Rural Maternal Health Networks: Evaluation Findings from the First Implementation Year of the RMOMS 2019 Cohort – 8/1/2022

Kristine Sande: Good afternoon, everyone. I'm Kristine Sande, the program director of the Rural Health Information Hub, and I'd like to welcome you to today's webinar about the evaluation findings from the first implementation year of the RMOMS program. I'll quickly run through some housekeeping items before we begin. We have provided a PDF copy of the presentation on the RHIhub website and that's accessible through the URL on your screen. And now it is my pleasure to introduce our speakers for today's webinar. Ellie Coombs is a managing associate at Mission Analytics Group, where she directs projects, conducts quantitative and qualitative research, and provides training and technical assistance. She has been the project director for numerous complex projects with the US Department of Health and Human Services, including the Health Resources and Services Administration, HIV AIDS Bureau, the Centers for Medicare and Medicaid Services, the assistant secretary for planning and evaluation, the Office of Women's Health, and the Office of Infectious Diseases and HIV AIDS policy. Her areas of expertise include HIV care delivery, Hepatitis C treatment access and policy, data management and reporting, paid family leave policy, maternal health, and Medicaid funded home and community based services.

Liz Crane is a health researcher at Mission Analytics Group. She focuses on qualitative and quantitative research, program evaluation, project management, and technical assistance for federal clients, including HRSA, the Centers for Medicare and Medicaid Services, the Office of Infectious Disease and HIV AID Policy, and other federal agencies. Her primary research interests include women's health, maternal health and mortality, and Hepatitis C treatment access and policy.

Claire Wilson, PhD, is a social psychologist with more than 15 years of expertise in mixed methods research, program and process evaluation, design, and development, and outcome impact evaluations. As insights project director for the current RMOMS evaluation, she collects patient and provider and network level primary data for the TX-RMOMS awardee, conducts interviews with network administrators, clinicians, and case managers, and contributes to reports and webinars. She also serves as a site lead for the Maternal Opioid Misuse, or MOM, model evaluation for CMS. Dr. Wilson is leading the evaluation of Maryland States Demonstration, which is being piloted in the rural county of St Mary's. And with that, I'll turn it over to Ellie.

Ellie Coombs: Thank you so much, everyone, for joining us today. I'm Ellie Coombs from Mission Analytics Group and I'm here with my colleague from Mission, Liz Crane, and our partner from Insight Policy Research, Claire Wilson. We are the evaluators of the Rural Maternity and Obstetrics Management Strategies, or RMOMS program, and today we'll be presenting on our findings from the evaluation of the first implementation year for the 2019 cohort.

I'll start with an overview of the RMOMS program and the evaluation design, but the bulk of the presentation is going to focus on those first year evaluation findings for that 2019 cohort. The first implementation year spanned from September 1st, 2020 to August 31st, 2021. And we really are trying to focus our lessons learned on aspects that are applicable to you all, to rural healthcare providers that are also interested in collaborating with other partners in their area to improve access to care and quality in maternal healthcare.

RMOMS is a four-year program supported by HRSA, that involves two cohorts. The 2019 cohort is nearing the end of its second implementation year and the 2021 cohort is nearing the end of its planning year. RMOMS aims to improve access to maternal care and improve maternal

health outcomes through network models, so these networks are really striving to promote financial sustainability through better coordination of care across network providers and through the promotion of telehealth services.

And as you can see by this map, our RMOMS awardees are located throughout the US. And today we're going to be talking about those awardees in blue, the TX-RMOMS, ROAMS, which is in New Mexico, and then the Bootheel Perinatal Network or BPN, which is in Missouri. And to give you a flavor of these awardees, I'm going to go ahead and share a video of the BPN network.

Video 1:   I worked here for about seven years and I provided care to patients in the Bootheel. A lot of the patients who are in the Bootheel no longer have access to a hospital close by, and if they have an emergency, they don't have some place close by that can take care of them.

Riding around in the back of an ambulance trying to deliver a child, it's difficult and we increase our chances of delivering a child in the field more and more with every closure of a hospital. As EMS, when we have a call that involves any type of OB, pregnancy, young children, neonates, that is a type of call we are not usually prepared for. Where I work is a very rural community. There's no real middle ground for us. Our closest neonatal center is approximately an hour away.

