2023 MAINE PERINATAL HEALTH DISPARITIES NEEDS ASSESSMENT

Prepared by Market Decisions Research

February 2024

TABLE OF CONTENTS

TABLE OF CONTENTS 1

Executive Summary 3

Qualitative Assessment 9

Methodology: BIPOC Focus Groups 10

Key Findings: BIPOC Focus Groups and Interviews 14

Detailed Findings – BIPOC Focus Groups and Interviews 17

Methodology: Rural Focus Groups 40

Key Findings: Rural Focus Groups and Interviews 43

Detailed Findings – Rural Focus Groups and Interviews 47

Demographics: Rural Focus Groups and Interviews 69

Focus Group Discussion Guide 71

In-Depth Interview Guide 78

Perinatal Health Indicators Quantitative Overview 82

Infant Mortality Rate 83

Sudden Unexpected Infant Deaths 85

Preterm Births 85

Low Birthweight 86

Early Prenatal Care 86

Adequate Prenatal Care 87

Maternal Mortality 88

Maternal Postpartum Checkup 89

Postpartum Depression 89

Low-Risk Cesarean Deliveries 89

Maternal Tobacco Use 90

Bibliography 93

Workforce Review 98

Types of Providers 99

Perinatal Providers in Maine 101

State-to-State Comparisons 103

Changes in Perinatal Providers Per Population 104
Workforce Projections 105
Hospital Closures 109
Recommendations 111
Bibliography 116
Appendix A – 2030 Projection for Women of Childbearing Age 119
Appendix B – Levels of Care 119

Community Landscape 121
Background 121
Maps 121
Existing Perinatal Initiatives 130
Bibliography 132

Executive Summary

Background

The Maine Center for Disease Control and Prevention (ME CDC) contracted with Market Decisions Research to conduct the 2023 Maine Perinatal Health Disparities Needs Assessment. This project was funded by the National Initiative to Address COVID-19 Health Disparities Among Populations at High-Risk and Underserved, Including Racial and Ethnic Minority Populations and Rural Communities through the Maine Office of Population Health Equity. MDR received Institutional Review Board (IRB) approval for this project from the University of Southern Maine.

Project Components

This project is comprised of four major elements:

Qualitative Assessment

The qualitative assessment is comprised of two reports that summarize the results of focus groups and interviews held with both rural and Black, Indigenous, and People of Color (BIPOC) Maine pregnant or parenting people. MDR conducted 2 focus groups and 3 interviews with pregnant or parenting people living in rural areas, and 4 focus groups and 9 interviews with Maine pregnant or parenting people identifying as BIPOC. Focus groups and interviews were held either online, in-person at a central location, or in participants' homes. Focus groups and interviews were transcribed and analyzed for reporting.

Results from the qualitative assessment reveal many details about Maine pregnant or parenting peoples' experiences with the perinatal system of care.

Perinatal Health Indicators Quantitative Overview

The quantitative summary compiles secondary data for various perinatal health indicators into an Excel document. The Excel document includes single-year and aggregated data for perinatal health indictors for Maine as well as by demographic breakdown. An accompanying narrative reviews these indicators with a focus on disparities. Key findings from the quantitative summary include:

- Infant mortality rate (IMR) has remained relatively unchanged in Maine; however, disparities exist. Births covered by MaineCare experienced higher rates of death compared to births covered by other insurance providers, and Black/African American and American Indian/Alaskan Native experience higher IMRs compared to their white counterparts.
- The Sudden Unexpected Infant Death (SUID) mortality rate in Maine dropped in 2020 to its lowest level since 2008. Disparities in SUID in Maine are difficult to ascertain due to overall small numbers.
- In 2021, Maine's overall preterm birth rate of was significantly lower than the U.S. average, however, since 2017 the rate of preterm births has steadily increased in Maine, along with the U.S. Relatively high rates of preterm births are seen among Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) participants and Medicaid recipients as reported through Maine's birth certificates. The rate of preterm births to American

Indian/Alaska Native birthing persons in 2021 was higher than any other racial category, and higher than the U.S. national average for American Indian/Alaska Native birthing persons.
- The percentage of low birthweight infants has remained relatively steady (between 7% and 8%) in Maine from 2018 to 2022. Of all racial/ethnic groups, Black/African American birthing persons experienced the highest percentages of infants considered low birthweight.
- In 2022, 83% of birthing persons in Maine received early prenatal care (in the first trimester). White birthing persons in Maine experienced the highest rates of early prenatal care, followed by Asian, Hispanic, American Indian/Alaska Native, those identifying as multiple races, and Black/African American birthing persons.
- The prevalence of smoking during pregnancy is consistently higher in Maine across almost every demographic and socioeconomic category when compared to the national average.
- Limitations exist regarding perinatal data in Maine. These limitations include lack of nuance within quantitative data, small sample sizes when broken down by demographic, and an inability to measure the impact that Covid-19 had on perinatal metrics.

