Connecting National Rural Health Research to the Local Context: Examples from Rural Maternity Care

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Photo credit: Kathleen Henning

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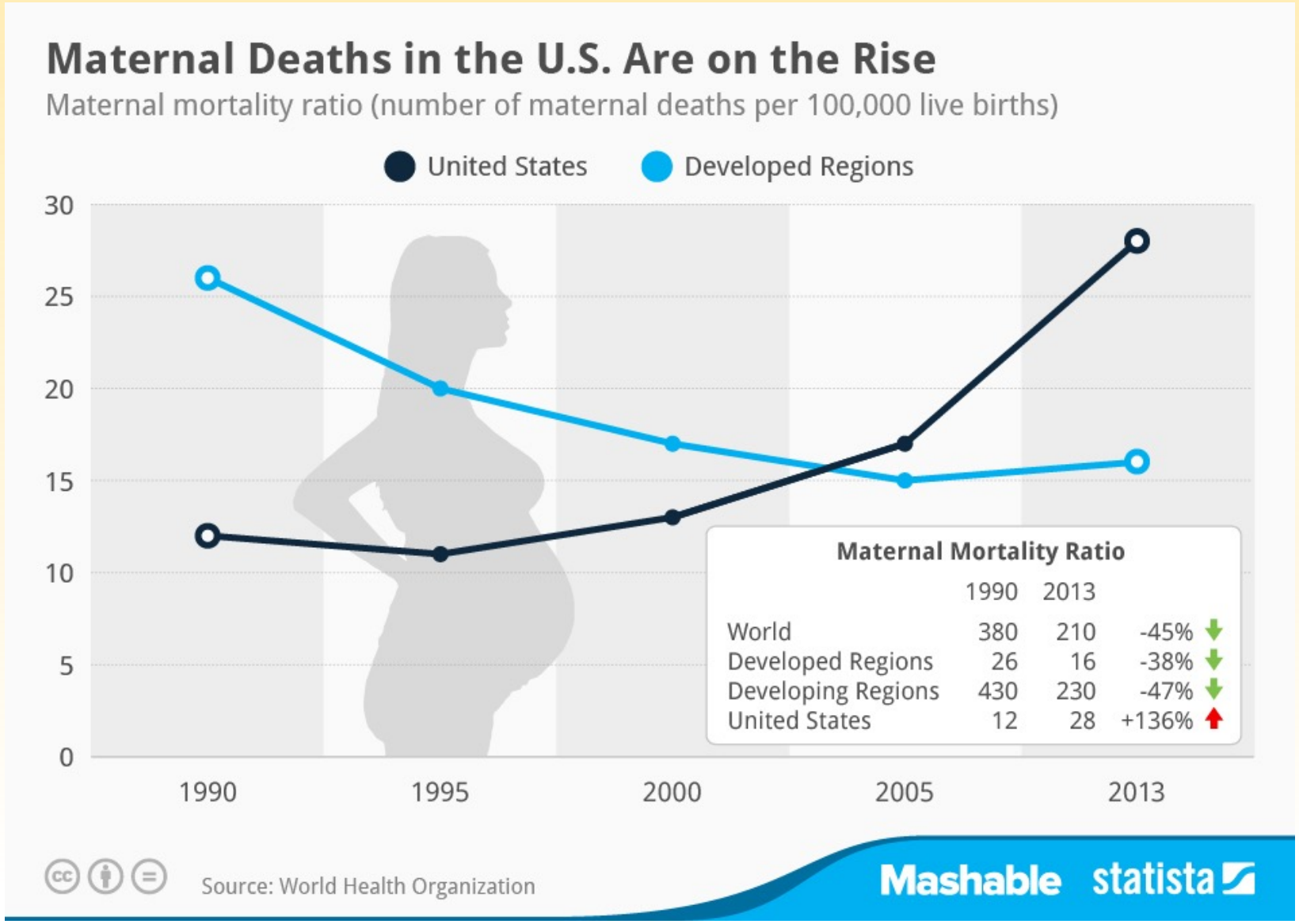
Rising rates of maternal mortality in the US