A lot of the patients in the Bootheel are at increased risk for both maternal mortality and morbidity and also for bad outcomes for them and their babies. The purpose of this program is really to try to do as much as we can to help them get to their appointments and get the care that they need so that they can have good pregnancy outcomes for both them and their children.

What I've seen so far is that there's a collaboration between just the health department and New Madrid County. We have met different people and they automatically know my name, my role, and everything that I do with the district. And I've never seen them before, but they already know who we are, know how to reach out to us, know how to collaborate. It's actually brought us closer together and had more understanding of what we do in the field compared to just hospital settings alone.

The patients that I see in the Bootheel, a lot of them do have a lot of underlying medical conditions. There's a lot of chronic hypertension. There's a lot of type 1 and type 2 diabetes. Some of these patients have had poor pregnancy outcomes and so this project is to try to prevent some of these emergencies and plans so that these patients can be at the right place for their delivery to optimize their outcomes.

In dealing with the RMOMS program, I'm excited to say that it feels that EMS in general has a voice. We're actually able to express our needs, express our wants, collaborate in trainings with the RMOMS program and it's actually coming to fruition. We're looking forward to obtaining the specialized training that's going to help us in delivering proper patient care and transport for all the patients within this region.

Many of these patients don't necessarily have all the social supports or the financial supports to be able to get them to their appointments. There are a lot of patients that require extra care that can't be given locally. And with this project, they're able to contact these patients and try to

work with them so they can get here and get the care that they need so that we can, again, work with them to do the best for them for their pregnancy.

Ellie Coombs: Okay, so now I will move the evaluation design. Given the differences across these RMOM models and the populations they serve, we are really conducting three separate evaluations, but we do draw on shared findings to disseminate those lessons learned and best practices to help you all in the field. We rely on multiple data sources for the evaluation. We have qualitative data that we're gathering through interviews, and we're really looking forward to doing some site visits this fall to visit the awardees and collect more in depth information from them. And we also review awardee documentation, such as their applications and progress reports. And then we're also using quantitative data, so we have de-identified patient level data, and then also network level measures that are submitted by the authorities. And we do hope to conduct an analysis of Medicaid claims if that activity is authorized.

So while we use many different data sources for the evaluation, the patient level data is really offering us the most complete overview of maternal health access, utilization of services and outcomes for the participants of RMOMS. So these patient level data fall into five main categories, patient demographics, risk factors, health behaviors, clinical services and outcomes, and support services.

Now I'm going to turn to our findings. We have grouped our findings into three concepts, network structure and coordination, network strategies, so what they're doing to improve access to care, and then the populations that they're serving, so that really summarizes our patient level data. Overall, we thought we found that awardees have established unique network models that are really tailored to their local context. That's something we've learned is that no network is the same and they really have a variety of participating providers and locations and different modes of governance and leadership. So now I will hand it off to Claire, who's going to talk more about the network structure and coordination strategies.

Claire Wilson: Thanks, Ellie. Okay, so of the three awardees funded in 2019, BPN has the largest network. It includes two hospital systems, six health departments, three behavioral health agencies, and a home visiting program. The network also includes a hospital in St. Louis. That hospital offers technical advice and referrals for very high risk pregnancies like infants needing surgery at birth. Most deliveries do occur in the rural hospitals, though. Next slide.

The ROAMS network covers the largest and most rural area with mountains serving as a natural geographic barrier. ROAMS includes three critical access hospitals, their affiliated prenatal clinics, and support service agencies. And many women leave the area to deliver in Albuquerque, whether or not they are considered high risk. Next slide.

So the TX-RMOMS network includes two rural health systems and it operates under the leadership of a large urban hospital based in San Antonio. One of the rural health systems is in Del Rio. That's on the Texas-Mexico border. The other is in Uvalde, which is about halfway between Del Rio and San Antonio.

All right, so the network composition has evolved over time for all three awardees. BPN in Missouri had one major hospital system leave the network due to reporting burdens and capacity and competition with the awardee lead. And then in New Mexico, a social service agency partner left the ROAMS network due to staff turnover and capacity constraints. And then finally in Texas, the network recruited two new partners during the first implementation year.

One new partner is a family practice offering prenatal care and the other is a federally qualified health center in Del Rio.