Workforce Capacity

The workforce capacity section of this project documents the landscape of the perinatal workforce in Maine. It includes information on current and projected perinatal health care providers, state-to-state comparison, and recommendations. Key findings from the workforce capacity component include:

- OB/GYNs, family care providers, doulas, certified professional midwives, pediatricians, advanced practice providers, and dentists/dental hygiene professionals are among some of the vital perinatal providers in Maine. The distribution of providers and the availability of services varies across the state, making the landscape of perinatal workforce capacity vastly different based on locale.
- Compared to Vermont and New Hampshire, Maine lags in the number of pediatricians and midwives. While these numbers are discouraging, Maine has higher per population providers of family medicine physicians and OB/GYNs as compared to Vermont and New Hampshire.
- Although the number of perinatal providers in Maine increased between 2008 and 2020, the number of providers per 100,000 population is generally unchanged during the same period. However, the projected numbers of perinatal providers in 2030 may not increase with projected population growth, exacerbating the need to increase and strengthen Maine's perinatal workforce capacity.
- Since 2015, Maine has seen the closure of seven obstetrics units, many of which have been in rural areas. Primary reasons cited by hospital representatives regarding closures include declines in admissions, low volume of births, and/or difficulties retaining workers (Bellavance, 2023; Sambides Jr, 2019; WGME, 2022).
- Gaps and limitations exist within Maine's perinatal workforce. Many of the limitations concern the lack of standardized data collection surrounding perinatal providers.

- Improving or implementing data collection systems, insurance reimbursements, provider incentives, remote consultations, doulas/community health worker services, and connecting existing perinatal resources could help Maine's perinatal workforce capacity.

Community Landscape
The community landscape outlines the perinatal resources across the state of Maine. It includes maps complete with the locations of various perinatal providers, existing funded perinatal initiatives, and a list of perinatal resources across the state. The perinatal care within these maps include OB/GYNs, pediatricians, primary care/family medicine providers, birthing and non-birthing hospitals, non-hospital birthing centers, and midwives. The maps are meant to provide a visual representation of where perinatal care exists across the state.

Recommendations

Based on results of this needs assessment, various recommendations are made regarding Maine's perinatal system of care. Recommendations are outlined here and provided in more detail in their respective sections throughout this report. Specifically, recommendations arise from the qualitative and workforce capacity components of this project.

Recommendations Derived from Qualitative Data Collection

Patient Advocates
Throughout the focus groups and interviews, many participants who were new to Maine and/or did not speak English, stated the need for a patient advocate. They envisioned this advocate being someone they aligned with culturally and pregnancy/parenting experience, and who had also gone through the perinatal system of care in Maine. This type of advocate would help with interpretation, explanation of medical terms, isolation, and more. Based on the need expressed by participants, this advocate could a be friend or family member, a doula, or a community health worker.

Expand/Uplifting At-Home Visitors
Many participants, both rural and BIPOC, expressed the desire to have an at-home visitor, especially during the postpartum experience. The most cited reason that home visitors were not utilized was because participants were unaware that they existed. Participants that did use home visitors, namely Maine Families, could not say enough good about the resources, comradery, and support they provided. Increasing awareness of home visiting organizations would increase utilization and provide a valuable resource for perinatal persons. Additionally, expanding existing home visiting organizations would increase the reach of said programs.

Interpretation/Translation Services
Many participants from the BIPOC focus groups and interviews stated that they were not satisfied with the interpretation they received during medical appointments. Sometimes, medical information was misconstrued in translation and on occasion, participants felt that interpreters were not translating exactly what the medical providers were saying. This led to participants feeling that they were making uninformed medical decisions. Other times, interpreters were provided when participants stated they did not need one. Overall, participants want to be respected when it comes to translation services. They emphasized the need for interpreters that spoke the same language and

dialect as they do and to be in-person when possible. This recommendation could be combined with the recommendation above regarding patient advocates.

Postpartum Care

Many participants shared that they felt support was lacking during the postpartum period. Often, the focus was shifted from them, as a pregnant person, to their baby and they were forgotten about in the process. This was compounded with feeling lonely in the days and weeks after birth. Improving postpartum care, whether through home visiting organizations, postpartum doctor's visits, providing information for postpartum support, or lactation/feeding support.

Engaging with Cultural Brokers

During this project, MDR collaborated with Cross Cultural Community Services (CCCS) to engage Black, Indigenous, and People of Color (BIPOC) individuals into our qualitative data collection process. Engaging community-based organizations (CBO) in work where the goal is to uplift BIPOC voices is widely acknowledged as essential. What is less known is how to go about engaging CBOs in this process. Based on the experience MDR had with their formal cultural broker, CCCS, and their partnership with Maine Families, the following are recommended:

- Reach out to a potential cultural broker early and involve them with any planning possible.
- Follow the broker's lead when it comes to culturally appropriate content. CCCS reviewed and approved our discussion guides for focus groups and interviews.
- Allow the cultural broker to perform recruitment. Provide support in developing email templates or recruitment flyers. Forgoing elements like screeners to collecting demographic information may be necessary to decrease barriers for potential participants.
- Discuss what moderation style will be best. Depending on the participants and/or topic, it may be more appropriate for the cultural broker to moderate. Ensure adequate interpretation services are available.
- Share results back with the cultural broker. Many participants were interested in what data collection would result in. Sharing a final report or summary with the broker will allow them to share it with participants. It is also important to offer information sessions or a presentation of findings with the cultural broker. This allows participants to review the findings from the project, ask questions, and share their thoughts.

