Evaluation of the Rural Maternity and Obstetrics Management Strategies Program: First Annual Report

Executive summary

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HRSA

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EXECUTIVE SUMMARY

The Rural Maternity and Obstetrics Management Strategies (RMOMS) program was launched in 2019 to improve maternal health in rural areas as part of the Department of Health and Human Services' (HHS) Improving Maternal Health in America initiative. The program, which is funded by the Health Resources and Services Administration (HRSA) through the Federal Office of Rural Health Policy (FORHP) and the Maternal and Child Health Bureau (MCHB), uses network models to increase access to maternal and obstetrics care in rural communities and to improve health outcomes for mothers and infants.

Three networks were funded through September 2023 to implement the RMOMS program: the Missouri Bootheel Perinatal Network (BPN), the New Mexico Rural Obstetrics Access and Maternal Services (ROAMS) Network, and the Texas-RMOMS Comprehensive Maternal Care Network (TX-RMOMS). Their models address the four focus areas of the RMOMS program: 1) aggregation of low-volume rural hospital obstetric services; 2) a network approach to coordinate and improve maternal health care from preconception to postpartum; 3) telehealth services to increase access to care in rural areas; and 4) payment structures that promote financial sustainability for access to high-quality maternal care.

FORHP contracted Mission Analytics Group, Inc. to conduct an independent evaluation of the RMOMS program. The evaluation will document the awardees' models, assess each network's impact on access to care and maternal health outcomes, and identify lessons learned to support future replication of the models. The mixed-methods evaluation draws on qualitative data, including awardee interviews and documentation, and quantitative data, including data provided through HRSA's Performance Improvement Measurement System (PIMS), patient-level data submitted by awardees, and secondary data that provide context for the program.

This first Annual Report follows the awardees' planning year (2019-2020) ahead of full implementation in 2020-2021. It also examines baseline data on maternal and neonatal outcomes in the awardee service areas prior to program implementation. This summary first provides an overview of the RMOMS awardees and their planned approaches to the program. It then turns to the early lessons learned and next steps for the evaluation.

A. The RMOMS Service Areas, Networks, and Services

RMOMS Service Areas Face High Rates of Poverty and Low Use of Prenatal Care

The three RMOMS service areas—the southeastern "Bootheel" of Missouri, northeastern New Mexico, and southwest Texas—face common challenges for women and mothers. In all three areas, 35–39 percent of households have incomes below the poverty line.[1] All three service areas are worse than national averages for rates of inadequate prenatal care and rates of preterm birth and low birthweight vary significantly across the three awardees.[2]

At the same time, the three awardees also reflect the diversity of rural experiences in the United States. The BPN service area in Missouri has a higher population density than the other two service areas, while in the ROAMS service area, 9,400 women of childbearing age spread over almost 14,000 square miles and an extensive mountain range. The population majorities in both

the ROAMS and TX-RMOMS service areas are Hispanic. The population majority in BPN's service area is White but also has a large share of individuals who are Black.[1] Medicaid covers 71 percent of births in New Mexico, which has a relatively high income threshold for pregnant women. In Missouri, 38 percent of births are Medicaid-covered, compared to 53 percent of births in Texas.[3] New Mexico is a Medicaid expansion state; Texas is not. Missouri recently voted to expand Medicaid in a 2020 ballot referendum.

The RMOMS Awardees Use Different Network Approaches, although Hospitals Are the Lead Agencies for All Three

Hospitals or hospital systems serve as the lead agencies for the RMOMS networks; for two of the three awardees, the lead hospitals are outside the RMOMS service area. TX-RMOMS is led by University Health (UH), a large hospital system in metropolitan San Antonio. BPN is led by Saint Francis Medical Center, a tertiary center with 300 beds located just north of the southeast Missouri service area. Only ROAMS is led by a hospital within its service area; Holy Cross Medical Center is a Critical Access Hospital (CAH) with 25 beds based in Taos, New Mexico.

The network approaches are as follows:

- **TX-RMOMS:** The TX-RMOMS network includes UH and two rural health systems as the only formal partners. This network mimics a hub-and-spoke model, where UH, a large urban hospital system, receives patient referrals for advanced specialty care from Uvalde Memorial Hospital and Val Verde Regional Medical Center while supporting the rural hospitals on capacity-building efforts.

