

## Improving Rural Maternal Health Care through Network Models: Summary of the RMOMS Program 2021 Cohort

The Rural Maternity and Obstetrics Management Strategies (RMOMS) program funds maternal health networks to improve access to care and health outcomes in rural communities. The program funds three cohorts: a [2019 Cohort](#) with awardees in Missouri, New Mexico, and Texas, a [2021 Cohort](#) with awardees in Minnesota, Missouri, and West Virginia, and most recently, a [2022 Cohort](#) with awardees in Arkansas, Maine, South Dakota, and Utah.

This Program Summary introduces the 2021 Cohort and describes each awardee's maternal health landscape, network partners, and strategies to improve health care access and outcomes for rural women.<sup>a</sup> The awardees include Families First: Rural Maternity Health Collaborative (Minnesota), RMOM-Southeast Missouri Partnership (RMOM-SMP), and the West Virginia Rural Maternity and Obstetrics Management Strategies Collaborative (WV-RMOMS).

### RMOMS PROGRAM BACKGROUND: 2021 COHORT

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The Health Resources & Services Administration (HRSA) through the Federal Office of Rural Health Policy (FORHP) awarded approximately \$3 million to three rural health networks in 2021. The award recipients each received up to \$1 million annually for a four-year period of performance spanning from September 2021 to August 2025. The 2021 Cohort aims to increase access to maternal health care in rural communities and improve maternal and neonatal outcomes through the four RMOMS program focus areas:

- 1) Rural regional approaches to risk-appropriate care: RMOMS networks must pursue strategies and coordinated approaches to provide risk-appropriate care and promote health equity. These may include obstetric service aggregation at selected network sites or other cross-cutting strategies across network partners.
- 2) Network approach to coordinating a continuum of care: Rural hospitals, community health centers, support services partners, and other network partners should enact coordinated network approaches to improve access to care and maternal health outcomes along the continuum of care from preconception to postpartum.

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<sup>a</sup> This program summary uses the terms “women” and “mothers” to align with language used by the RMOMS awardees and in cited secondary data sources. Where possible, we use “RMOMS participants” or “pregnant individuals.” We remain committed to using respectful language and evaluating the quality of care for all clients served by the RMOMS program.

- 3) Leveraging telehealth and specialty care: The RMOMS networks must collaborate with tertiary facilities and explore telehealth initiatives to improve case management, safe delivery, and follow-up for high-risk pregnancies. This coordination and use of new technologies may support rural providers and improve access to care in isolated areas.
- 4) Financial sustainability: The networks should consider how to achieve improved outcomes and cost savings for Medicaid and other payers that may improve provider financial sustainability and thus sustain access to care in the future.

The awardees' projects can serve as a model for other rural networks by offering replicable and sustainable paths to coordinated and high-quality maternal health care. The following sections summarize each awardee's service area, partners, and major strategies.

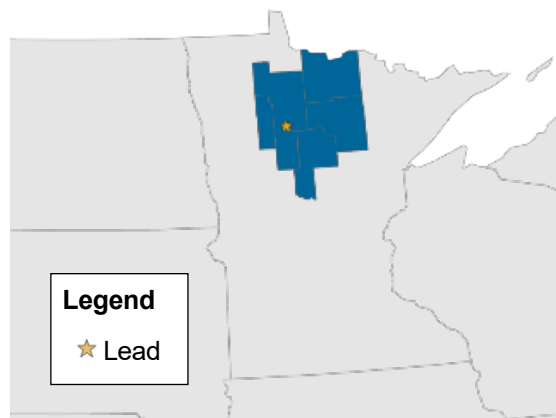
## FAMILIES FIRST: RURAL MATERNITY HEALTH COLLABORATIVE (MINNESOTA)

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The Families First: Rural Maternity Health Collaborative (hereafter known as "Families First") aims to increase access to care, enhance care coordination among network partners, and improve maternal and neonatal outcomes in northern Minnesota.

### Awardee Service Area and Landscape

Families First serves RMOMS participants in Beltrami, Cass, Clearwater, Hubbard, Koochiching, and Itasca Counties in northern Minnesota. This service area includes a large American Indian/Alaska Native (AI/AN) population, which represents over 22 percent of the total population in Beltrami County. The network reported that in 2020, 8 percent of deliveries at Sanford Health (Bemidji) were affected by diabetes and 11 percent by hypertension. Three percent of women received no prenatal care, and an additional 12 percent did not begin prenatal care until the fifth month of pregnancy or later. Common barriers to accessing prenatal care include transportation, lack of childcare, and financial concerns.