Recommendations Derived from Workforce Capacity Section

Remote Consultations

The use of telehealth appointments has increased across the country due to the COVID-19 pandemic. Maintaining this momentum and increasing the use of telehealth for perinatal appointments has the potential to increase access to care for all Maine mothers, especially those in rural areas whose alternative mode of treatment is to travel long distances to obtain adequate care (US Government Accountability Office, 2022).

Doula Services and Community Health Workers

Perinatal health disparities in Maine have been well documented in the 2022 Maine Shared Community Health Needs Assessment Report and the Permanent Commission of Racial, Indigenous & Tribal Populations *Racial Disparities in Prenatal Access in Maine* Report to the Legislature (Permanent

Commission on Racial Indigenous and Maine Tribal Populations, 2022). Doula services not only provide positive birth outcomes for Black and underserved populations but can also help to address the effects of structural racism (Van Eijk et al., 2022). Community health workers (CHWs) provide essential wraparound services for many BIPOC Mainers, and this holds true for those who are pregnant or newly postpartum. While CHWs and doulas themselves cannot address the perinatal workforce shortage, hiring more CHWs and doulas, spreading awareness of and utilizing their services, as well as expanding CHW training to cover maternal and child health issues, will improve the existing perinatal system of care and reduce inequities, especially for BIPOC mothers in Maine.

Establishing Partnerships and Utilizing Existing Resources

The perinatal resources that exist across the state of Maine are often unknown to individuals who would benefit from them. Promotion of these types of resources is vital to increasing utilization and connecting individuals to care and wraparound services that would complement perinatal care. Additionally, coordinating and collaborating across existing resources will help to provide accessible, appropriate, and adequate care to perinatal Mainers, while considering social determinants of health such as income, sexual orientation, and more. Continuing or beginning to convene workgroups, email communication, promoting and advertising resources, and/or conferences on perinatal resources in Maine would facilitate this process.

Data Collection and Quality

The level of data granularity needed to obtain a comprehensive understanding of Maine's perinatal workforce capacity is not currently tracked or collected at a statewide level in Maine. The Department of Labor and the Department of Health and Human Services are exploring options for surveying providers at the time of license renewal. To improve the quality of perinatal workforce data, data of this nature should be collected during any type of healthcare license renewal (Health Workforce Technical Assistance Center, 2016). To reduce the burden of data collected from healthcare professionals, these surveys could be reflective of multiple statewide entities' needs, for example, the Maine CDC, Department of Labor, Department of Health and Human Services, etc. Finally, a comprehensive survey aligned with the Cross-Profession Minimum Data Set could better provide details needed to inform policy.

Financial Incentives for Rural Providers

Currently, the state of Maine offers some financial incentive options for medical providers in rural areas including various loan repayment options and tax credits (Maine Center for Disease Control & Prevention, 2023). Continuing financial-based programs for Maine-based healthcare providers is essential to help bolster the rural perinatal workforce. Working with medical schools, nursing programs, residencies, and other provider training programs in Maine and other parts of New England to promote existing tuition reimbursement and loan relief programs may help to increase the number of healthcare workers interested in living and working in Maine.

Increase the Number of Midwives

While the number of certified nurse-midwives is forecasted to grow by about 3% from 2020 to 2030 (Dawson, 2022), encouraging additional growth within this specialty may help to considerably alleviate existing strain on the broader system of perinatal care in Maine. Expanding midwifery services to primary/family care practices, especially in rural areas, should be considered. The

recommendation to expand midwifery services must be complemented with the recommendation of increasing insurance coverage of midwifery services.

Conclusion

The 2023 Maine Perinatal Health Disparities Needs Assessment provides an overview of perinatal care, patient experiences, workforce capacity, and perinatal resources across the state of Maine. The results and recommendations of this assessment are meant to complement existing efforts and inform new perinatal health initiatives across the state.

This project could not have been completed without various stakeholders and community partners. Market Decisions Research would like to thank the Office of Population Health Equity, Cross Cultural Community Services, Maine Families, and the many perinatal health experts across the state that were closely involved in every step of this Needs Assessment.