- **ROAMS:** In the ROAMS model, patient care is provided by smaller networks of providers within the larger network. These smaller networks coordinate with each other on capacity building, advocacy, and marketing. The three participating hospitals in ROAMS are CAHs and only two offer labor and delivery services. However, the network has a robust set of support services partners and an active university partner to support data and evaluation activities.

- **BPN:** All providers in BPN's network share patient referrals and provide support and expertise. The network includes: three hospital-based systems that offer prenatal, labor and delivery, and postpartum services; a large Federally Qualified Health Center (FQHC) network of medical, dental, and school-based clinics; six county health departments; two home visitation programs; a technical assistance partner; and three behavioral health agencies.

Awardees Tailored RMOMS Services to Local Needs and Focused on Care Coordination, Telehealth Services, Expanded Access, and Provider Capacity Building

Patient navigation and/or care coordination are central to all RMOMS network models. Each awardee has also developed at least one telehealth strategy to improve access to care, particularly for women with high-risk pregnancies and/or transportation barriers. TX-RMOMS and ROAMS are working to expand the availability of clinical services, while BPN's network already integrates a wide range of service providers. All three have also rolled out or are planning capacity-building efforts with local providers. These efforts are summarized below.

Care Coordination: The awardees have adopted structured patient navigation/care coordination models. The BPN model is perhaps the most robust care coordination model among the three awardees. However, it is currently limited to women who are referred to maternal-fetal medicine (MFM) services for high-risk pregnancies, which reflects the phased approach BPN developed to improve implementation and successful data collection. Spanning the entire continuum of care, the program has a structured patient flow, including standardized risk assessments, navigation of insurance and transportation options, and referrals to home visitation services. It will be expanded to include additional high-risk women in future implementation years. ROAMS also uses a formal patient navigation structure based on an existing framework developed by the Pathways Community HUB Institute. The Pathways model incorporates reimbursable patient navigation services, thus increasing the long-term sustainability of the initiative. ROAMS patient navigators will collaborate across clinical sites to improve referrals to underutilized social supports in the community, such as lactation consultation and home visiting. TX-RMOMS has a Perinatal Patient Navigator who liaises between local care teams and the UH-affiliated MFM specialist and also uses care coordinators based in the participating rural clinics to assist patients with appointments, manage insurance issues, and provide patient education and support.

> **Care Coordination Models**
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> BPN: Internally developed, highly structured
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> ROAMS: External model, tailored to local setting
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> TX-RMOMS: Internal model with focus on referrals to UH

> "The model and strategy that we selected for our program is to implement patient navigation, and through that, improve continuity of care for all women from preconception through the duration of their pregnancy and postpartum care."
> – TX-RMOMS Leadership

Telehealth: The COVID-19 pandemic has hastened the adoption of telehealth nationally, but the pandemic created challenges to launching telehealth for the RMOMS awardees, especially in coordinating across network sites without the benefit of in-person site visits. ROAMS has made the most progress in structuring its telehealth intervention, which will enable women who have no nearby access to services to participate in regular prenatal visits via telehealth. ROAMS' plan includes an expansion of clinic telehealth capacity for prenatal visits, home telehealth kits for pregnant women, telehealth MFM services, and Grand Rounds and provider training opportunities. In TX-RMOMS, the lead agency will serve as the telehealth hub for high-risk pregnancies. MFM providers employed at UH will provide telehealth appointments to women living in the rural service regions. TX-RMOMS is working to resolve issues with network connectivity and security between clinical sites to launch this component in the first RMOMS implementation year. BPN is using a different approach to telehealth. The network will use a county health department as the "hosting site" for telehealth, bringing women to the health department clinic to connect from there with an obstetrician-gynecologist (OB/GYN) or specialist provider. BPN has made progress in educating providers, but

> **Shared Telehealth Goals**
>
> - Reduce geographic barriers to prenatal and postpartum care
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> - Promote access to specialists for high-risk pregnancies
>
> - Improve on unexpected COVID-19 telehealth progress

the network is still in the planning phase in terms of contracts and equipment purchases.