All right, so one of the important questions that we wanted to answer through the evaluation was, what characteristics make for a strong network? We wanted to better understand the added value of a network approach to care because HRSA didn't just fund patient navigation at one site, for example. Instead, it funded multiple organizations to work together in providing better coordinated care. So across the networks, we look for examples of meaningful collaboration on RMOMS activities. So for example, the ROAMS network has clinical providers who are traveling from one site to another to provide care, and that network is also launching a network-wide telehealth initiative and all the partners are working closely together to advocate for Medicaid policy changes. BPN focused its early implementation efforts on one healthcare system with plans for expansion. And TX-RMOMS network hired patient navigators, who follow women throughout their pregnancy, to ensure that they're connected to the services they need, including access to specialists or social support services.

We collected data on referral patterns to understand network strength. And here you can see that out of approximately 500 RMOMS participants, ROAMS partners have made 426 referrals. Those are evenly split between clinical providers and support service providers, so you have both clinical and support service providers working together to comprehensively meet client needs. These referrals are really crucial in rural areas, given that no single provider can meet all their clients' needs. Most clinical providers just don't have the means to provide transportation, housing, and food services supports, and therefore, they really do need to partner with these agencies.

The evaluation team also examined various barriers that awardees faced as they worked to create well-functioning networks. One barrier stemmed from competition among partners operating in the same healthcare market. Concerns about losing patients to a nearby facility meant not all facilities were motivated to collaborate. Data sharing concerns and reporting burdens were also raised. Some partners felt overburdened by the reporting requirements and harbored concerns about sharing data with other parties. COVID-19 was obviously an issue, as partners couldn't get together in person to design strategies and work through implementation issues. In addition, COVID-19 really drained healthcare systems and made it hard to focus on unrelated or extra activities. And finally, awardees reported staff turnover in hiring challenges that placed additional burden on remaining staff.

These challenges notwithstanding, awardees developed various strategies for building and maintaining a strong network focused on improving service delivery for rural women. These strategies include identifying shared priorities, working to ensure equitable engagement of partners across the network, communicating early wins to build local support and awareness, ensuring clinicians engagement in network plans and activities, and finding ways to reduce reporting burdens. I'm going to hand it off to Liz. She's going to provide some more details on some of these strategies.

Liz Crane: Great. Thank you, Claire. Now, I'm going to switch to speaking about some of the specific strategies and initiatives to improve maternal health that have occurred across the three awardees. There are four main groups of strategies that we'll talk about. The first is new service offerings, then we'll speak about patient navigation and support services, then telehealth, and then provider outreach and education. For each of these, I'll speak about what awardees have done so far and go through a few lessons learned from implementation.

When it comes to new service offerings, two awardees have filled in gaps in service delivery. ROAMS implemented two new prenatal clinics, one at an FQHC and one at a critical access hospital, and these sites did not previously offer any prenatal care. TX-RMOMS contracted a new full-time clinician to help enhance existing clinical care. But in contrast BPN, which is a larger network with more available services, that network largely focused on improving referrals to existing services rather than expanding to new ones.

While these new services have generally increased access and reduced drive times by keeping services local, a major goal for all of the networks, awardees have experienced challenges related to staff recruitment and lower utilization than expected. For example, one ROAMS partner that replaced primary care hours with the new prenatal clinic is concerned about the risk of losing revenue due to serving fewer patients overall. The new prenatal clinic is wanted and appreciated, but this challenge may affect future sustainability of the prenatal clinic. Staff recruitment overall, especially for really specialized physicians, continues to be a persistent challenge for all three awardees and for rural areas in general.

For patient navigation and support services, all three awardees have implemented some form of patient navigation to connect women to social services and to clinical care. ROAMS is using a structured model, the Pathways Community Hub Institute, that will facilitate eventual Medicaid, reimbursement, improving sustainability, and they've hired several new family navigators and engaged with lactation consultants to support these goals and to operate in the different counties. BPN also launched an automated referral system called Unite Us, which is used to better track referral completion. TX-RMOMS has done something similar with hiring local perinatal case managers.

