

Mitigating Rural Service Gaps Following L&D Unit Closures:

An environmental scan of strategies to improve maternity access

Katherine J. Heflin, MSPH; Sarah Benatar, MA, PhD; Timothy Fisher, MD, MS; Stacey McMorrow, PhD

Background

Rural hospital are losing maternity services across the US

- ❖ Hundreds of labor/delivery (L&D) units have closed in the past two decades
- ❖ Over half of rural counties lack a L&D unit and nearly 40% do not have a qualified maternity care provider
- ❖ Closures have been due to:
 - High overhead costs and low clinical volume
 - Adverse payor mix
 - Recruitment and retention of qualified staff
- ❖ Closure of a L&D unit results in:
 - Increased travel burden
 - Reduced or delayed access to prenatal care
 - Increased patient anxiety
 - Higher rates of unnecessary obstetrical interventions
 - Increased rates of adverse neonatal and maternal outcomes

Methods

Environmental scan and analysis

- ❖ Research question: “*What strategies have been implemented to improve access to necessary maternity services in the rural US in the aftermath of L&D closures, and what can be learned from these approaches?*”
- ❖ Used iterative and comprehensive broad search and filter, then analyzed by thematic mapping
- ❖ Characterized the nature of existing strategies for improving rural maternity care access

Category 1 Example: L&D

The Oregon State Obstetric and Pediatric Research Collaboration (STORC) Mobile Obstetric Simulation and Team Training Program

- Created obstetrics teamwork and simulation programs designed and tested for rural obstetrics with support from the Agency for Healthcare Research and Quality's Improving Safety and Quality with Integrated Technology grant
- Used high-tech simulation of real-life emergencies so clinical teams could practice responding to emergencies and improve clinical efficiency, staff satisfaction, and safety outcomes
- Produced online toolkits – including a guide for clinical teamwork in obstetric emergencies – across five domains

Category 3 Example: Both L&D and Prenatal

Steps Toward Effective, Enjoyable, Parenting (STEEP) program

- Served high risk families in a rural underserved region of northeastern Minnesota
- Enhanced public health home-visits for populations at risk for poor parenting outcomes -- including teen parents and pregnant women with a history of chemical dependency
- Offered prenatal and postpartum home visits thorough social and public health counseling
- Resulted in improved health outcomes for infants and women, with greatest improvements were in pregnancy and post-partum outcomes

Category 2 Example: Prenatal

Kearny County Hospital in Kansas

- Initiated as a result of multiple local L&D unit closures and when pregnant population had twice the national rate of gestational diabetes
- Included in-person and virtual group care support as well as meetings for coaching on healthy living through the National Diabetes Prevention Program to reach the county's most vulnerable populations
- Leveraged outreach partnership with the largest employer in the county with a care coordinator
- Established relationships with local refugee communities
- Found association between program and decreased fetal macrosomia / gestational dysglycemia

Category 4 Example: Prevention & Wrap-Around Services

Greensboro, North Carolina's YWCA Healthy Moms Healthy Babies Program

- Provided free, long-term individualized and peer support for young expectant mothers, including goal setting, transportation assistance, parenting support, and referrals to other community resources
- Included childbirth classes taught by certified instructors; provided modified childbirth education and doula services for women in treatment for addiction
- Offered doula services for labor support Found association between doula access and improved birth weight and breastfeeding initiation

Results

We grouped strategies under into *four categories*

1. Ensuring access to **Emergency L&D Care**: training/support for delivery without L&D units and equipping EMT units to provide safer deliveries or transfers
2. Supporting access to **Prenatal Care**: telemedicine and group care
3. Enabling access to **Both L&D & Prenatal Care**: midwifery and stand-alone birthing centers
4. Reducing barriers and disparities through **Preventative Wrap-Around Services**: Community Health Workers and doulas

Not all strategies were subject to robust evaluations in the domain of rural maternity care after an L&D closure

- ❖ Midwifery care had substantial evidence of its capacity to improve access to maternity care, improve outcomes, and be financially sustainable
- ❖ There were two strategies which showed anecdotal promise but are less well evaluated:
 - Emergency deliveries & transfers: These provisional measures are key to improve safe deliveries, but there is a dearth of evaluations on their utility
 - Wrap-around services had substantial evidence of improving outcomes for many rural and low-income populations in general; yet there were not clear indications that such measures can alone meaningfully compensate specifically for reduced access to prenatal care / L&D unit in rural areas (in the absence of medical care)

Discussion & Conclusions

Our study limitations

- ❖ We did not find effective strategies to keep L&D units from closing
- ❖ We only scanned strategies that have been published or publicized
- ❖ We used an unsystematic accounting of quality; we assumed increasing access equated to improved safety

Areas for further research

- ❖ Assessing quality outcomes for these strategies via a systematic review
- ❖ Exploring whether/to what extent these strategies improve maternal & neonatal mortality/morbidity – including with regard to racial disparities
- ❖ Finding avenues for best supporting emergency medicine services that make rural childbirth safer
- ❖ Establishing which wrap-around services will help maternal health disparities in all settings and should be more explored in rural areas
- ❖ Reassessing rural hospital and L&D closures in the aftermath of the COVID-19 pandemic