### Network Structure

The Families First network began with six partners: Sanford Health of Northern Minnesota (Bemidji); Cass Lake Indian Health Service (IHS); Red Lake IHS; Beltrami County Health and Human Services (HHS); PrimeWest Health (the Medicaid administrator for the region); and Sanford Medical Center Fargo. During the planning year, Scenic Rivers Health Services, a Federally Qualified Health Center (FQHC), joined the Families First network as well. Led by Sanford Health (Bemidji) with

participation from all partner sites, there are two main groups that meet regularly and guide the network's activities: a governance board, which meets quarterly or monthly if needed, and a full project team that meets monthly. Partner teams work together to address transportation needs and explore new strategies, including telehealth, the development of a culturally appropriate group prenatal care model, home visiting service integration, and opportunities for cost savings. Partners include:

**Hospitals:** Most RMOMS participants in the service area give birth at Sanford Health (Bemidji), which also offers some specialty medical services. The Critical Access Hospitals (CAHs) at Cass Lake and Red Lake accommodate emergency deliveries and provide prenatal care. Patients who require advanced maternal-fetal medicine (MFM) care typically deliver at the Level III neonatal intensive care unit (NICU) Sanford Health facility in Fargo, North Dakota, which can be up to a three-hour drive.

**Prenatal Care:** Most RMOMS participants in the network's service area receive their prenatal and postpartum care at Sanford Health (Bemidji), Cass Lake IHS, or Red Lake IHS. Scenic Rivers Health Services also offers prenatal and postpartum care.

**Support Services:** PrimeWest, a Managed Care Organization (MCO) and the Medicaid administrator for the region, identifies and refers RMOMS participants to Beltrami County HHS for support services, such as the Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) and home visiting.

## **Goals and Strategies to Improve Maternal Health**

Families First aims to improve rural maternal health through activities and initiatives that support four overarching goals:

- Improve and expand regional obstetric care services at Sanford (Bemidji), Cass Lake IHS, and Red Lake IHS, including increasing access to specialty high-risk obstetric care and implementing evidence-based protocols to improve emergency response to hypertensive crises and preterm labor.
- Improve consistency and quality of preconception, prenatal, and postpartum care services at Level I network hospitals and improve collaboration between Cass Lake IHS, Red Lake IHS, and Sanford Health to ensure seamless care coordination and delivery between network entities. This will include the development of a culturally appropriate group prenatal care model, creation of robust case management services, expansion of existing home visiting programs, development of doula support during labor and delivery, and addition of new transportation services.
- Increase access to preconception, prenatal, postpartum, and specialty care by expanding telehealth services and reducing delays in prompt recognition and management of emergent prenatal conditions at Level I facilities. This will include enhanced staff training, development of response protocols, and development of a virtual obstetric hospitalist program for the CAHs at Cass Lake and Red Lake.

- Reduce costs of care and increase health care cost savings by exploring enhanced Medicaid reimbursement strategies with PrimeWest and addressing modifiable risk factors that directly contribute to preterm births and hospitalizations, particularly hypertensive disorders, diabetes, substance use, and mental health disorders.

Most patients either receive some care or deliver at Sanford Health (Bemidji), which has facilitated sharing data and coordinating care among network partners. The network is also working to hire high-risk pregnancy coordinators at Sanford Health (Bemidji), Red Lake IHS, Cass Lake IHS, and Beltrami County HHS; these staff members will support all major network strategies and fill in gaps in coordination for RMOMS participants with high-risk pregnancies. This infrastructure may help the network overcome workforce shortages and other known challenges as it prepares for implementation.

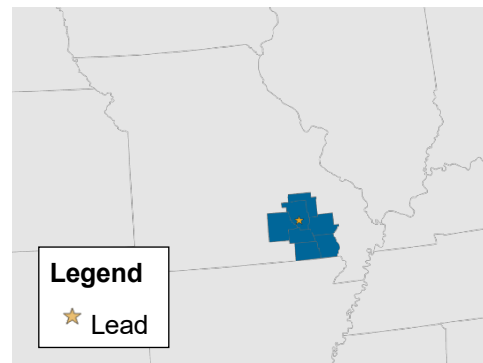
“I think if everybody just had enough time in their day and enough staff to do the work, absolutely the potential’s there [for collaboration]. But living in [a] rural community, workforce shortage is a very real thing and many of us wear multiple hats, so you have many competing priorities.”  
- Families First Leadership

## RMOM-SOUTHEAST MISSOURI PARTNERSHIP

The RMOM-Southeast Missouri Partnership (RMOM-SMP) aims to improve access to care and specialty services throughout the continuum of care from preconception to postpartum for mothers and babies in southeastern Missouri.