Maine Perinatal Needs Assessment: Detailed Qualitative Reports

BIPOC and Rural Populations

February 2024

Prepared by:
Cecelia Stewart, PhD, MPH
Allison Tippery
Hailey Marnell-Bozdag
Frances Tarbell

Market Decisions Research
www.marketdecisions.com
511 Congress Street, Suite 801 · Portland, Maine 04101 · (207) 767-6440

BETTER DATA | BETTER INSIGHTS | BETTER OUTCOMES

Methodology: BIPOC Focus Groups

Background and Research Objectives

The Maine Center for Disease Control and Prevention (Maine CDC) contracted with Market Decisions Research (MDR) to perform a 2023 Perinatal Health Disparities Needs Assessment for the state of Maine. This project contained many elements; this component is focused on qualitative evaluation. MDR collected qualitative data from participants who were either pregnant or recently gave birth in the state of Maine. The overall research objective was to better understand key drivers of maternal health in rural and diverse populations. An important aspect of the project was to ensure the inclusion of diverse and historically underrepresented voices. Specifically, fifty percent (50%) of the project sample was to be inclusive of Black, Indigenous, and People of Color (BIPOC) and/or tribal populations. This specific part of the report focuses on Maine BIPOC populations that were pregnant and/or parenting children younger than three years old.

In 2022, the Maine Children's Alliance conducted qualitative research funded by a Maine Health Access Foundation Systems Improvement and Innovation grant. This previous project also aimed to better understand and explore policies to address racial inequities in maternal and infant health. This project's previous research findings and recommendations were used as a starting point for the qualitative portion of the 2023 Perinatal Health Disparities Needs Assessment. Findings from this project are meant to elaborate on and contextualize the research performed by the Maine Children's Alliance in 2022.

Sample and Recruitment

For the BIPOC-focused qualitative data collection, MDR worked with Cross Cultural Community Services (CCCS). The mission of Cross Cultural Community Services is to promote equitable opportunities for full societal inclusion and advancement of culturally and ethnically diverse communities through education and advocacy. CCCS was the Cultural Broker for the qualitative portion of the project and supported MDR with the following:

- Reviewed and provided feedback on focus group and interview moderator's guides and recruitment materials (email templates, flyers, etc.).
- Recruited pregnant and parenting individuals from BIPOC communities in the Lewiston, Biddeford, and Greater Portland areas and supported logistics of in-person focus groups/interviews with BIPOC individuals.
- Connected MDR with or provided translation services for focus groups.
- Moderated focus groups as needed.
- Reviewed results with MDR and provided expertise on ways to share data with stakeholders as well as with impacted populations.

CCCS hosted three in-person focus groups among Maine BIPOC populations. MDR and CCCS purposefully did not use a screener for the focus group recruitment as a screener would have created a barrier to participation due to language or technology barriers. Instead, CCCS used community-based sampling for recruitment; outreach was done directly to potential participants or through various community partners in the Greater Portland, Lewiston, and Biddeford areas. CCCS also

created flyers and recruitment materials. All participants identified as someone in the BIPOC community who was either currently pregnant or had a child under three years old and had received prenatal care in Maine. Some examples of the different participants' background or ethnicities included Sudanese, Somali, Angolan, Brazilian, American-Born Black, and Congolese.

Additionally, MDR worked closely with the Maine Families Home Visiting Program during qualitative data collection. Maine Families has family visitors partner with parents and parents-to-be to access the information and resources they need to support the physical and emotional health of their baby and the entire family. Maine Families hosted one BIPOC in-person focus group and helped MDR connect with nine participants for in-person interviews. Maine Families also provided translation services when needed.

The Focus Groups and Interviews: Logistics

The BIPOC perinatal discussions included 55 participants across four focus groups and nine in-depth interviews. Individuals who participated in focus groups were compensated $150 for their time in the form of a gift card or cash and interview participants were compensated $75. Data collection occurred from December 2023 to January 2024. Each focus group lasted two hours and each interview was about 45 minutes. All focus groups and interviews were facilitated in person except two interviews that were conducted over Microsoft Teams. All discussions were recorded and transcribed for analysis. In-person interpreters for focus groups were compensated $125.

Focus Group Moderation and Interviewing

A trained MDR moderator and CCCS staff member co-moderated each BIPOC focus group. For the in-depth interviews, a trained MDR interviewer conducted each interview with support from a Maine Families Staff Member. MDR's qualitative data collection approach uses techniques focused on managing group dynamics and sensitive topics. At the beginning of each group and interview, the moderator explained what the participants could expect.

To develop rapport and build trust between the participants, the moderator focused on connecting with participants from the beginning of each group and interview. Every group and interview allowed for introductions of each participant. These steps were critical components of the project and allowed participants to comfortably share their experiences and stories about vulnerable and sensitive subjects. Additionally, the first section was always open-ended, providing an opportunity for each participant to engage in the conversation. By asking the right initial questions, the discussion flowed naturally to the important topics in the discussion guides.

In-Depth Interview and Focus Group Discussion Guides

Both the focus group discussion guide and in-depth interview questions were developed by MDR in collaboration with the Maine CDC's Maternal and Child Health Program and Office of Population Health Equity. CCCS also reviewed each discussion guide to ensure all questions were culturally appropriate. The guides explored such topics as the care pregnant and parenting people received while they were pregnant, birthing experience, prenatal education, access to perinatal services, emergency/high-risk pregnancy experience, health issues, postpartum care, barriers to perinatal care, and relationships with providers. For these particular focus groups and interviews, the moderator

focused on asking questions specifically for BIPOC communities within Maine. A copy of the focus group discussion guide and in-depth interview questions can be found at the end of the report.

