic stability
  - Higher poverty rates
  - No resources to address issues
Pressures on Rural Hospitals

Financial Stability

- Primarily Fee for Service
- Payor Mix predominantly Medicaid
- Obstetrics is a loss leader
  - ✓ High fixed costs
  - ✓ Low reimbursement per event
- Staffing challenges
- Maintaining Competency
Association Between Loss of Hospital-Based Obstetric Services and Birth Outcomes in Rural Counties in the United States

• Retrospective Cohort – County Level Data
• Link Birth Certificates to American Hospital Assn Surveys
• 4,941,387 Birth in 1086 Rural Counties with OB services
• Primary outcomes all higher
  ✓ Out of Hospital Birthing
  ✓ Births in Hospital without OB Services
  ✓ Preterm Birth Rates

Kozhimannil, Jama, 2018
Association Between Loss of Hospital-Based Obstetric Services and Birth Outcomes in Rural Counties in the United States

• 2004 to 2014 - 179 Counties Lost OB Services
• More pronounced trends if not adjacent to an urban county
• Urban adjacent counties tended to return towards baseline after a few years

• Secondary Outcomes
  ✓ Low prenatal care (<10 visits) increased
  ✓ No change in Cesarean delivery
  ✓ No change in APGAR < 7 at 5 minutes
Solving for better care

Policy

- Reduce Rural Hospital Instability
- Commitment from Health Systems
- Provider training
- Staff training
- Backup systems
- Community support and involvement
Pennsylvania Rural Health Model

*Murphy, JAMA 2018*

- Pennsylvania has third largest rural population in US
  - 67 of 169 hospitals are in rural communities
- Global payment budget based on a hospital's historic net revenue
  - Intended to include Medicare, Medicaid and Commercial payors
- Maryland pioneered in 2010 – expanded in 2014
  - Demonstrated improved quality and financial performance
Technology

• Antenatal and Neonatal Guidelines, Education and Learning System (ANGELS),

✓ University of Arkansas for Medical Sciences,
1. High risk obstetrical consultation and case management;
2. 24/7 consultation availability;
3. Regular telemedicine conferences conducted with specialists;
4. continuing education for providers and staff
Technology

• Video conferencing technology to improve access to high-risk pregnancy care in rural areas of Tennessee

• Fetal Monitoring Resources
  ✓ *Perigen* AI based warning system
  ✓ *Assistance and central support in South Dakota*
Education

• Advanced Life Support in Obstetrics (ALSO)
  ✔ American Academy of Family Physicians since 1993

• Rural Wisconsin Health Cooperative
  ✔ Simulation based training

• Oregon State Obstetric and Pediatric Research Collaboration (STORC)
  ✔ Simulation integrated training
Team Development

• Requires involvement of obstetricians, family physicians, CNMs, general surgeons, and nurses.
• Family Medicine training tracks and continuing education
• Long hours requires commitment
• Irregular
Health System Challenges

• Develop sustainable provider team
• Back up for emergent situations with transport resources
• Ability to maintain OB nursing competencies in ER and Hospital
• Commitment to mitigate Cost, Logistics, Stress for families
• Maintain a strong MCH system commitment to quality
Providers

• Willing and capable to do OB in basic environment
  ✓ Limited OR, epidurals, C/S and Long and unpredictable hours

• Good clinical decision-making:
  ✓ ability to choose appropriate low risk patients

• Support
  ✓ Health System
  ✓ FQHC provides federal tort
  ✓ Family, partners, team
Nursing

- Trained in OB and Perinatal care
- Willing
- Insurable
- Supported: by hospital, providers, colleagues
- Trust the team
Critical Access Support

St. Luke’s Health System

• Maternal / Child Transport Team
  ✓ Nurses and RT
  ✓ CAIMTS Accredited
  ✓ Trained in OB and NICU
    • Provide Resuscitation Skills at Rural Site
  ✓ Trained to transport peds up through 5 years of age
Critical Access Support

St. Luke’s Health System

- Family Medicine 1 year OB Fellowship
- OB Operative Skill Refresher
- Support ALSO training courses
- Maternal Fetal Medicine Support
- GNOSIS educational modules
- Critical Access Hospital Collaborative
Community Midwifery

• Direct Entry Midwifery Support
• Will not be going away
• Non-Confrontational Transfer
• Post Transfer Surveys
• State Regulation
• Direct Educational Feedback
Questions and Discussion

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