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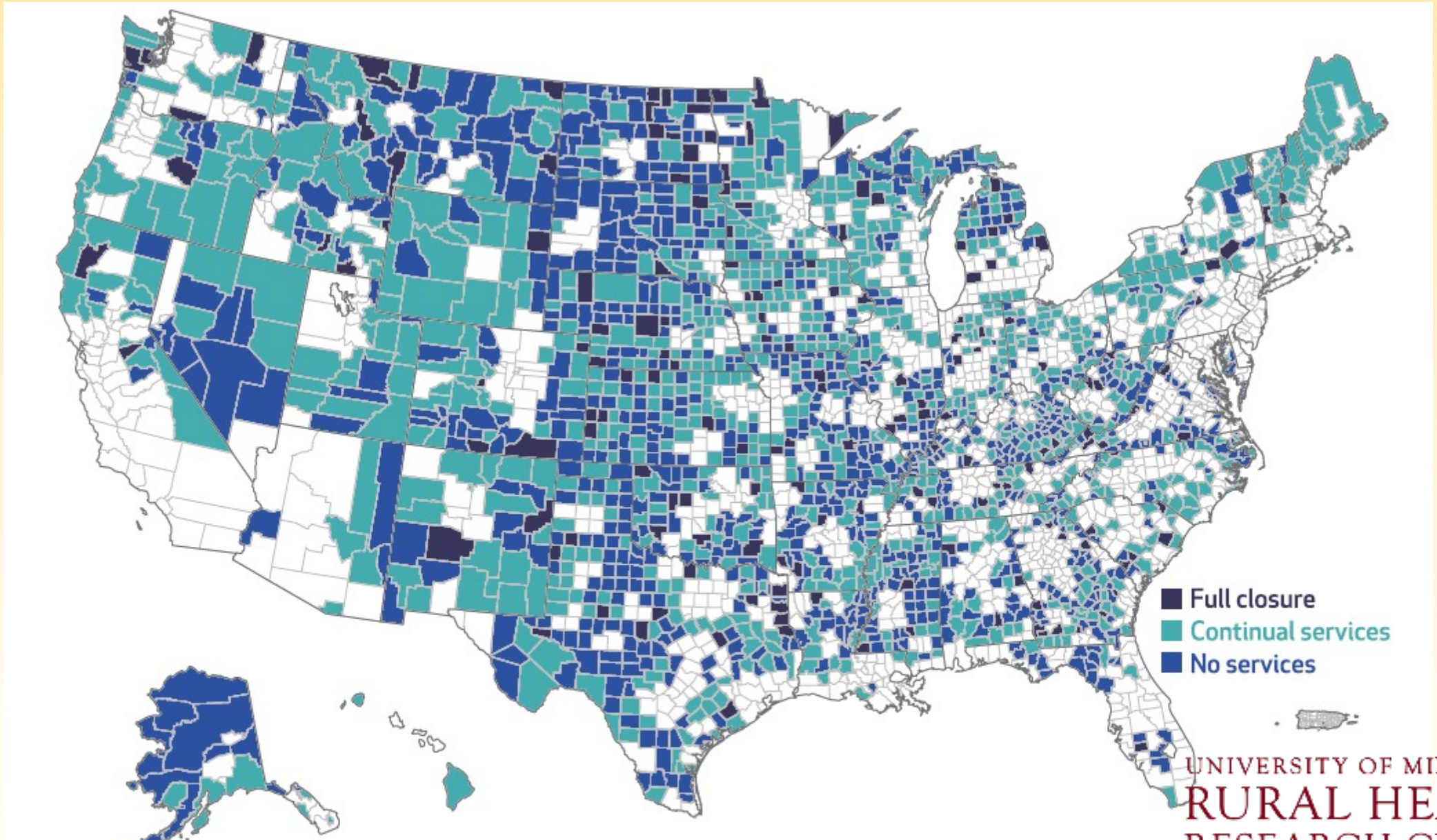
Hospital Obstetric Services in Rural Counties, 2004-2014