### Awardee Service Area and Landscape

RMOM-SMP serves Butler, Carter, Iron, Reynolds, Ripley, Shannon, and Wayne Counties. The network’s target population includes almost 20,000 women of reproductive age (ages 15-49) with a focus on supporting delivery care for the estimated 1,160 births that occur each year. A sizable portion of land in the target counties is federally designated Level 4 Frontier and Remote areas (FAR); as a result, RMOM-SMP reports that many patients must drive up to 90 minutes one way for appointments. Twenty-three percent of residents live in poverty compared to 14 percent in Missouri overall.<sup>1</sup> Reynolds, Ripley, Shannon, and Wayne counties are areas of “persistent poverty” that have reported a poverty rate of 20 percent or greater for at least 30 years.<sup>2</sup> RMOM-SMP leadership highlighted that generational poverty contributes to mistrust of government systems, which discourages help-seeking behavior and utilization of support services. These issues contribute to a regional maternal mortality rate that is 26 percent higher than in the state.<sup>3</sup>



## Network Structure

RMOM-SMP is led by Missouri Highlands Health Care (MHHC), an FQHC. The network contains sixteen members in addition to MHHC (described below):

**Hospitals:** Three rural hospitals participate in the network: Poplar Bluff Regional Medical Center (Level II labor and delivery center), Iron County Medical Center (CAH that does not provide labor and delivery services), and Parkland Health Center (Level II labor and delivery center). Two additional hospitals outside the service area, St. Francis Health System (Level II perinatal nursery unit and Level III NICU) and SSM Health (Level III perinatal services and Level IV NICU), also participate. St. Francis, which is the lead agency for the Missouri awardee in the 2019 RMOMS Cohort, will care for some women from the RMOM-SMP service area and also serve in an advisory role, while SSM Health will support women referred for MFM services.

**Prenatal care:** MHHC, the network lead, is the primary provider of prenatal care across the seven RMOM-SMP counties. Together, MHHC, Poplar Bluff Regional Medical Center, and Parkland Health Center will provide the majority of care to RMOMS participants, with specialty and support services being provided by other network partners.

**Support services:** Social services will be provided by seven county health departments, two community-based organizations, the Missouri Department of Social Services, and the state Medicaid agency. The two community-based organizations include Whole Kids Outreach, a rural faith-based home visiting program that supports all seven counties in the service area, and Building Blocks for Kids, an organization that provides grants for adaptive equipment for children with special needs in Butler County.

## Goals and Strategies to Improve Maternal Health

The major aim of the network is to alleviate the maternity care deserts common throughout the service area. The network has identified five major goals to support this aim, including:

- Create a seamless, sustainable network that improves continuity of obstetric care in rural southeastern Missouri;
- Increase the delivery of and access to a continuum of care (preconception, pregnancy, labor and delivery, and postpartum services) for mothers and babies;
- Utilize telehealth resources to increase access to primary care within the FQHC clinics as well as access to general obstetricians and Level IV perinatal specialists and sub-specialists;
- Develop a diversified model of sustainability; and
- Encourage replicability through dissemination of project results.

During the planning phase of the RMOMS award, RMOM-SMP prioritized improving

telehealth to support the overall aim and goals of the program. This included creating satellite telehealth sites that will allow geographically isolated patients easier access to prenatal and postpartum care and implementing remote patient monitoring. RMOM-SMP hopes to use telehealth to increase utilization of prenatal and postpartum services by reducing barriers related to geographic isolation and transportation. These telehealth sites will also provide patients with access to perinatal specialists and sub-specialists they otherwise may have had to travel hours to access.

Telehealth services and remote patient monitoring may improve maternal and infant health outcomes by identifying potential health risks, such as high blood pressure, before they become emergencies. This may in turn reduce maternal morbidity and mortality and decrease preventable costs associated with utilization of emergency rooms, NICUs, and intensive care units (ICUs). Achieving these outcomes will require close collaboration as the network transitions to implementation to identify unmet need and increase access to services across the entire continuum of care.