Analysis and Reporting

For each round of focus groups, MDR completed the following steps for qualitative analysis.

1. **Recording and Transcript Review:**
   MDR began the qualitative analysis by thoroughly examining the recordings and transcripts of the focus groups and interviews to gain a comprehensive understanding of the participants' discussions and responses.

2. **Thematic Analysis of Verbatim Responses:**
   Next, MDR conducted thematic analysis of the verbatim responses obtained, identifying key themes and patterns from the participants' comments and opinions. This process happens after gaining familiarity with the data. The research team started thematic analysis coding by creating a set of initial codes that represent the meanings and patterns seen in the data.

3. **Grouping Quotes and Themes from Moderator's Guide:**
   It is then important to organize the quotes and themes according to the structure of the moderator's guide, enabling a more coherent and comprehensive analysis of the data. This also helps answer the original research questions of the project.

4. **Comparative Analysis of Themes and Findings:**
   MDR compared the identified themes and key findings across different focus groups and interviews, finding both similarities and differences in the participants' responses.

5. **Creation of a Top-Line Report:**
   MDR prepared a top-line report summarizing the significant findings and key themes derived from the analysis of the discussions.

6. **Detailed Findings Based on Moderator's Guide:**
   Finally, MDR composed a detailed report that closely followed the question flow of the moderator's guide, incorporating supportive quotes and examples from each focus group and interview. Each question from the guide is supported with a summary and bottom line of the findings.

7. **Summary of Major Findings:**
   The last step was to summarize the key findings, providing an overview of the most significant insights derived from the entire qualitative research analysis process.

Qualitative Research Limitations

As a qualitative method, focus groups and in-depth interviews excel at uncovering the reasons why participants feel a certain way or have a specific opinion. However, the thoughts and beliefs

expressed by participants are not necessarily representative of a larger population’s disposition. Singular comments may only represent one individual’s stance – unless it can be shown to be part of a general trend of beliefs or perceptions.

Key Findings: BIPOC Focus Groups and Interviews

1. ***Incorporating culturally appropriate care is one of the most important things a perinatal provider can do – and it is one of the biggest signs of showing respectful care.***

- Some focus group and interview participants shared multiple stories about their perinatal provider automatically offering culturally appropriate care. Whether the care was related to their religion, race, ethnicity, or community – it never went unnoticed and it always helped the provider build trust with the patient.

- Some participants shared experiences where hospital staff members were not culturally appropriate. These experiences often left a negative and long-lasting impression on the individual – sometimes to the point where they would change their healthcare facility altogether.

2. ***Translation services need to be improved throughout the perinatal care system in Maine – both virtually and in-person.***

- Many participants would rather bring a friend or family member to their prenatal appointment than use technology for translation services. Some participants said that certain apps, software, or even some in-person translators are not sensitive enough to detect different dialects of languages.

- In some cases, participants felt that translators were not trained to understand and relay medical terminology. Participants stated that they often made medical decisions they were not fully informed about or understood due to an interpreter translating incorrectly or pushing their own agenda regarding the medical decision.

- Some participants had positive experiences with translators. This usually happened in-person. However, there were a few participants who preferred virtual translation due to patient confidentiality. They were worried that the translator would be someone from their community.

- It is important for providers and hospital staff to not assume BIPOC pregnant people need translation services.

3. ***Overall, there is some distrust of the Maine healthcare system and providers.***

- After prenatal appointments, some participants would often go on the internet and "Google" for information related to their recent appointment.

- Some participants were fearful or hesitant to take any type of medication during their pregnancy. And some did not have enough understanding or information behind the reasoning for the medication.

- Some participants who had previous births outside of the US had difficult or traumatizing experiences. This sometimes made it challenging to trust their perinatal care process in Maine. If a participant experienced a more positive birthing experience in Maine, they often expressed a trusting relationship with their providers and were thankful for the good experience with their care team.

4. *Home-visiting providers are an extremely valuable resource for BIPOC pregnant and parenting people in Maine.*

- The participants who had access to a home-visiting provider often shared very positive experiences. This was especially common with those who utilized *Maine Families*. Many participants greatly appreciated the company, education, resources, and newborn necessities the home-visiting provider offered.

- Focus group and interview participants who did not have a home-visiting provider after giving birth were very interested in utilizing this type of service in the future. Many expressed how helpful it would have been to know that services like this existed.

- Some participants wished this type of service was available for parents with older children.

5. *High blood pressure and gestational diabetes were common among participants.*

- During the BIPOC focus groups and interviews, many participants shared their experience with diabetes and high blood pressure during their pregnancy and afterward.

- Many of these participants felt anxiety and stress when it came to these health concerns. Some wished they had more medical education about the topics and others wanted to treat the issues naturally instead of taking medication or staying in the hospital. Language barriers further exacerbated participants' confusion about treatment related to these conditions.