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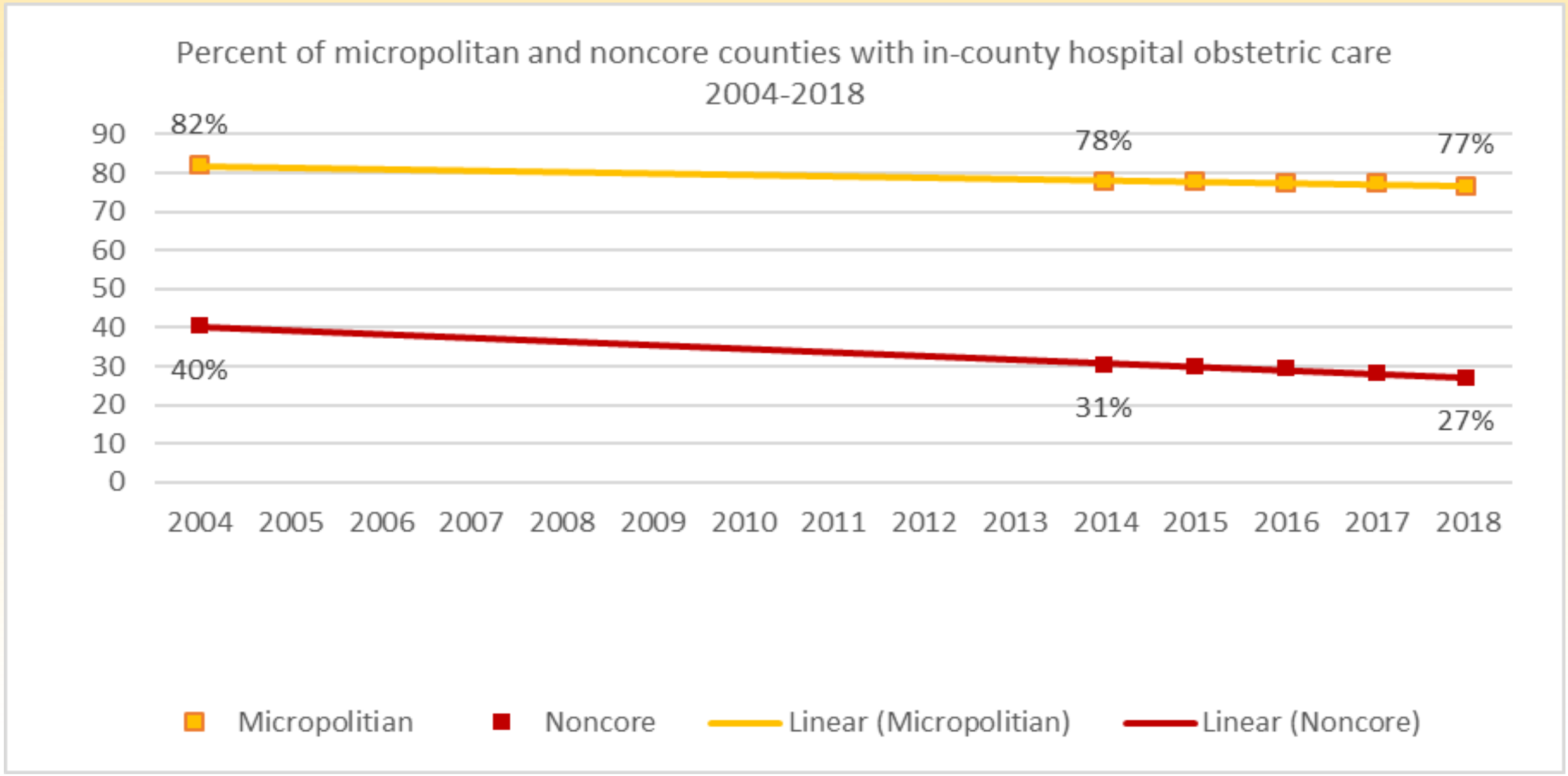
Hung, P., Henning-Smith, C., Casey, M., & Kozhimannil, K. (2017). Access to obstetrics services in rural counties still declining, with 9 percent losing services, 2004-2014. *Health Affairs, 36*(9), 1663-1671.

What has happened since 2014? New data



But, where is rural OB thriving?

- Series of case studies
- Rural practices providing obstetric services in different contexts
- Data from key informant interviews, document review, focus groups, and observations

