Thank you for joining today’s webinar. We will begin promptly at 11:00 am Central.
Housekeeping

- Slides are available at www.ruralhealthinfo.org/webinars/rmoms-evaluation

- Technical difficulties please visit the Zoom Help Center at support.zoom.us

If you have questions…

![RHI Hub](image_url)
Featured Speakers

Elizabeth (Ellie) Coombs, MPP, Senior Associate, Mission Analytics Group, Inc.

Elizabeth (Liz) Crane, MPH, Senior Research Analyst, Mission Analytics Group, Inc

Claire Wilson, Ph.D., Director, Human Services Research, Insight Policy Research

RURAL MATERNITY AND OBSTETRICS MANAGEMENT STRATEGIES (RMOMS) PROGRAM: HIGHLIGHTS AND LESSONS LEARNED FROM THE PLANNING YEAR (2019 – 2020)

July 21, 2021
AGENDA

1. Welcome
2. Overview of the RMOMS Program
3. Understanding the Maternal Health Landscape
4. Evaluation Design
5. Findings from the Planning Year
   - Network Structure and Strategies
   - Patient-Level Data in the Baseline Period
   - Looking Ahead

OVERVIEW OF THE RMOMS PROGRAM


RMOMS SUPPORTS MATERNAL HEALTH IN RURAL AREAS

- Funded by the Health Resources & Services Administration (HRSA)
  - Federal Office of Rural Health Policy (FORHP)
  - Maternal and Child Health Bureau (MCHB)
- Three awardees funded and evaluator selected
- Period of performance: September 2019 - August 2023

MAJOR GOALS OF THE RMOMS PROGRAM

- Network approach to coordinate care
- Telehealth to improve care access
- Improve access to maternal care in rural communities
  Improve health outcomes for mothers and infants
- Financial sustainability
- Aggregation of low-volume services
RMOMS AWARDEES IN THREE STATES

- Bootheel Perinatal Network (BPN) in Missouri
- New Mexico Rural Obstetrics Access and Maternal Services (ROAMS)
- Texas-RMOMS Comprehensive Maternal Care Network

THE EVALUATION TEAM

- Mission Analytics Group, Inc.
  - Insight Policy Research
  - Summit Consulting, LLC
- Subject Matter Experts
  - Marian Jarlenski, PhD, MPH
  - Elliott Main, MD
UNDERSTANDING THE MATERNAL HEALTH LANDSCAPE

CHALLENGES FACING RURAL WOMEN

Social Determinants of Health for Rural Populations

- Higher rates of housing insecurity, poverty, and food insecurity\(^1,2\)
- Lower life expectancy and higher mortality rates from all leading causes of death\(^1,2\)
- Hospital closures more likely in low-income rural areas and rural areas with more people of color\(^3,4\)

Maternal Health Challenges

- Increasing rates of opioid use disorder\(^5\)
- Higher rates of unplanned pregnancies\(^6\)
- Long distances to prenatal and delivery care\(^7\)
- Higher rates of preterm birth in rural areas, especially for non-Hispanic Black women\(^8\)
RURAL AND RACIAL DISPARITIES IN MORTALITY

- Pregnancy-related deaths are higher in rural areas compared to metropolitan areas, especially for Black and American Indian/Alaska Native women (see figure from GAO-21-283)\(^9\)
- Severe maternal morbidity (SMM) was higher in rural hospitals than urban hospitals for Texas, Missouri, and New Mexico in 2018\(^10\)

Note: Metropolitan counties include counties with populations of 2,500-49,999. Noncore: non-metropolitan counties that do not qualify as metropolitan.