- Some participants were grateful for the thorough care and monitoring their providers offered.

6. *Participants had varied experiences in high-risk pregnancies and emergency care.*

- Some participants who were considered "high-risk" during pregnancy felt very taken care of during their recent pregnancy.

- A few participants who needed emergency services during their pregnancies did not appreciate the quality of care they received in the emergency department. This was mostly due to wait times, lack of communication, and the cost of care.

7. COVID-19 brought on many new challenges to perinatal care among BIPOC individuals in Maine.

- Many participants struggled with isolation and loneliness during their perinatal journey, especially those who had emigrated to the US, and this was exacerbated by COVID-19 restrictions. Some participants explained how community-oriented the birthing process is in their home countries. It was very difficult to go through pregnancy and then care for a newborn without their families and community nearby.

- COVID-19 also affected the availability of perinatal services and resources.

- Some participants were also extremely stressed about their birthing experience during the height of the COVID-19 pandemic.

8. Participants had a lot of ideas on how to help future families in their community receive the perinatal care they need.

- Some participants reported that transportation services need to be improved. They suggested more transportation options because there were sometimes long wait times at the hospital or clinic. Other participants reported that transportation services in more urban areas were good.

- Secure housing for pregnant people is a very important need. Participants who had experience living in shelters wished there were more exclusive shelters for pregnant people.

- Some participants mentioned the need for more community support centers for BIPOC communities and/or New Mainers.

- Many focus groups mentioned the need for advocates. Specifically, individuals who had been through a similar journey (giving birth in a new country, raising a family, speaking another language) to help them navigate the perinatal system of care and advocate for both their own needs and those of their community.

9. Insurance can be a significant barrier to receiving adequate perinatal care.

- Some participants were asylum seekers and the process of qualifying for MaineCare was incredibly difficult. This led to stress and unaffordable care for newly pregnant people.

- Some types of perinatal care were expensive such as genetic testing and mental health services. This was sometimes very frustrating for participants, especially as related to insurance coverage.

Question

“This activity is called “speak your mind”. I am going to show you a picture. I want everyone to say out loud what immediately comes to mind once you see the picture. Everyone ready?”

What they are saying:

“When I look at the picture, the first thing that came to my mind is the hard moments.” (FG1)

“I remember how it was really hard to be pregnant during COVID time. It was really hard getting the baby without anyone coming… And pushing with the mask on.” (FG2)

“I'm going to add, I'm sorry, this is making me emotional. This picture… reminds me of being happy but also tired.“ (FG1)

“It brings very good emotion. With my first child, I didn't know if it was a boy or girl and they told me it was a girl and I was very happy, I was very excited, and I'm glad that having a healthy daughter.” (FG3)

“It's a scary feeling. I feel like she's in pain. I think the way she's holding it. Her belly is big.” (FG3)

“I think it's interesting that looks like the doctor is also a person of color. It's not your stereotypical white doctor. That's nice.” (FG3)

Summary

Participants expressed a range of emotions after looking at the image. Some mentioned health issues and others discussed the emotional rollercoaster of childbirth. External factors, like the impact of COVID-19, added complexity. Humorous stories were also shared. The significance of ultrasounds and prenatal care was a common thread, representing moments of anticipation, anxiety, and joy in their pregnancies.

Bottom Line

The focus group ice breaker brought up many perinatal stories that capture the diverse challenges, strength, and emotions experienced during pregnancy.

Question: *Tell me more about your experience with the care you received while you were pregnant.*

What they are saying:

"I don't know if it's because it was the first time I got pregnant, but it was not easy for me… With the hormones… this is why it was not easy for me… my blood pressure was high." (IDI 6)

"I got news from the doctor exam that I had diabetes, it was really traumatizing… for me it was news. I don't have a history of diabetes in my family… I was thinking to give up on United States every day. Even with the situation, living in my country, I had the desire to go back and be close to my mother." (FG1)

"There were moments that were difficult because I was all alone and the people that I knew here, I only knew them a little bit and I wasn't with my husband… there were days where… I would cry." (IDI 8)

"I needed the attention of the doctors and the nurses, and I really got good attention. It was very, very good for me and I got the appropriate care and the attention I needed." (IDI 11)

"They were really attentive and caring. I was always asking questions about my treatment, and I always got perfect answers and they did all the exams perfectly… whenever I had questions about medication, also they would provide me with answers right away." (IDI 12)

"So after my pregnancy, there was a doctor that used to come to my house to check my blood pressure and the baby's blood pressure because during my pregnancy I had preeclampsia, and the birth was also induced. So that caused swelling on my legs and issues with the blood pressure." (FG4)

Summary

Participants shared diverse pregnancy experiences. Many highlighted hormonal struggles, emotional hardships, and financial sacrifices - particularly as BIPOC and/or immigrant parents in the United States. While some received attentive medical care, instances of trauma and insensitivity from healthcare providers were noted. The impact of COVID-19 further complicated their journeys, limiting support during labor and hospital stays.