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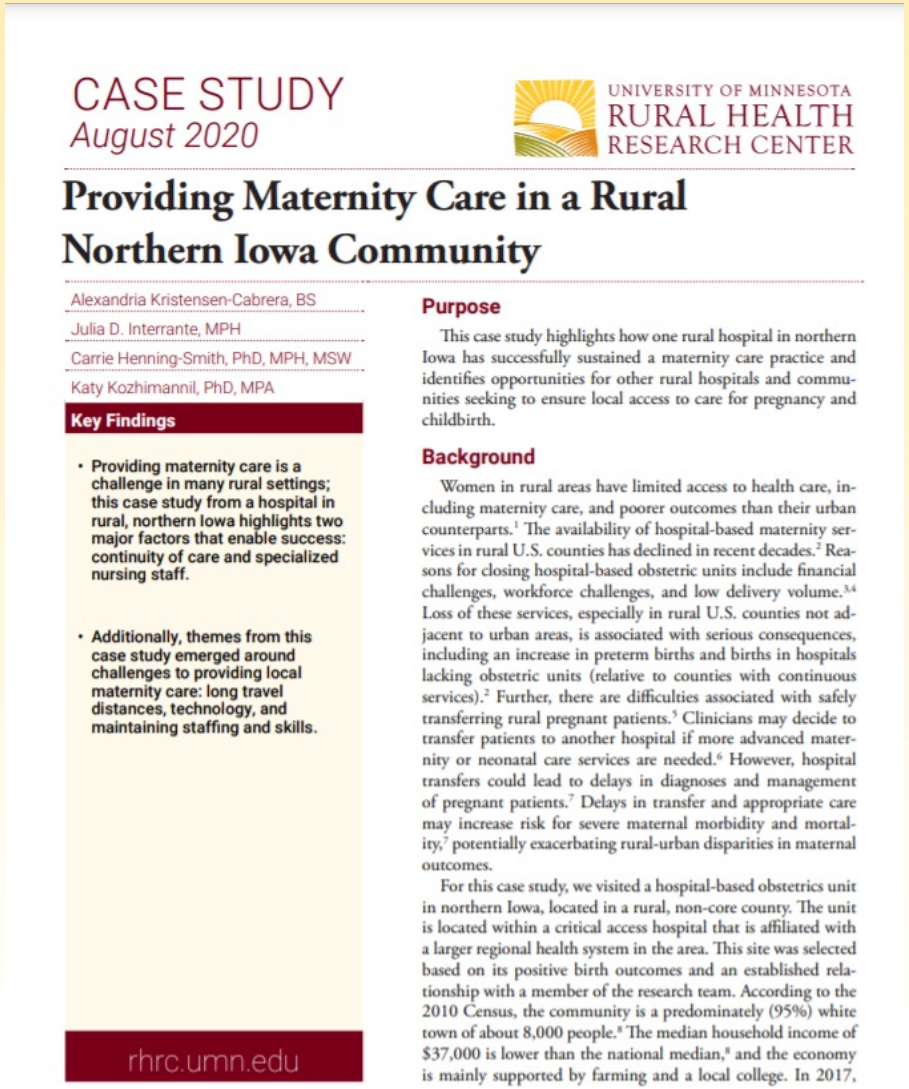
Northern Iowa Case Study



CASE STUDY
August 2020

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Providing Maternity Care in a Rural Northern Iowa Community

Alexandria Kristensen-Cabrera, BS
Julia D. Interrante, MPH
Carrie Henning-Smith, PhD, MPH, MSW
Katy Kozhimannil, PhD, MPA

Key Findings

- Providing maternity care is a challenge in many rural settings; this case study from a hospital in rural, northern Iowa highlights two major factors that enable success: continuity of care and specialized nursing staff.
- Additionally, themes from this case study emerged around challenges to providing local maternity care: long travel distances, technology, and maintaining staffing and skills.

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Purpose

This case study highlights how one rural hospital in northern Iowa has successfully sustained a maternity care practice and identifies opportunities for other rural hospitals and communities seeking to ensure local access to care for pregnancy and childbirth.

Background

Women in rural areas have limited access to health care, including maternity care, and poorer outcomes than their urban counterparts.[1] The availability of hospital-based maternity services in rural U.S. counties has declined in recent decades.[2] Reasons for closing hospital-based obstetric units include financial challenges, workforce challenges, and low delivery volume.[3,4] Loss of these services, especially in rural U.S. counties not adjacent to urban areas, is associated with serious consequences, including an increase in preterm births and births in hospitals lacking obstetric units (relative to counties with continuous services).[2] Further, there are difficulties associated with safely transferring rural pregnant patients.[5] Clinicians may decide to transfer patients to another hospital if more advanced maternity or neonatal care services are needed.[6] However, hospital transfers could lead to delays in diagnoses and management of pregnant patients.[7] Delays in transfer and appropriate care may increase risk for severe maternal morbidity and mortality,[7] potentially exacerbating rural-urban disparities in maternal outcomes.

For this case study, we visited a hospital-based obstetrics unit in northern Iowa, located in a rural, non-core county. The unit is located within a critical access hospital that is affiliated with a larger regional health system in the area. This site was selected based on its positive birth outcomes and an established relationship with a member of the research team. According to the 2010 Census, the community is a predominately (95%) white town of about 8,000 people.[8] The median household income of $37,000 is lower than the national median,[8] and the economy is mainly supported by farming and a local college. In 2017,

- Factors enabling success: continuity of care and specialized nursing staff.
- Challenges: long travel distances, technology, maintaining staffing and skills.