REIMBURSEMENT AND ACCESS TO CARE CHALLENGES IN RURAL AREAS

- Rural hospital and obstetric unit closures\(^6\)
- Challenges staffing obstetric specialists\(^6\)
- Low Medicaid reimbursement rates\(^3\)
- Lack of readiness to handle obstetric emergencies\(^3\)

Only 6% of OB/GYNs practice in rural areas.\(^11\)
ISSUES AFFECTING RMOMS Awardees

- Hospital closures:
  - Texas has experienced the most rural hospital closures of any state\textsuperscript{12}
  - About a quarter of rural hospitals in Missouri and New Mexico are at “high financial risk”\textsuperscript{13}
- Awardee regions have higher levels of poverty and unemployment compared to their states overall and rural areas within their states\textsuperscript{14}
- Populations of color experience worse maternal health outcomes in awardee states

EVALUATION DESIGN
TYPES OF DATA INFORMING THE EVALUATION

<table>
<thead>
<tr>
<th>Group</th>
<th>Interviews/ Site Visits</th>
<th>Progress Reports/ Program Documents</th>
<th>Network Measures</th>
<th>Patient-Level Data</th>
<th>Medicaid Claims*</th>
<th>Secondary Data</th>
</tr>
</thead>
<tbody>
<tr>
<td>Network Approach to Coordinating Care</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Delivery and Access to Services</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Maternal and Neonatal Outcomes</td>
<td></td>
<td></td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Financial Sustainability and Viability</td>
<td>●</td>
<td></td>
<td>●</td>
<td>●</td>
<td>●</td>
<td></td>
</tr>
</tbody>
</table>

*If exercised or used.
UNDERSTANDING THE PATIENT-LEVEL DATA

Five categories of data to report during implementation:

- Demographic data
- Risk factors
- Health behaviors
- Clinical services and outcomes
- Support services

Awardees report common required data elements and select opt-out data elements tailored to their local contexts.

RMOMS POPULATION TYPES

- **Target Population**: Individuals who are targeted to receive any service funded or coordinated by RMOMS
- **Direct Services Population**: Individuals receiving direct services (clinical or support) funded or coordinated by RMOMS
- **Maternal/Clinical Population**: Women who receive any prenatal, labor and delivery, or postpartum clinical services funded or coordinated by RMOMS
METHODOLOGICAL CHALLENGES

- Data reporting challenges
- Limited to pre-post analysis
- Small sample sizes
- Rare events like SMM

FINDINGS FROM THE PLANNING YEAR

SEPTEMBER 2019 – AUGUST 2020
UNDERSTANDING THE NETWORK MODELS

TX-RMOMS

• Large urban hospital system in partnership with two rural health systems
• The large urban hospital receives referrals for high-risk mothers and supports capacity-building at rural sites

BPN (MO)

• Diffuse network of hospital systems, an FQHC network, health departments, and support services partners
• All partners share referrals and support/expertise

ROAMS (NM)

• Three critical access hospitals and four prenatal clinics serving women across a large geographic area
• Partners share expertise, referrals, and participate in shared telehealth efforts

TX-RMOMS NETWORK STRUCTURE

<table>
<thead>
<tr>
<th>Participants</th>
<th>TX-RMOMS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lead Agency</td>
<td>Large hospital system</td>
</tr>
<tr>
<td>Number of Counties</td>
<td>6</td>
</tr>
<tr>
<td>Total Hospitals/Systems</td>
<td>3</td>
</tr>
<tr>
<td>Critical Access Hospital</td>
<td>1</td>
</tr>
<tr>
<td>Other Hospital Type</td>
<td>2</td>
</tr>
<tr>
<td>Other Clinical Partners</td>
<td>2</td>
</tr>
<tr>
<td>Behavioral Health Agencies</td>
<td>0</td>
</tr>
<tr>
<td>Support Services Agencies</td>
<td>0</td>
</tr>
<tr>
<td>Other Partners</td>
<td>N/A</td>
</tr>
<tr>
<td>State Medicaid Program</td>
<td>Medicaid</td>
</tr>
</tbody>
</table>

Notes: Includes formal network partners/affiliates only.
TX-RMOMS TOP STRATEGIES TO IMPROVE MATERNAL HEALTH

- Hire additional health care professionals to meet local demand for MCH services in the rural clinics
- Each rural clinic to include an OB/GYN, care manager, and behavioral health consultant to provide women with comprehensive care from pre-conception through postpartum period
- Train local technicians to do level 2 sonograms

- Consults with MFM specialist allow women with high-risk pregnancies to access advanced levels of care from their local provider’s office
- Telemedicine carts allow local technicians to consult with the MFM specialist as they perform sonograms and interpret the images
- Telehealth training available for network providers
TX-RMOMS TOP STRATEGIES TO IMPROVE MATERNAL HEALTH