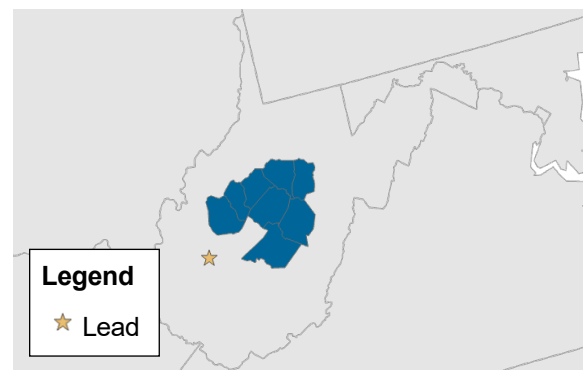
“The communication between network partners is improving the continuum of care, because we’re being very open and honest about what we need in different areas in order to make it not about who the patient belongs to, but more about making sure you’re on that continuum providing what needs to be provided at that given time.” - RMOM-SMP Clinician

## WEST VIRGINIA RURAL MATERNITY AND OBSTETRICS MANAGEMENT STRATEGIES COLLABORATIVE

The West Virginia Rural Maternity and Obstetrics Management Strategies Collaborative (WV- RMOMS) plans to increase service capacity, support services, and provider collaboration to address gaps in care and improve maternal and infant health outcomes in central West Virginia, a high-poverty region with limited access to maternal health care.

### Awardee Service Area and Landscape

WV-RMOMS serves Braxton, Calhoun, Gilmer, Lewis, Nicholas, Roane, Upshur, and Webster Counties. The network estimates that over 19,000 women of reproductive age (approximately ages 15- 49) live in the eight counties and that over a thousand births take place each year. WV-RMOMS identified numerous health challenges and access barriers in the region, including late entry to prenatal care, high rates of smoking and substance use during pregnancy, high poverty, and limited transportation. Infant mortality rates are over twice as high for Black infants compared to white infants,



reflecting racial disparities in health outcomes within a predominantly white overall population.

## **Network Structure**

The network's lead organization, the West Virginia Perinatal Partnership, has a long history of maternal and infant health strategic initiatives in the state. This quality collaborative now oversees the WV-RMOMS network, which contains the following partners:

**Hospitals:** Hospital partners include St. Joseph Hospital (CAH offering prenatal care and delivery), Stonewall Jackson Memorial Hospital (general hospital offering prenatal care and delivery), Webster Memorial (CAH offering prenatal care), Braxton County Memorial Hospital (CAH offering prenatal care), Summersville Regional Medical Center (CAH offering referrals), Roane General Hospital (CAH offering referrals), and Charleston Area Medical Center (tertiary medical center offering Level III maternity care and a Level IV NICU).

**Prenatal care:** Four FQHC networks covering multiple locations provide referrals and/or full prenatal care services, including Community Care of West Virginia (contraception and referrals), Minnie Hamilton Health System (establishing new prenatal care practice), New River Health Association (prenatal care), and Camden on Gauley (contraception and referrals).

**Support services:** Support services partners and provider associations include West Virginia Bureau for Medical Services (Medicaid), West Virginia Healthy Start/Helping Appalachian Parents and Infants (HAPI), West Virginia Home Visitation Program, Partners in Health Network, Inc., West Virginia Primary Care Association, West Virginia Health Information Network, and West Virginia Health Network.

The network may expand to additional partners, including clinical sites affiliated with current partners, and other sites expect to expand services as part of their RMOMS participation. Some partners, particularly the non-delivering hospitals, are still defining the scope of their participation as of August 2022, while others are navigating how their hospital affiliations and ownership status will affect implementation of their RMOMS strategies. Active hospital merger and acquisition processes in the region may continue to impact RMOMS partnerships in future years. The network is establishing a governing council to provide strategic oversight and create opportunities to gather input from all network partners, and the network overall hopes to reduce competition between participating sites and drive collaborative progress on network strategies.

## **Goals and Strategies to Improve Maternal Health**

WV-RMOMS is planning four primary strategies to improve maternal health:

- Open new prenatal clinics and expand access to prenatal care services, including sonography and fetal monitoring;
- Establish a “mother navigator” program to connect RMOMS participants to

clinical and support services in the community;

- Create new supportive and educational services, including lactation consultation and doula care, and increase referrals to existing services in the community; and
- Establish a telehealth MFM model to increase access to specialty care for women with high-risk pregnancies.