Service expansion: TX-RMOMS is filling service gaps by hiring more clinical staff at network sites and establishing additional partnerships to keep women in the network for care. At one of the rural hospitals, TX-RMOMS hired a new full-time OB/GYN and a prenatal case manager. In the other part of the network's service area, a partner clinic that does not offer prenatal care established a formal partnership and data-sharing agreement with a local private practice so that women can receive prenatal care locally. The clinic will use a case manager and a behavioral health consultant to support this relationship and manage clinical data. ROAMS is also embarking on a significant expansion of prenatal

> "I am really excited about [the ROAMS program]…I wish I'd had this my entire career to be able to do this type of medicine."
> – ROAMS Clinician

care. The network will extend services through two new prenatal clinics: one located near the network's lead agency and one in a remote area far from existing services. Clinical staff from the ROAMS hospitals will staff the two new clinic sites using a combination of in-person clinic days and telehealth. Like TX-RMOMS, ROAMS' staffing approach effectively keeps the expanded prenatal care services "in-network."

RMOMS Awardees Submitted Baseline Data for Different Populations

Data from women served by the RMOMS networks during the September 2019 to August 2020 planning year (the baseline period) provide a pre-RMOMS intervention baseline to monitor the effects of the RMOMS interventions over time. However, because each awardee has a unique network model, the baseline populations differ across the awardees. ROAMS had the broadest scope for reporting and provided data on all women who received pregnancy, delivery, and/or postpartum care through the network in the year prior to RMOMS implementation. BPN reported baseline data just for the women who were referred to MFM services at Saint Francis Medical Center to match the population they will serve in the initial months of implementation. TX-RMOMS included women who received maternal care at the network's two rural hospitals.

These differences in reporting are reflected in the tables below, which present selected measures from the baseline patient-level data. Most women served by network participants in the year prior to RMOMS implementation were between the ages of 21 and 35, although about one in six of BPN's high-risk group was older than 35. ROAMS had the highest percentage of Medicaid-insured women (71%) compared to 64 percent in BPN and 39 percent in TX-RMOMS. Only TX-RMOMS had a notable share of uninsured women (24%) in the baseline period.

Table ES-1: Maternal/Clinical Populations Reported in the Baseline Period Prior to Implementation

Characteristic	BPN	ROAMS	TX-RMOMS
Women who…	Received an MFM referral at Saint Francis	Received maternal health services from network partners	Received maternal health services at the two rural hospitals
Total reported (n)	106	467	1,644
Age in years			
20 or younger	--	17%	13%
21–25	28%	26%	32%
26–30	34%	29%	29%
31–35	20%	17%	17%
36–39	16%	11%	6%
40 or older	--	--	2%
Missing	2%	0%	0%
Health insurance status			
Medicaid	64%	71%	39%
Private insurance	36%	28%	22%
No insurance/uninsured	0%	0%	24%
Unknown	0%	<1%	15%

Source: Patient-level data submitted by the awardees in December 2020 and January 2021. The baseline period was September 1, 2019 to August 31, 2020.

The baseline data also captured infant health outcomes and key prenatal and postpartum care metrics for women who delivered during the baseline period prior to RMOMS implementation. Consistent with its high-risk population for reporting (those referred for MFM care), BPN had high shares of deliveries with low birthweight (29%) and preterm birth (25%) as well as longer maternal hospital stays. ROAMS' baseline data align with the rates found in national data for its service area.[2] Among the ROAMS delivery population in the year before RMOMS, 11 percent of deliveries experienced preterm birth and a similar share had low birthweight infants. TX-RMOMS had the largest number of deliveries during the baseline period, but experienced reporting challenges at participating clinical sites that affected the prenatal and postpartum visit data submitted by the network. Data on infant health outcomes and prenatal and postpartum care utilization are incomplete as a result and are not included in the table below.

Table ES-2: Infant Health Outcomes and Prenatal/Postpartum Care Utilization Among the Delivery Populations in RMOMS Service Areas in the Baseline Period Prior to Implementation

Metric	BPN	ROAMS	TX-RMOMS
Total who delivered (n)	87	264	1,230
Infant health outcomes			
Low birthweight	30%	13%	6%
Preterm birth	25%	11%	15%
Prenatal and postpartum care utilization			
Prenatal visit(s) in first trimester	71%	64%	NA
Hospital stay of fewer than 5 days	89%	98%	99%
Postpartum visit within 12 weeks of delivery	80%	76%	NA

Notes: For TX-RMOMS, gestational age information was missing for 52 percent of the deliveries, and birthweight was missing for 39 percent of the deliveries. Preterm birth is before 37 weeks gestation. Low birthweight is less than 2,500 grams. Source: patient-level data submitted by the awardees in December 2020 and January 2021. The baseline period was September 1, 2019 to August 31, 2020.