- Case managers in the rural clinics:
  - Provide screening and referral for mental and behavioral health services
  - Determine eligibility for Medicaid and WIC and help uninsured women enroll in these programs
  - Provide patient education about healthy behaviors and breastfeeding

- Expand local MCH workforce
- Improve access to specialty care via telehealth and patient navigation
- Implement enhanced case management

TX-RMOMS SUCCESSES AND CHALLENGES

Facilitators
- Increased communication and collaboration among local providers and partners
- Telehealth allowed higher levels of care to be delivered locally
- Process improvements increased early identification of women at risk for pregnancy-related complications

Barriers
- COVID-19
- Multiple EHR systems
- Staffing challenges
ROAMS (NM) NETWORK STRUCTURE

<table>
<thead>
<tr>
<th>Participants</th>
<th>ROAMS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lead Agency</td>
<td>Critical access hospital</td>
</tr>
<tr>
<td>Number of Counties</td>
<td>5</td>
</tr>
<tr>
<td>Total Hospitals/Systems</td>
<td>3</td>
</tr>
<tr>
<td>Critical Access Hospital</td>
<td>3</td>
</tr>
<tr>
<td>Other Hospital Type</td>
<td>0</td>
</tr>
<tr>
<td>Other Clinical Partners</td>
<td>4*</td>
</tr>
<tr>
<td>Behavioral Health Agencies</td>
<td>0</td>
</tr>
<tr>
<td>Support Services Agencies</td>
<td>5</td>
</tr>
<tr>
<td>Other Partners</td>
<td>State university</td>
</tr>
<tr>
<td>State Medicaid Program</td>
<td>Centennial Care</td>
</tr>
</tbody>
</table>

Notes: Includes formal network partners/affiliates only. *Include two new prenatal clinics opened in spring 2021.

ROAMS (NM) TOP STRATEGIES TO IMPROVE MATERNAL HEALTH

- Open new prenatal clinics and obtain new telehealth-ready equipment for existing clinics
- Expand telehealth
- Contract an MFM provider for high-risk pregnancies

Expand access to care
Connect women to social services
Plan for sustainability
ROAMS (NM) TOP STRATEGIES TO IMPROVE MATERNAL HEALTH

Expand access to care
- Pathways patient navigation pilot program
- Hire lactation consultants
- Support social service partners in advertising and outreach

Connect women to social services

Plan for sustainability
- Identify and address reasons why women leave the service area for care
- Improve Medicaid reimbursement and policies
- Complete annual cost analysis and produce cost savings estimates
ROAMS (NM) SUCCESSES AND CHALLENGES

Facilitators

- Strong leadership and engagement
- Community involvement and input from mothers
- Greater acceptance of telehealth during COVID

Barriers

- COVID-19
- Clinician buy-in, especially on telehealth
- Early data collection hurdles

“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

BPN (MO) NETWORK STRUCTURE

<table>
<thead>
<tr>
<th>Participants</th>
<th>BPN</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lead Agency</td>
<td>Tertiary hospital</td>
</tr>
<tr>
<td>Number of Counties</td>
<td>6</td>
</tr>
<tr>
<td>Total Hospitals/Systems</td>
<td>3</td>
</tr>
<tr>
<td>Critical Access Hospital</td>
<td>0</td>
</tr>
<tr>
<td>Other Hospital Type</td>
<td>3</td>
</tr>
<tr>
<td>Other Clinical Partners</td>
<td>1 FQHC network</td>
</tr>
<tr>
<td>Behavioral Health Agencies</td>
<td>3</td>
</tr>
<tr>
<td>Support Services Agencies</td>
<td>2</td>
</tr>
<tr>
<td>Other Partners</td>
<td>6 health departments</td>
</tr>
<tr>
<td>State Medicaid Program</td>
<td>MO Healthnet</td>
</tr>
</tbody>
</table>

Notes: Includes formal network partners/affiliates only.
BPN (MO): TOP STRATEGIES TO IMPROVE MATERNAL HEALTH

- System care coordinator to conduct risk assessments, follow-ups, and referrals
  - Initial focus on high-risk women seen by MFM provider at Saint Francis
  - Reduce immediate barriers to care (e.g., transportation)
  - Standardized risk assessment tools, referrals, and follow-ups