So in addition to connecting clients to specialty care, WIC, transportation, and home visitation services, patient navigators can play a really critical role in providing mental health support. Especially because there still tends to be a lot of stigma around seeking formalized support, we've seen that patient navigators can help alleviate stress and talk with women about their concerns, especially in higher risk cases or when they have some form of pregnancy complication. Insurance support has also been a big part of the work for some of the awardees. Navigators can help women enroll in Medicaid, work through prior authorization issues, and connect to services that may be offered through local managed care organizations, and women are often not aware of these resources. Missouri recently expanded Medicaid and the system care coordinator, which is the patient navigator role there, reported that she spends a lot of her time helping RMOMS participants navigate these enrollment and authorization issues. And one challenge that all of the awardees have encountered is that sometimes take up of certain services can be a bit of a challenge. Sometimes RMOMS participants are hesitant to accept support or there can be other barriers to closing the loop and getting the service in place.

So moving on to speak about telehealth, overall, the awardees have been a bit slower to launch their telehealth initiatives. There has been some progress so far, however. BPN and ROAMS have both distributed home telehealth kits and ROAMS has launched a telehealth prenatal visit model to expand outreach to sites that previously did not offer prenatal care and ROAMS and TX-RMOMS have both instituted some updated equipment and these initiatives have rolled out, but there have been some delays. Other delays have been more severe and have extended, even into the second implementation year. For example, ROAMS has an important flagship telehealth MFM initiative, but that is still in progress at the time of this presentation.

Procurement delays have been among the biggest challenges with some of what we just spoke of, but awardee have also faced some resistance from providers in some cases. Sometimes providers are concerned that new services and referral patterns might bypass their care. Others are concerned that the quality of ultrasound images may not be what they're accustomed to and awardees have had to work together to overcome these barriers. And despite those, awardees generally agree that COVID-19 has facilitated telehealth by removing some of the administrative burden and generally increasing provider comfort level with providing care via telehealth. Some awardees have also found it helpful to leverage different funding sources to support telehealth initiatives. For example, one awardee has a USDA grant that has helped offset the high cost of equipment and new technicians. Finally, one awardee has also shared some statistics with partners on telehealth service delivery, emphasizing that when telehealth is offered, more women will receive care locally. And we think this may help increase support for some of the telehealth initiatives. I'm going to ask Ellie to pull up a video from ROAMS highlighting one of their telehealth initiatives.

Video 2:

I'm Jay Fluhman. I'm a family and acute care nurse practitioner in Union County in Clayton, New Mexico.

My name is Timothy Brininger. I'm a physician at Miners Colfax Medical Center and I work in family medicine and obstetrics.

What telehealth offers to our patients is the telemed visit via our clinic to the OB in Raton, which saves the patient three hours driving time round trip.

The ROAMS program is an incredible grant that allows us to provide both telehealth medicine and rural outreach medicine to the obstetrical patients in our area. We have been able to provide them with kits that they can take home with them that allow them to check their blood pressure, check their blood sugar, and provide a lot of data to us so we can much more effectively take care of them with their high risk pregnancies. We also have the ability to see them when they're at Union Hospital in Layton and via a video conference, which allows us to take care of patients when they are close to home, when we can stay here in our office in Raton.

ROAMS has also afforded as the ability to do ultrasounds, which can be transmitted, not only to the OB in Raton, but to the high-risk fetal OB in Albuquerque, Santa Fe, Espanola without travel on the patient's part.

Liz Crane:

Okay. Here we have our next slide related to our final strategy, which is related to education and outreach. BPN has implemented training for emergency medical services, which you saw in the earlier video, and that is partially to help deal with obstetric emergencies and provide important training. ROAMS is advertising local services to promote more women receiving local care in the network, rather than traveling to other facilities outside of the network. And ROAMS has also launched a new pregnancy and post-partum education series for local women. TX-RMOMS has implemented provider training on perinatal cardiac issues, which the network had identified as a particular need among rural providers.

Here are some materials developed for patient education, something that all three of the awardees are working on in some format. Here's an example from BPN on the left and from TX-RMOMS on the right and awardees continue to roll out new initiatives in this realm. Awardees have also turned their focus to health equity, another important subject for the evaluation. This has included participating in training for staff and for clinicians and ROAMS has also hired

patient navigators with lived experience. They also translate materials into Spanish and have conducted a mother's advisory council to gain feedback on how to better serve local moms. And this mother's advisory council has had direct input into some of the strategies the network ended up pursuing. In TX-RMOMS, the network distributes diapers and other supplies at postpartum visits, responding to a social need that the network identified early on.