Bottom Line

These stories express the need for compassionate and culturally sensitive care. Many BIPOC pregnant and parenting individuals experience complex challenges such as gestational diabetes, extended hospital stays, concerns about high blood pressure, and the difficulties of parenthood in a new country.

Question: *What was the most confusing or overwhelming part of this time?*

What they are saying:

"My confusing and overwhelming part is my age. When they figure out I was pregnant, they scared me, 'The risk is this. You can have a child with Down syndrome.' You want to check before?' Us, as in my religion and where I come from, we don't check the blood to see if the child will have Down syndrome and stuff like that, because they can figure out, right?... And early, and what you're going to do is miscarriage. In my religion, we don't do miscarriage. You cannot. Abortion, you cannot do that." (IDI 4)

"The hospital was a little far away, so they gave me the form and everything for the transport… whenever I needed to go to the hospital, I just called the transport… they accommodated me nicely." (IDI 11)

"Yes, I had difficulty giving birth. This third child is also hard. I had to go to the ultrasound. I had to go there two times per week. It was a very difficult pregnancy, and it was hard to even deliver." (IDI 7)

"So what happened was that not only was I doing follow-ups for the OB/GYN part of the process, but also with cardiologists… so due to this, my pregnancy was classified as a risk. There were some risk associated with my pregnancy. This was not due to the OB/GYN part, but really due to the cardiological part of it. And so we ended up not having a natural vaginal labor or delivery as I would have liked, but that was for the best." (IDI 12)

"No, actually everything was done properly, and they were looking after me really nicely. And I don't think I have any problems, I cannot dispute anything… the only stress I had was with the accommodation, because we had to sleep in the living room and everything, it was a little difficult for us. But everyone cooperated, so it was fine." (IDI 11)

Summary

Participants shared different perspectives during their pregnancy. Age and related medical concerns were influenced by cultural and religious beliefs, impacting prenatal testing choices. Traumatic birthing experiences, travel distance challenges, and housing issues were also discussed.

Bottom Line

Collectively, these stories highlight the complex relationship of personal beliefs, healthcare encounters, and logistical obstacles that shape the perinatal journey.

Question: *How long did it take for you to receive care while you were pregnant?*

What they are saying:

"I think, no. I've never been to the waiting list." (IDI 10)

"So, transportation sometimes is an issue. When you call one of the medical provider, medical transportation, like we just take here. They take you there and then coming back you might end up waiting for two hours." (FG3)

"The issue is not making an appointment with the doctor. You get an appointment with the doctor, but then you go to your appointment, and you can be waiting in a room by yourself for 45 minutes for the doctor to come and see you. You can be hungry,… diabetic, you can be stressed out, you're tired. She said, "One time I was literally in tears just waiting in a four room. In like four walls. For the doctor to come." They check you in, the nurses check you in and then you sit and wait until the doctor shows up." (FG3)

"I would say around one month and a half after finding out. It took more time because I didn't have the MaineCare." (IDI 6)

"You don't want to go to the ER at midnight, it's the worst experience you can have… I end up with an infection… where they then had to give me an antibiotic and more medication… And my doctor, my primary care, was surprised that I wasn't given this medication at midnight ER." (FG3)

Summary

Most participants had prompt pregnancy healthcare access; a subset faced delays due to administrative issues and insurance gaps. Some participants were frustrated with prolonged wait times during medical appointments and in the emergency room.

Bottom Line

Addressing administrative barriers, enhancing insurance coverage, and refining healthcare delivery efficiency are important for ensuring equitable and positive perinatal health care experiences.

Question: *Were there services or resources you accessed successfully and had a positive experience with during pregnancy? Tell me more about that.*

What they are saying:

“Yes. They offer me some, if you want to participate in the class that talk about people like me who are 40 and up, they have support group and when they are pregnant, stuff like that, but I didn't want to participate.” (IDI 4)

“Honestly, no. I was just going to my provider, and then I didn't have any other resource.” (IDI 5)

“No, it was just you and your doctor, that's it… Yeah, you follow up with them and that's it. There is nothing that goes above to feel more support.” (IDI 7)

“It's the family support you get through that time. The hard part in the US is while you need the family the extended family is not here. Your husband or partner have to be working to provide, so you lose that support system that you have, like the community support”. (IDI 7)

“Yeah, I got help from Maine families and when I was in the hospital I was already able to do the applications and then I had visits… Let's say that it was pretty easy and helpful, and they made it pretty cheap for me and they gave me a lot of things like diapers.” (IDI 8)

“I can say also Maine Family. Yeah, with baby clothes and mine also… The hospital, [REDACTED], and general assistant.” (IDI 10)

Summary

Participants mostly relied on healthcare providers during pregnancy, citing privacy concerns, busy lives, and cultural factors for limited engagement with external assistance. Many participants had minimal awareness or desire for alternative or outside resources. Some participants had positive experiences with the *Maine Families* Program.