- Telehealth initiative to connect women to OB or specialist providers with hosting based at county health department partner
  - Exploration of technology options and purchase of new equipment
  - Provider education and buy-in
BPN (MO): TOP STRATEGIES TO IMPROVE MATERNAL HEALTH

- System care coordination and supports for high-risk women
- Telehealth
- Provider training and outreach

- Provider training initiative to educate clinicians about women’s lives in the Bootheel and to prepare for obstetric emergencies
- “Virtual tour” of the Bootheel region to describe maternal health challenges and available resources
- Telementoring and training resources for Emergency Medical Services and other providers

BPN (MO) SUCCESSES AND CHALLENGES

Facilitators
- Regular communication and meetings in large and complex network
- Decades of maternal health experience among program leadership
- Focus on social determinants of health

Barriers
- Data-sharing concerns over planned Health Information Exchange strategy
- Concerns about individual partners losing client base

“Hospital expertise [does not] link people to services. If I show up at the hospital, I want to have the best doctors and nurses and hospital that I can, because I need you right then. But if I’m going in for my 10-minute prenatal visit and I don’t have food and I don’t have transportation, and I’ve got four kids that are making me nuts and I can’t get out of bed in the morning, there’s not a whole lot the hospital’s going to do for me. The magic comes in when you can have the community people who understand that and who can help you.”
Shared Areas of Focus

- Care Coordination and Patient Navigation
- Telehealth
- RMOMS Implementation
- Service Expansion
- Improved Provider Capacity

Strategies with Strong Initial Progress

**BPN (MO)**
- Structured care coordination model for high-risk pregnancies
- Telehealth based at health department

**ROAMS (NM)**
- Robust telehealth intervention
- Reimbursable Pathways patient navigation model pilot

**TX-RMOMS**
- Provider workforce expansion
- Stronger patient navigation between and within network partners
PATIENT-LEVEL DATA PRIOR TO IMPLEMENTATION

BASELINE PERIOD: SEPTEMBER 1, 2019 TO AUGUST 31, 2020

AWARDEE PATIENT-LEVEL DATA POPULATIONS

**TX-RMOMS**
Women who received maternal care at either of the network’s rural hospitals

**BPN (MO)**
Women who were referred to MFM services at Saint Francis Medical Center

**ROAMS (NM)**
Women who received pregnancy-related care in the network
OVERVIEW OF PATIENT POPULATIONS PRIOR TO IMPLEMENTATION

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>BPN (MO)</th>
<th>ROAMS (NM)</th>
<th>TX-RMOMS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total reported (n)</td>
<td>106</td>
<td>467</td>
<td>1,644</td>
</tr>
<tr>
<td>Total who delivered (n)</td>
<td>87</td>
<td>264</td>
<td>1,230</td>
</tr>
<tr>
<td>Age (years)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>20 or younger</td>
<td>2%</td>
<td>17%</td>
<td>13%</td>
</tr>
<tr>
<td>21-25</td>
<td>26%</td>
<td>26%</td>
<td>32%</td>
</tr>
<tr>
<td>26-30</td>
<td>34%</td>
<td>29%</td>
<td>29%</td>
</tr>
<tr>
<td>31-35</td>
<td>20%</td>
<td>17%</td>
<td>17%</td>
</tr>
<tr>
<td>36-39 or older</td>
<td>16%</td>
<td>11%</td>
<td>8%</td>
</tr>
<tr>
<td>Health insurance status</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Medicaid</td>
<td>64%</td>
<td>71%</td>
<td>39%</td>
</tr>
<tr>
<td>Private insurance</td>
<td>36%</td>
<td>28%</td>
<td>22%</td>
</tr>
<tr>
<td>No insurance/uninsured</td>
<td>0%</td>
<td>0%</td>
<td>24%</td>
</tr>
<tr>
<td>Unknown</td>
<td>0%</td>
<td>&lt;1%</td>
<td>15%</td>
</tr>
<tr>
<td>RMOMS county residence</td>
<td>100%</td>
<td>89%</td>
<td>80%</td>
</tr>
</tbody>
</table>

Note: The baseline period (prior to implementation) was September 1, 2019 to August 31, 2020.