Now I'll present some of the characteristics of the RMOMS participant populations during the first implementation year. We did collect data during a baseline period as well, but due to changing populations and reporting strategies, we will not be presenting side by side comparisons. Also, the interventions are very new and some of them were launched towards the end of the first implementation year or even into the second implementation year, so these data likely say more about the service area rather than impact on the network, which may be too early to assess.

So on this slide, you can see an overview of the RMOMS populations for each of the three awardees. There's no typical demographic profile of a rural service area here. You can see that ROAMS is the smallest network in terms of population. They served under 500 women for prenatal, labor and delivery, or post-partum care during the first implementation year and you can also see that we report number of deliveries for each awardee here. The share of deliveries out of the total population can vary by awardee due to differences in how they define their populations and in delivery care, availability, and referral patterns. BPN and TX-RMOMS have younger populations in general, with a little less than half being 25 or younger, and when it comes to insurance status, Texas is the only non-Medicaid expansion state at this point, which results in the lowest percentage of women who are on Medicaid insurance and the highest percentage uninsured. Missouri very recently expanded Medicaid and is experiencing some enrollment challenges, so we'll expect this rate to change a bit over time. And for all the awardees, private insurance was the most common insurance type after Medicaid.

We see generally high rates of prenatal care and postpartum utilization in the data. However, we have seen throughout that Black and Hispanic women are less likely to receive a visit in the first trimester and less likely to receive five prenatal care visits compared to other populations. Texas has a low percentage of RMOMS participants with a prenatal visit in the first trimester and we've considered whether this is a data quality or a program quality issue. In the region we know that there are many women who come to the hospitals for delivery and have not received prenatal care within the network or possibly anywhere else. There's typically very little information about their care and it can be challenging to measure program quality when we have an unclear picture of whether that care was received and there can also be data quality issues as well.

RMOMS awardees are also just really beginning to focus on postpartum care. So far, they've been more focused on prenatal care and delivery and sometimes supportive services. They do report a lot of measures that we ask for related to postpartum visits, depression screening, and being offered effective contraception, but it can be hard to get the correct denominator for those measures because we like to capture women who are at least 12 weeks out from their delivery and the awardee consistently tell us that many women either cannot or do not access those postpartum appointments.

We also look at maternal health outcomes data, and in Texas, we see a much higher C-section rate than in the other states, 30% for Texas compared to about 19% for both BPN and ROAMS, and this can be an indicator of a more intense delivery. Rates of severe maternal morbidity for

Texas were roughly in line with national estimates, but the rates for both BPN and ROAMS were several percentage points higher than we might have expected. We do use a slightly different definition of severe maternal morbidity compared to some national definitions. For our evaluation, SMM is defined as one or more of the following, blood transfusion during delivery, ICU admission during delivery, or hospital readmission within two weeks of delivery, and this is one that will continue to monitor over the course of implementation.

As I mentioned before, we also have noted some disparities and outcomes, as well as in access and utilization. This slide shows some data from the BPN network. Rates of pre-term birth were fairly similar for each of the assessed racial and ethnic groups, but non-Hispanic Black women were still more likely to experience preterm birth compared to other groups and they were far more likely to have low birth weight infants.

So as I mentioned earlier, some of the postpartum measures have been a challenge, especially because women sometimes can't access those visits. You can see that some of the rates here are fairly low, especially for contraception and postpartum depression screening. As the RMOMS program progresses and awardees start to focus more on the postpartum period, we hope to see those percentages get up. Now I'll hand it back over to Ellie to give us some lessons learned and some closing remarks.

Ellie Coombs: So, we have definitely faced some challenges in our research, primarily dealing with that patient level data. As we've mentioned, the awardees found it pretty burdensome because the data requires them to extract data from their electronic health records and submit it to us in a specific format. And what we've seen is that a lot of the data elements we're requiring are not captured in a structured way in their EHRs or even if they are, their EHRs don't have easy extraction report writing functions. And so this means that some of the awardees have actually relied on manual data entry so they need to pull up records for participants one by one, and then type that data into an Excel spreadsheet for submission. And as we all know, that's extremely time consuming. It might be feasible if we have a couple hundred clients, but these awardees have hundreds and over a thousand clients, so it's not that sustainable of a strategy.