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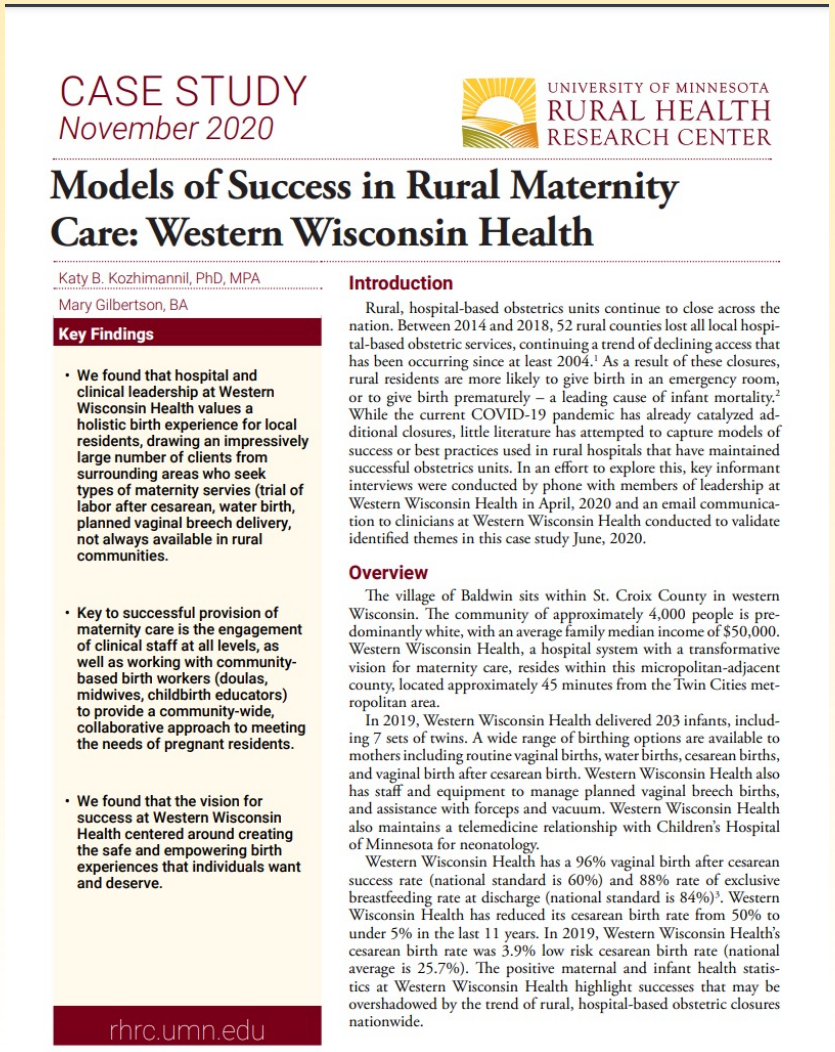
Western Wisconsin Case Study



CASE STUDY
November 2020

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Models of Success in Rural Maternity Care: Western Wisconsin Health

Katy B. Kozhimannil, PhD, MPA
Mary Gilbertson, BA

Key Findings

- We found that hospital and clinical leadership at Western Wisconsin Health values a holistic birth experience for local residents, drawing an impressively large number of clients from surrounding areas who seek types of maternity servies (trial of labor after cesarean, water birth, planned vaginal breech delivery, not always available in rural communities.
- Key to successful provision of maternity care is the engagement of clinical staff at all levels, as well as working with community-based birth workers (doulas, midwives, childbirth educators) to provide a community-wide, collaborative approach to meeting the needs of pregnant residents.
- We found that the vision for success at Western Wisconsin Health centered around creating the safe and empowering birth experiences that individuals want and deserve.

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Introduction

Rural, hospital-based obstetrics units continue to close across the nation. Between 2014 and 2018, 52 rural counties lost all local hospital-based obstetric services, continuing a trend of declining access that has been occurring since at least 2004.[1] As a result of these closures, rural residents are more likely to give birth in an emergency room, or to give birth prematurely – a leading cause of infant mortality.[2] While the current COVID-19 pandemic has already catalyzed additional closures, little literature has attempted to capture models of success or best practices used in rural hospitals that have maintained successful obstetrics units. In an effort to explore this, key informant interviews were conducted by phone with members of leadership at Western Wisconsin Health in April, 2020 and an email communication to clinicians at Western Wisconsin Health conducted to validate identified themes in this case study June, 2020.

Overview

The village of Baldwin sits within St. Croix County in western Wisconsin. The community of approximately 4,000 people is predominantly white, with an average family median income of $50,000. Western Wisconsin Health, a hospital system with a transformative vision for maternity care, resides within this micropolitan-adjacent county, located approximately 45 minutes from the Twin Cities metropolitan area.