B. Lessons Learned during the Planning Year

This Annual Report is the first step in a larger evaluation to assess the impact of the RMOMS network models on health care access and outcomes. Below we present some lessons learned from the planning year.

- **Strong leadership promoted network engagement**: Leaders leveraged their familiarity with the provider landscape and local maternal health challenges to drive progress. BPN and ROAMS also built on longstanding personal and professional relationships with network partners. The awardee lead for TX-RMOMS was not local, but leveraged its role in providing specialty care to other hospitals in the area to promote the growth of the network.

- **Awardees emphasized collaboration as a strategy to increase service utilization**: Some partners expressed initial concerns about losing market share due to network efforts, but leaders assuaged these concerns by emphasizing the goal of promoting the services currently available. This collaboration required effective communication through formal workgroups, as well as ongoing ad hoc communication. Awardees had initially planned to communicate through in-person meetings, but they effectively pivoted to virtual meetings with the onset of COVID-19.

> "[Partners] are really staying at the table because they are seeing the value in using the resources more efficiently instead of throwing in another resource that ultimately is going to cause them to have more competition."
> – BPN Leadership

- **Network composition fluctuated during the planning year**: BPN and ROAMS both lost hospitals from the network. These systems were headquartered outside of the service areas and lacked local engagement. In ROAMS, this shift opened an opportunity for a

new partnership with the state's flagship university to assist in data and evaluation efforts. TX-RMOMS did not lose any network partners, but its leadership has identified important providers in the area that must be included in the network to ensure continuity of care for local mothers.

- **The RMOMS focus areas require networks to implement multiple initiatives at once**: The awardees are implementing direct service expansion, telehealth, and patient navigation at the same time. ROAMS has made the most initial progress on this joint implementation, likely from a combination of effective stakeholder input, an upfront focus on sustainability and measurement, and the use of external resources to support a major goal of patient navigation. BPN and TX-RMOMS have rolled out implementation in a more phased approach. BPN strategically launched the system care coordination strategy first with a small subset of women, while TX-RMOMS focused on hiring staff to bolster clinical capacity in advance of full implementation.

- **Awardees benefited from greater acceptance of telehealth**: COVID-19 slowed implementation, diverted time and resources, and limited in-person services and communication. However, telehealth increased dramatically during the pandemic. Awardees reported that both providers and patients became more open to virtual platforms and that there are now fewer reimbursement requirements and administrative hurdles. As a result, telehealth efforts have taken off faster than expected and awardees have identified areas where the RMOMS program can address gaps and support unique telehealth needs related to pregnancy.

- **Successes are already being realized**: Even though network impact was not a focus for this Annual Report, some examples of early successes emerged. TX-RMOMS reported that having the resources to bring on an OB/GYN and case manager increased satisfaction of women who chose the rural health clinic for their prenatal care. At BPN, the system care coordinator was finally able to connect women to desperately needed transportation services to make their MFM appointments. Finally, ROAMS notes that the network succeeded in establishing a partnership between two hospitals in the area that have unsuccessfully tried to partner in the past.

> "I think at a high level, we've achieved a remarkable amount, especially during COVID times…with the diverse networks that we have, I've been really impressed with people doing what it takes to move it forward. I'm astounded that we have accomplished as much as we have." – ROAMS Leadership

C. Next Steps for the Evaluation

The first year of the RMOMS program was a planning year. As awardees implement their models, the evaluation will follow the work of the awardees through interviews, patient-level data, and other data sources. Future rounds of the evaluation will rely more heavily on maternal access and outcomes metrics from the patient-level data, including maternal health indicators that were not feasible to capture during the baseline period. The next year of the evaluation will also deepen the focus on payer issues and sustainability. It will incorporate interviews with state

Medicaid officials to learn more about Medicaid's interaction with RMOMS and to explore possibilities for a future quantitative analysis of Medicaid claims data. Going forward, the evaluation will also delve more into the role and structure of rural health networks in maternal health care to understand how they impact implementation of the RMOMS program. These evaluation components will support HRSA in promoting the replication of effective rural maternal health models.

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