The network has seen early progress in increasing awareness of preexisting support services in the community and in training doulas, lactation specialists, and childbirth educators. The doula care strategy also receives external grant support that will help fund training for birth and postpartum doulas. As implementation progresses, WV-RMOMS expects network partners to customize the RMOMS initiatives with support from the lead agency. For example, some clinical sites are supporting the network's goal of expanding access to care by rolling out mobile clinics in remote areas with limited transportation, while others will hire staff at existing brick-and-mortar clinics. Network hospitals may also customize the telehealth MFM initiative to fit their established referral patterns. Some network hospitals will refer patients to MFM services at West Virginia University Medicine, one of three large health systems in the state that owns several RMOMS hospitals, while others will refer to Charleston Area Medical Center, another large health system and a formal RMOMS network partner.

The network hopes that focusing on improving access to care and support services will result in increased rates of breastfeeding and smoking cessation and decreased rates of Cesarean sections, preterm birth, and low birthweight, among other goals. Overall, the network strategies aim to improve access to comprehensive clinical and wraparound services for a rural, high-poverty population throughout the continuum of care from pregnancy to postpartum.

“In this world of competition, how can we network...and not feel as though we're competing with each other? Because the goal is to provide care for women - that should always be our final goal.”  
- WV-RMOMS Clinician

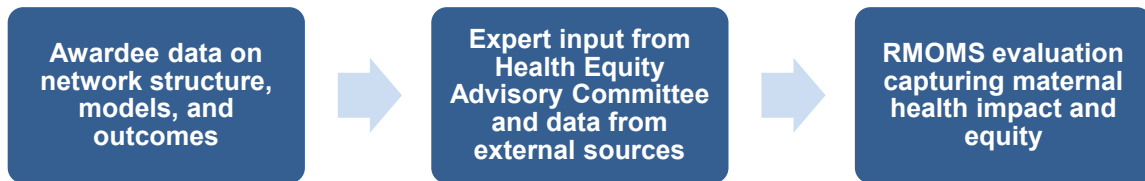
## ASSESSING THE IMPACT OF THE RMOMS PROGRAM

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FORHP contracted Mission Analytics Group, Inc. and Westat Insight to conduct an independent evaluation of the 2021 Cohort of the RMOMS program. The evaluation thoroughly documents network models and implementation facilitators and barriers to support future replication. In addition, it assesses network impact on utilization of key services over time, such as the receipt of prenatal care in the first trimester and referrals to behavioral health services. The evaluation captures changes in major health outcomes, including maternal morbidity and mortality, as well as high-cost outcomes, such as NICU stays. Finally, the evaluation of the 2021 Cohort includes a strong focus



on health equity activities and disparities in maternal health outcomes. Subject matter experts in maternal and/or rural health participate in a formal Health Equity Advisory Committee to provide guidance on incorporating health equity principles into the RMOMS evaluation activities and publications. Overall, the evaluation will capture how network models can potentially improve maternal health outcomes, address health disparities, realize financial savings, and achieve long-term sustainability.



The evaluation relies on both quantitative and qualitative primary and secondary data. Every six months during the implementation years, awardees submit patient-level data on RMOMS participant demographics, clinical and support services, and maternal and infant health outcomes. They also submit aggregate measures through HRSA's Performance Improvement Measurement System (PIMS). These data are used to describe awardee populations and track service utilization and health outcomes. Awardees submit annual progress reports and network-level measures that demonstrate the breadth and reach of their networks. The evaluation also conducts interviews and site visits to discuss awardees' models across the continuum of care and from multiple perspectives, including staff and clinicians. Finally, the evaluation draws insights from secondary data, including national vital statistics data, peer-reviewed publications about rural and maternal health topics, and publicly available data on health disparities in the awardee service areas.

The evaluation will produce the first Annual Report for the 2021 Cohort in 2023, which will cover the awardees' planning year (September 2021 to August 2022). It will also examine the awardees' maternal health landscapes and analyze data on maternal health outcomes prior to program implementation. These findings will provide context about each awardee's environment and may serve as a baseline for future analyses that assess the impact of the RMOMS program.

The evaluation will generate findings for a wide audience of policymakers, health and social services agencies, direct services providers, and public stakeholders to encourage the replication of successful approaches. Public webinars and topic-specific issue briefs will address the impact of coordinated networks on maternal health care utilization and outcomes. These activities will contribute to the national conversation about improving rural maternal health.

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