In 2019, Western Wisconsin Health delivered 203 infants, including 7 sets of twins. A wide range of birthing options are available to mothers including routine vaginal births, water births, cesarean births, and vaginal birth after cesarean birth. Western Wisconsin Health also has staff and equipment to manage planned vaginal breech births, and assistance with forceps and vacuum. Western Wisconsin Health also maintains a telemedicine relationship with Children's Hospital of Minnesota for neonatology.

Western Wisconsin Health has a 96% vaginal birth after cesarean success rate (national standard is 60%) and 88% rate of exclusive breastfeeding rate at discharge (national standard is 84%)[3]. Western Wisconsin Health has reduced its cesarean birth rate from 50% to under 5% in the last 11 years. In 2019, Western Wisconsin Health's cesarean birth rate was 3.9% low risk cesarean birth rate (national average is 25.7%). The positive maternal and infant health statistics at Western Wisconsin Health highlight successes that may be overshadowed by the trend of rural, hospital-based obstetric closures nationwide.

- Factors enabling success: engagement of clinical staff, community-wide collaborative approach.
- Offers services not always found in rural communities (VBAC, water birth, etc.)

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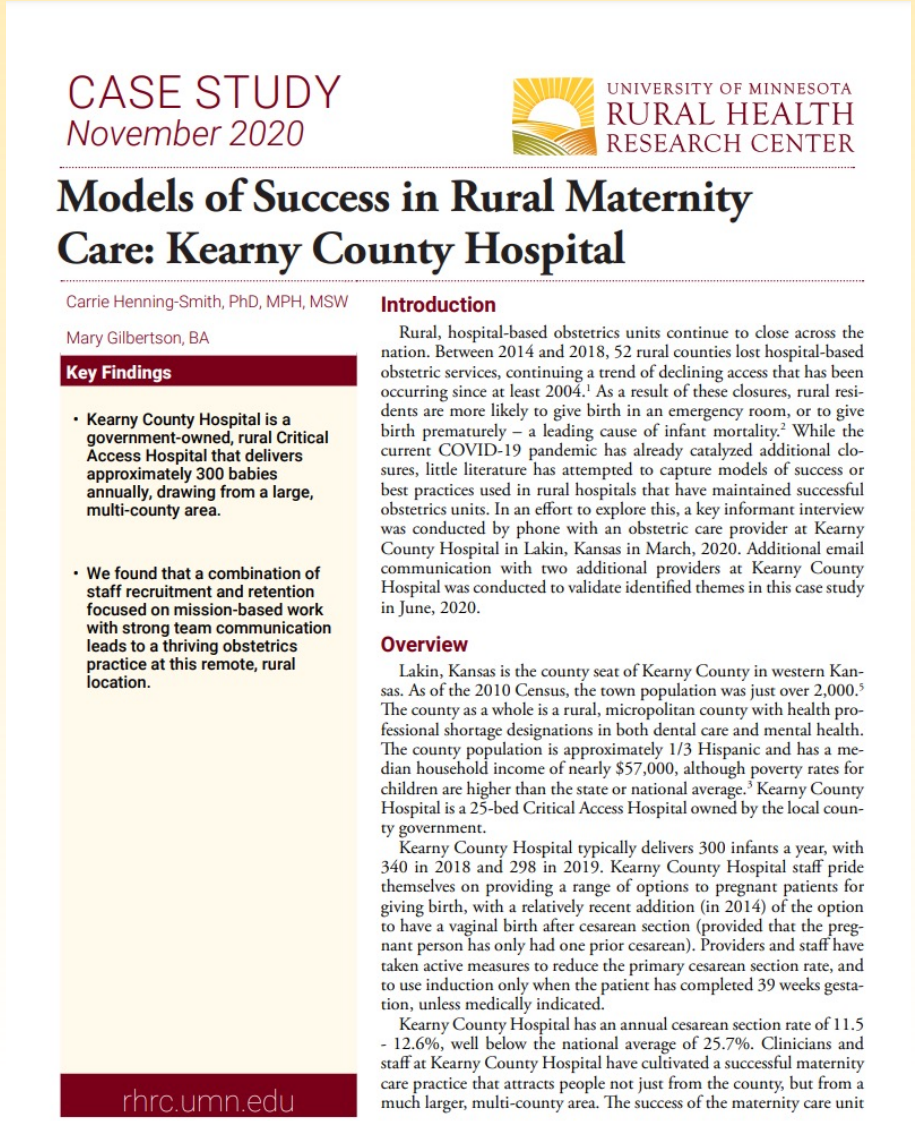
Kearny County, Nebraska Case Study



CASE STUDY
November 2020

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Models of Success in Rural Maternity Care: Kearny County Hospital

Carrie Henning-Smith, PhD, MPH, MSW

Mary Gilbertson, BA

Key Findings

- Kearny County Hospital is a government-owned, rural Critical Access Hospital that delivers approximately 300 babies annually, drawing from a large, multi-county area.
- We found that a combination of staff recruitment and retention focused on mission-based work with strong team communication leads to a thriving obstetrics practice at this remote, rural location.