Also, another challenge that we've faced is that these are networks and so what we want as the evaluation is a comprehensive consolidated participant record across all partners. And so that means that individual partners need to extract the data for their participants, share them with the awardee lead, and then the awardee lead merges that data based on some identifying information and then they submit to us a de-identified consolidated file. And so that process has required a lot of time to develop data use agreements and get legal teams on board and that's just been more time consuming than we initially envisioned.

Also, as Liz said, we had aimed to calculate these measures during the baseline period and then in every implementation year and then track changes over time. And we understand that a change can't necessarily be attributed to the RMOMS program, but we thought, descriptively, we would like to demonstrate improvements over time. But unfortunately, given RMOMS network composition has changed, their target population has changed, we really didn't feel like we could present side by side comparisons from baseline to implementation year and because the first implementation year almost served as a baseline period, given that a lot of those interventions actually started during that period. So moving forward, we hope to be able to do comparisons across the three implementation years, to see any improvement improvements in those measures.

And then finally, we're dealing with small population sizes, so several hundred thousand clients. We really want to calculate these measures by different population groups, by race and ethnicity, by whether the participant experienced a high risk pregnancy. And sometimes the number is just so small we can't meaningfully make these comparisons. That said, despite these limitations, we feel like it's providing us some rich data and we just appreciate so much the time and effort that the awardees have put into submitting these data to us.

In closing, I just want to share with you all the link to the RMOMS website that has our full implementation year report and then executive summary. It's going to be updated throughout the life of the program to add more and more resources as they become available. And now I will hand the presentation back over to Kristine to facilitate the Q & A period.

Kristine Sande: All right. Thank you so much for that great presentation. The first question I see is, what is the governance structure of these networks?

Ellie Coombs: Great. Yeah, I'll take a stab at that and then see if Liz and Claire want anything to add. HRSA awarded the grant to an awardee lead, so one agency that was then responsible for managing the network. And typically it's not the same across all awardees, but typically there is a leadership committee that has representatives from each partner and they may meet on a monthly basis to do project planning, to make key decisions. And then typically, awardees have other planning bodies. So they might have individual work groups to discuss data quality issues or to help launch a new prenatal clinic, say. And then they also just try to get the word out about activities more widely through newsletters, emails, and broader meetings. Liz, you have anything to add there? Claire?

Liz Crane: Yeah. What Ellie said is absolutely correct. And one thing we've seen is that the governance structure can really vary among awardees depending on their needs and on their geographic areas. In the ROAMS network, for example, there are two distinct service regions where women tend to stay localized for their care. And those two areas have a lot of customization for the RMOMS initiatives, but they come together in an overarching governing council and in several work groups that all contribute to network initiatives and strategic planning. That varies among all of the networks and the only real requirement is that each of the partners required in the HRSA application do constitute members of the network.

Kristine Sande: We'll move on to the next question. Can you talk about what is included in those home telehealth kits or share any resources that talk about what to include?

Liz Crane: The home telehealth kits typically include blood pressure cuffs and similar home devices. Sometimes they can include devices for testing blood sugar, managing diabetes, and other conditions like that. We have seen that the home telehealth kits can run into some challenges depending on broadband access or just simply lower utilization than expected. A good way to find out more information about the home telehealth kits used in this cohort will be in the last report that was just published on the HRSA program website recently. That will talk more about the cuff kits that the BPN network is using and then the home telehealth kits that ROAMS has started using through a home telehealth contractor.

Ellie Coombs: Yeah, just to add to that, BPN, they were able to leverage their AIM initiative on hypertension to get funding for those cuff kits. Many of you are probably aware of the AIM programs within your states, and that is what we consider one of the early wins, as one of our recommendations was strive for those early wins to get your partners on board and seeing the benefits and so that was

definitely an early win. They were able to make that partnership with the AIM program and get those tough kids out to their partners very quickly, and so that helped establish their network.

Kristine Sande: Great. Next question. What types of needs analysis were conducted at baseline and were evaluations aligned with such assessments?

