



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.

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, post-partum 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

The St. Mary's Millard-Henry Clinic is located in Russellville, Arkansas, a community in Pope County, a rural, micropolitan county in the northeast part of Arkansas. The Millard-Henry Clinic has been open for over 35 years, and provides primary care and specialty services, including obstetrics and gynecology services. Over 8 years ago, physicians at Millard-Henry began working with the ANGELS network in order to provide an opportunity for high-risk pregnant patients with transportation issues to access specialty services provided by ANGELS. Patients who meet certain high-risk criteria are referred to ANGELS to receive a variety of services including ultrasounds, genetic counseling, and follow-up visits via telemedicine.

Key Features

Communication and connection

Regular and thorough communication between ANGELS staff and partner clinics was noted as a critical component to the success of the ANGELS program's work with rural patients. Nearly all of the obstetric clinicians at Millard-Henry clinic are in contact with clinicians at ANGELS network. This communication has built strong relationships between clinicians and staff at the ANGELS and Millard-Henry clinics, which have been integral in coordinating and providing care for high-risk patients.

The staff at ANGELS mentioned the importance of receiving "buy-in" from clinics across the state and how essential relationships with rural clinicians are to establish a meaningful partnership. One obstacle to overcome in order to achieve this buy-in was for ANGELS staff to convince rural clinicians that they weren't trying to steal their patients, but instead trying to help local clinicians offer the most impactful services possible for their high-risk patients. Clinic staff at both ANGELS and Millard Henry's clinic were eager to discuss how well the clinical teams work together to ensure patients receive the care they need, and that staff of both sites communicate often and very easily. Millard-Henry's clinic manager, Christina Trammell, noted that, "The staff at ANGELS are wonderful. They are helpful and provide an excellent service to us and our patients."

Convenient & comfortable access for rural patients

The telehealth visits available from ANGELS provide rural patients from the Millard-Henry clinic with a convenient and comfortable alternative to traveling at least 2.5 hours roundtrip to Little Rock to have a short clinic visit. Staff at Millard-Henry stressed the importance of allowing patients to access this specialty care in a familiar setting with a familiar person. Feedback from patients who

ANGELS Network, University of Arkansas for Medical Sciences, Little Rock, AR and Millard-Henry Clinic, Russellville, AR



had to travel to receive specialty prenatal care from a new clinician included anxiety or fear associated with navigating a new facility or seeing an unfamiliar clinician. The availability of telemedicine visits facilitated the ability for patients to save time and money by receiving their care locally, as well as the opportunity to minimize stress and anxiety for patients with high risk pregnancies.

"I think we've made pregnancy safer for our women here in Arkansas."

*- Rosalyn Perkins, Director of
Telemedicine Clinical Services, ANGELS*

Summary

Overall, the model developed by the ANGELS program to provide telemedicine services to pregnant patients across the state of Arkansas, including those in rural areas, has been successful and a robust way of increasing easy access to specialty services for high-risk patients. Through dedication to relationship building and consistent and dependable communication, ANGELS is able to make a difference in the pregnancies of many rural patients who would have otherwise had to undergo unnecessary travel and anxiety to receive the same care. The success of initiatives like ANGELS support recommendations to increase telemedicine networks in the realm of prenatal care for high-risk patients in rural areas.

It is well worth noting that this key informant interview took place during the COVID-19 pandemic. Our team thanks ANGELS and Millard-Henry Clinic staff for all that they are doing now, and in the future, to transform maternity care to better serve pregnant patients, infants, and their families.

References

1. Hung P, Henning-Smith CE, Casey MM, Kozhimannil KB. Access to obstetric services in rural counties still declining, with 9 percent losing services, 2004-14. *Health Aff.* 2017;36(9):1663-1671. doi:10.1377/hlthaff.2017.0338
2. Kozhimannil KB, Hung P, Henning-Smith C, Casey MM, Prasad S. Association between loss of hospital-based obstetric services and birth outcomes in rural counties in the United States. *JAMA - J Am Med Assoc.* 2018;319(12):1239-1247. doi:10.1001/jama.2018.1830
3. ANGELS Annual Report 2018-2019.
4. Long MC, Angtuaco T, Lowery C. Ultrasound in telemedicine: Its impact in high-risk obstetric health care delivery. *Ultrasound Q.* 2014;30(3):167-172. doi:10.1097/RUQ.0000000000000073
5. ANGELS Annual Report, 2018-2019. ANGELS. Published 2019. Accessed August 3, 2020. <https://idhi.uams.edu/wp-content/uploads/sites/82/2019/11/IDHI-High-Risk-Pregnancy-ANGELS-Annual-Report-2019.pdf>
6. Bronstein JM, Ounpraseuth S, Lowery CL. Improving perinatal regionalization: 10 years of experience with an Arkansas initiative. *J Perinatol.* Published online July 16, 2020:1-8. doi:10.1038/s41372-020-0726-x



Rural Health Research & Policy Centers

Funded by the Federal Office of Rural Health Policy

www.ruralhealthresearch.org

Support for this study was provided by the Federal Office of Rural Health Policy, Health Resources and Services Administration, Cooperative Agreement U1CRH03717-13-00. The information, conclusions, and opinions expressed are those of the authors, and no endorsement by FORHP, HRSA, or HHS is intended or should be inferred.

For more information, contact Katy B. Kozhimannil (kbk@umn.edu)

University of Minnesota Rural Health Research Center
Division of Health Policy and Management, School of Public Health
2221 University Avenue SE, #350 Minneapolis, MN, 55414