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Introduction

Rural, hospital-based obstetrics units continue to close across the nation. Between 2014 and 2018, 52 rural counties lost hospital-based obstetric services, continuing a trend of declining access that has been occurring since at least 2004.[1] As a result of these closures, rural residents are more likely to give birth in an emergency room, or to give birth prematurely – a leading cause of infant mortality.[2] While the current COVID-19 pandemic has already catalyzed additional closures, little literature has attempted to capture models of success or best practices used in rural hospitals that have maintained successful obstetrics units. In an effort to explore this, a key informant interview was conducted by phone with an obstetric care provider at Kearny County Hospital in Lakin, Kansas in March, 2020. Additional email communication with two additional providers at Kearny County Hospital was conducted to validate identified themes in this case study in June, 2020.

Overview

Lakin, Kansas is the county seat of Kearny County in western Kansas. As of the 2010 Census, the town population was just over 2,000.[3] The county as a whole is a rural, micropolitan county with health professional shortage designations in both dental care and mental health. The county population is approximately 1/3 Hispanic and has a median household income of nearly $57,000, although poverty rates for children are higher than the state or national average.[3] Kearny County Hospital is a 25-bed Critical Access Hospital owned by the local county government.

Kearny County Hospital typically delivers 300 infants a year, with 340 in 2018 and 298 in 2019. Kearny County Hospital staff pride themselves on providing a range of options to pregnant patients for giving birth, with a relatively recent addition (in 2014) of the option to have a vaginal birth after cesarean section (provided that the pregnant person has only had one prior cesarean). Providers and staff have taken active measures to reduce the primary cesarean section rate, and to use induction only when the patient has completed 39 weeks gestation, unless medically indicated.

Kearny County Hospital has an annual cesarean section rate of 11.5 - 12.6%, well below the national average of 25.7%. Clinicians and staff at Kearny County Hospital have cultivated a successful maternity care practice that attracts people not just from the county, but from a much larger, multi-county area. The success of the maternity care unit

- Government-owned critical access hospital delivering approximately 300 babies annually.
- Factors enabling success: recruitment and retention focused on mission-based work; strong team communication.

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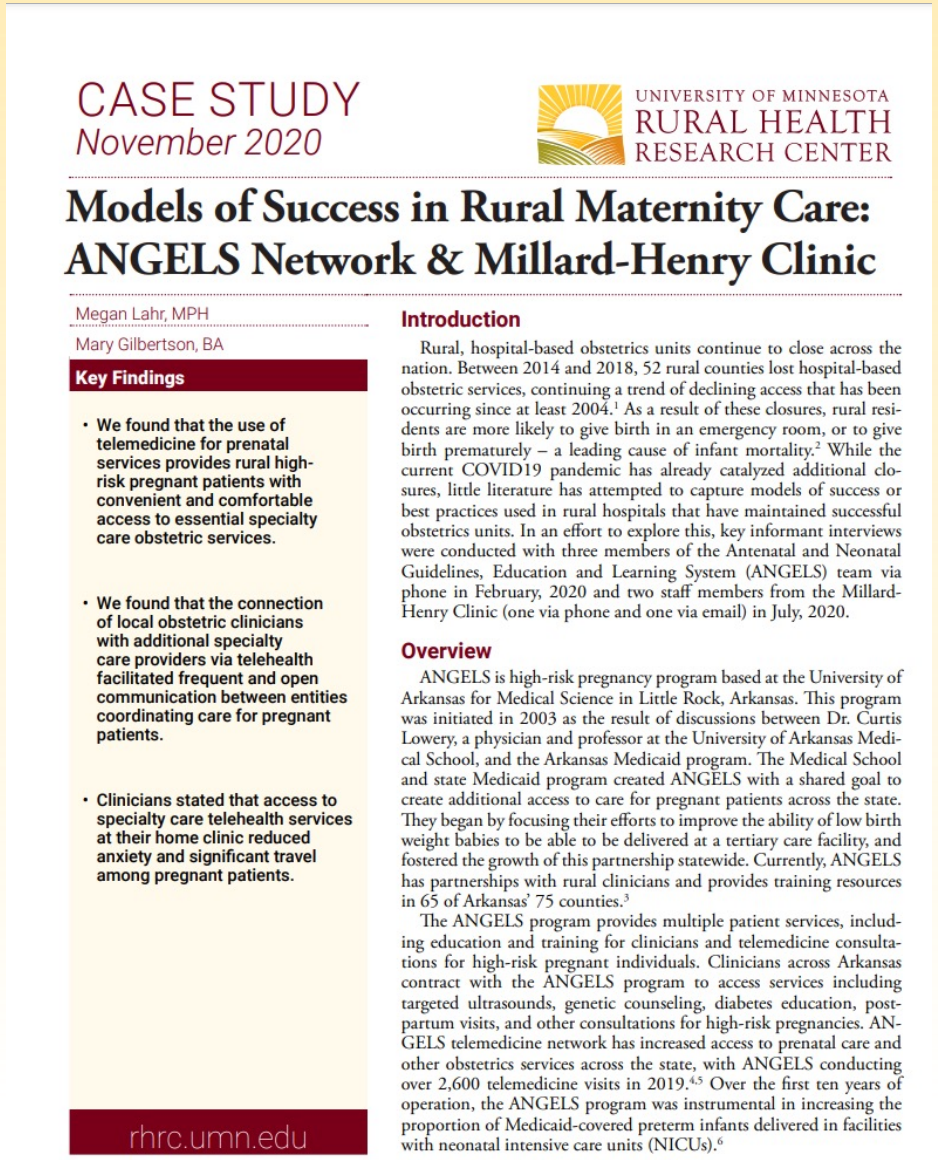
Arkansas ANGELS Network Case Study