Ellie Coombs: Yeah. So as part of their applications, the awardees needed to do some kind of needs assessment to demonstrate the need for the strategies that they were proposing. In terms of our baseline analysis, the measures that Liz presented, we also calculated at the baseline. So during their planning year, we collected patient level data that had information about postpartum visit, prenatal care demographics, so we were able to calculate those measures during the baseline period for comparison over time but as I mentioned, because of the change in the network, we didn't end up doing that. We also have spent a lot of time looking at secondary data related to these areas to get a sense of the challenges that they're facing. And I'm going to, once again, turn that over to Liz to talk about some of the very nice resources we were able to access for that secondary analysis.

Liz Crane: Yeah. We absolutely look at a lot of different sources for the secondary data analysis to get a better picture of the maternal health landscape and some of the specific barriers that awardees have identified in their area. Awardees also conducted their own needs assessments of sorts, although sometimes they were less formal when they completed their HRSA applications. At that time, they identified many problems that they attempted to address with the formation of the RMOMS program and talked about some of the challenges and often the health disparities in the area. We look at those same exact issues in those secondary data sources, and these include national vital statistics data, new index data from the maternal vulnerability index, and from other in indexes, like the area deprivation index, that give us a better picture of some of the social determinants of health challenges that these areas are facing. This has been especially important because as we discussed in the presentation, it was challenging to get complete baseline information from the awardees' baseline year because of how much work was still going into designing and implementing their interventions. We are able to get a good picture of some of the challenges the regions are facing by combining the data we could get from the awardees with some of those secondary sources.

Kristine Sande: All right. Well, thank you. Is the research design and the methods changing for cohorts two and three? And if so, how?

Ellie Coombs: No, that's a great question. The design is not changing very much. We tried, when we picked our data elements that Liz demonstrated, we based those off of literature, what awardees already were collecting off of key maternal indicators. We have lots of feedback from consultants and the awardees themselves and so we think those data elements and metrics will be pretty stable over time with some tweaks. We've definitely learned what's particularly complicated to submit and so we've tried to work around awardees in that situation. But in general, we're sticking with those patient level data elements, the network level measures that Claire was presenting on referrals across partners and the qualitative data collection via interviews and site visits.

Kristine Sande: Great. And then will there eventually be an evaluation that tries to estimate RMOMS impact on things like service use utilization, health outcomes and that sort of thing?

Ellie Coombs: Yeah, that's the goal. By looking at the percent of women with a prenatal visit and the first trimester, percent of women with at least five prenatal visits, hopefully what we'll see over time

is an increase in those percentages, percent of participants with that postpartum care visit. And then in terms of the health outcomes, as Liz was demonstrating, there's the severe maternal morbidity and length of hospital stay and also infant NICU stay. And Liz, what would you like to add to that?

Liz Crane: Yeah, we have several other outcomes that we look at as well. And as we mentioned briefly during the presentation, awardees report core data elements where we hope to assess impact over time. And those also include ones like pre-term birth, low birth weight, and other infant health outcomes. They can also report customized opt-out data elements that better suit their initiatives. But regardless of whether they're required or opt out, we have seen that there are a lot of early challenges in assessing impact, not the least of which a small sample size, especially for some of the rare outcomes. Severe maternal morbidity is already a rare outcome. And when we're dealing with very small awardee populations, sometimes just a few hundred deliveries, it can be challenging to calculate any measure of impact using that data. That being said, we hope to see numbers increase over time or to report impact for some of the awardee with larger populations. And there may be the opportunity to do the Medicaid claims analysis that we mentioned before, which would allow a robust comparison of RMOMS counties to non-RMOMS counties to see if we can assess impact on some of the key outcomes.

Ellie Coombs: Yeah. And I think some examples of data elements that were tricky to report are, we really wanted to assess whether participants are getting screened for behavioral health issues or mental health issues. And if so, are they referred for services? And that's a complex data elements for them to submit and so those are not required. Those are our opt out and we definitely have seen awardees opting out of submitting those data elements. Another one is the lactation consultation though, so awardees that are really focused on trying to connect their participants to a lactation consultant, they're more likely to report that data and track that percentage over time, so we do try to give awardees flexibility in what they report, depending on their intervention.

Kristine Sande: Great. Thank you. I don't see any more questions for you, so I guess we'll wrap up. Thanks again for that great presentation. And thank you also to all of our participants today for joining us. The slides used in today's webinar are currently available at www.ruralhealthinfo.org/webinars. In addition, a recording and a transcript of today's webinar will be made available on the RHIhub website. Thanks again and have a great day.