BASELINE DATA FROM ROAMS (NM) PRIOR TO IMPLEMENTATION

- ROAMS is the only awardee that reported SMM data in the baseline period.
- 16 of 264 deliveries experienced blood transfusion during delivery, an ICU admission, or a hospital readmission within two weeks of delivery.

Severe Maternal Morbidity for Deliveries in the Baseline Period (n=264)

<table>
<thead>
<tr>
<th>SMM Status</th>
<th>Count</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experienced SMM</td>
<td>16</td>
<td>6%</td>
</tr>
<tr>
<td>No SMM</td>
<td>232</td>
<td>93%</td>
</tr>
</tbody>
</table>

Note: 16 deliveries had unknown or missing data for SMM.
SUBSTANCE USE DISORDER AT ONE RURAL HOSPITAL IN ROAMS (NM)

- One critical access hospital within the ROAMS network reported substance use data
- Rates of alcohol, tobacco, and substance use during pregnancy were high, consistent with qualitative interview findings
- ROAMS does not plan to report SUD data in future submissions due to feasibility challenges

### Subset of Delivery Population (n=83)

<table>
<thead>
<tr>
<th>Women with Substance Use</th>
<th>Count</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alcohol abuse or dependence</td>
<td>17</td>
<td>15%</td>
</tr>
<tr>
<td>Tobacco use in pregnancy</td>
<td>12</td>
<td>11%</td>
</tr>
<tr>
<td>SUD</td>
<td>20</td>
<td>18%</td>
</tr>
</tbody>
</table>

*SUD indicates use of opioids, amphetamines, other, or multiple substances (collapsed due to small cell counts).*

BASELINE DATA FROM TX-RMOMS PRIOR TO IMPLEMENTATION

Women with high-risk pregnancies were more likely to have C-section deliveries, although C-section rates were high for all women in the maternal/clinical population

### Delivery Method in the Baseline Period (n=1,230)

<table>
<thead>
<tr>
<th></th>
<th>Not High-Risk Pregnancy (N=797)*</th>
<th>High-Risk Pregnancy (N=315)*</th>
<th>Healthy People 2030 Target*</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N %</td>
<td>N %</td>
<td></td>
</tr>
<tr>
<td>C-section</td>
<td>222 30%</td>
<td>87 34.5%</td>
<td>23.6%</td>
</tr>
<tr>
<td>Vaginal birth</td>
<td>517 69.8%</td>
<td>163 64.7%</td>
<td>--</td>
</tr>
<tr>
<td>Missing</td>
<td>58 7.8%</td>
<td>65 25.8%</td>
<td>--</td>
</tr>
<tr>
<td>Total</td>
<td>797 100%</td>
<td>315 100%</td>
<td></td>
</tr>
</tbody>
</table>

*Note: 118 women in the delivery population were missing the high-risk indicator and are not shown in this table. The C-section target is for low-risk, first-time births: https://health.gov/healthypeople/objectives-and-data/browse-objectives/pregnancy-and-childbirth/reduce-caesarean-deliveries-among-low-risk-women-no-prior-deliveries-mch-06*
BASELINE DATA FROM BPN PRIOR TO IMPLEMENTATION

- Over 70% of the high-risk target population received a prenatal visit within the first trimester
- Most births were before 37 weeks (65%) and low birthweight (64%), reflecting the high-risk population
- Hispanic and Black women were:
  - More likely to have longer hospital stays
  - Less likely to receive timely postpartum depression screenings and postpartum visits

LOOKING AHEAD
NEXT STEPS FOR EVALUATION

- Track awardees as they shift into implementation
- Promote high-quality, complete patient-level data and support awardees in addressing challenges
  - Second data submission: June 2021
- Prepare for interviews with state Medicaid officials
- Begin collecting network measures to capture referrals and partnerships

Dissemination Materials
Annual Reports
Fact Sheets
Webinars

CHECK OUT THE RMOMS WEBSITE!

- More information on the RMOMS program is available from HRSA: https://www.hrsa.gov/rural-health/community/rmoms
THANK YOU!

REFERENCES

Questions?

Thank you!

- Contact us at ruralhealthinfo.org with any questions
- Please complete webinar survey
- Recording and transcript will be available on RHIhub website