CASE STUDY
November 2020

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Models of Success in Rural Maternity Care: ANGELS Network & Millard-Henry Clinic

Megan Lahr, MPH
Mary Gilbertson, BA

Key Findings

- We found that the use of telemedicine for prenatal services provides rural high-risk pregnant patients with convenient and comfortable access to essential specialty care obstetric services.
- We found that the connection of local obstetric clinicians with additional specialty care providers via telehealth facilitated frequent and open communication between entities coordinating care for pregnant patients.
- Clinicians stated that access to specialty care telehealth services at their home clinic reduced anxiety and significant travel among pregnant patients.

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Introduction

Rural, hospital-based obstetrics units continue to close across the nation. Between 2014 and 2018, 52 rural counties lost hospital-based obstetric services, continuing a trend of declining access that has been occurring since at least 2004.[1] As a result of these closures, rural residents are more likely to give birth in an emergency room, or to give birth prematurely – a leading cause of infant mortality.[2] While the current COVID19 pandemic has already catalyzed additional closures, little literature has attempted to capture models of success or best practices used in rural hospitals that have maintained successful obstetrics units. In an effort to explore this, key informant interviews were conducted with three members of the Antenatal and Neonatal Guidelines, Education and Learning System (ANGELS) team via phone in February, 2020 and two staff members from the Millard-Henry Clinic (one via phone and one via email) in July, 2020.

Overview

ANGELS is high-risk pregnancy program based at the University of Arkansas for Medical Science in Little Rock, Arkansas. This program was initiated in 2003 as the result of discussions between Dr. Curtis Lowery, a physician and professor at the University of Arkansas Medical School, and the Arkansas Medicaid program. The Medical School and state Medicaid program created ANGELS with a shared goal to create additional access to care for pregnant patients across the state. They began by focusing their efforts to improve the ability of low birth weight babies to be able to be delivered at a tertiary care facility, and fostered the growth of this partnership statewide. Currently, ANGELS has partnerships with rural clinicians and provides training resources in 65 of Arkansas' 75 counties.[3]

The ANGELS program provides multiple patient services, including education and training for clinicians and telemedicine consultations for high-risk pregnant individuals. Clinicians across Arkansas contract with the ANGELS program to access services including targeted ultrasounds, genetic counseling, diabetes education, postpartum visits, and other consultations for high-risk pregnancies. ANGELS telemedicine network has increased access to prenatal care and other obstetrics services across the state, with ANGELS conducting over 2,600 telemedicine visits in 2019.[4,5] Over the first ten years of operation, the ANGELS program was instrumental in increasing the proportion of Medicaid-covered preterm infants delivered in facilities with neonatal intensive care units (NICUs).[6]

- Factors enabling success: connection of local OB clinicians with specialty care providers via telehealth; reduced travel time for patients; open communication between providers.

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Discussion Questions

- Which is more important: national data or local examples? Or both?
- When there are stark rural/urban disparities nationally, what is the value of showing successful models? Would there be equal value in showing where things are not working?
- What examples from your own work would you highlight to illustrate national trends?

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