Bottom Line

Positive experiences with external assistance were exceptions rather than the norm, highlighting the potential value of such resources when accessible. Overall, there is a need for increased awareness of external support services.

Question: *For anyone who needed emergency services, urgent care, or high-risk care during pregnancy, how was your experience?*

What they are saying:

"Yes, I had the doctors explain to me how, that I was a high risk. I lost two children already and if I don't get a C-section, then I would injure this baby." (IDI 7)

"They gave me blood because they thought I had anemia… Also my heart is going down and down… My heart rate was getting lower, so they have to give me blood at the time... I also started bleeding at the beginning of my pregnancy, and I went to the emergency room, and they helped me out for a couple of days." (FG3)

"I was pregnant, and I went to the emergency room. I had to wait two hours outside to be admitted or for somebody to see me and I was in a lot of pain. They keep saying that there's not enough room for me to go in… but then I told them that this is an emergency, I need to see somebody. They were very late. When they called me and I went into the room, I had a miscarriage, and I lost the baby at the time." (FG3)

"I was working until my nine months. I'm an assistant teacher, so I was working with the kids. I was good all days, but one day, when I was eight months, I had back pain and then I went to the emergency room. They said, "You are fine… you're working, you don't sitting a lot." When I work with the kids, I work with disabled kids… I have to with them and sit with them sometimes, but all the time, I'm not sitting. So, they said, "It's okay. You're fine. It's just so you are all day standing. That's why." But no other issue." (IDI 5)

Summary

Satisfaction with urgent or emergency care arose from effective communication and collaboration with healthcare providers, emphasizing the value of trust. Distressing moments, including delays and lack of responsiveness in emergencies, resulted in negative patient outcomes.

Bottom Line

Emergency room and high-risk pregnancy experiences highlight the critical role of effective communication, trust, and prompt care during pregnancy issues.

Question: *For anyone who needed translation services, how was your experience?*

What they are saying:

"We will tell them, "I don't need interpreter," and next time you have an appointment, you are there in the office, and you see with someone. "All right. Is this interpreter?" And they're like, "Yes."… Once you get out of the office, if you tell them, "I told you I don't need interpreter," it's like they don't update… They have to respect what we told them." (FG1)

"Sometimes they don't translate exactly what you want. This is the issue. It's just critical because medicine is a sensitive thing so when someone has to translate for you, it must be exactly what you told." (FG1)

"Sometimes we can think we got a bad experience or wrong treatments. Not just because they had it wrong, but because the interpretation went wrong. At the time, she asked herself what makes them choose the interpreters? How they choose them? Because sometimes you hear that what you're saying, it's not what is interpreted." (FG2)

"Rather have over the phone interpreter than in person, for a couple of reasons. First of all, confidentiality. When you have somebody from the community around you and you don't know if you can trust them or not, the information might be out… The other part is when you say you speak Arabic there are different dialect. So, with Sudanese people, if you end up getting somebody from Lebanon, for example, you're not going to understand their Arabic." (FG3)

"Prefer a woman interpreter, but now they use an iPad. The obstacle that people see on that is sometimes the dialect is different and a lot of misinterpretation happen." (IDI 4)

"I had someone in person, and she was great, and she was super kind." (FG4)

Summary

Participants' experiences with translation services vary, with some expressing no need for such services, some encountering challenges, and others highlighting positive interactions and effective communication. The preference for in-person vs. virtual interpreters during critical healthcare moments emphasizes the importance of individual preference and effective communication within medical settings.

Bottom Line

Participants did not come to a consensus around translation services. As such, focusing on individual preferences and proper language dialect is critical.

Question: *How was your mental health/anxiety/mood during your pregnancy?*

What they are saying:

"The delivery was normal, and then the stress comes after because I didn't know that my child has the sickle cell. And then they told me also, I have it. So I had many appointments. They had to check the child. They had to do testing. And sometimes we travel to the hospital… After the first blood test, it was very scary." (FG1)

"Mentally I was very well, very happy, because I was finally seeing the child that I myself gave birth to." (IDI 9)

"Yeah, read the Quran and pray. If I pray, the mood go away." (IDI 5)

"After pregnancy, I was happy to have her, but my health was not okay because I had high blood pressure for I think four month, but the baby was not stressing me." (IDI 10)

"So actually I was trying very hard to get pregnant since very long, but it wasn't happening, I don't know why, what was the reason exactly. But when I got the news that I was pregnant, I was very, very happy. I cannot explain how happy I was. I was just touching my belly again and again. I was getting the feeling that somebody is living inside me and now there's a spirit inside me." (IDI 11)

"As a first-time mother, it was hard for me to understand why is the baby crying, is it hungry? It was just very exhausting… for the Africans, you always have your mom and your sister with you, you have a support system. Here, I had no support system. It was just me and my husband, and he would get home and tired and he needed to rest, and it was very hard for me." (FG4)

"So here's the situation nowadays. My mood, I'd say it goes up and down. There's some oscillation there because I'm used to working. But ever since I got here in the US and we're far away from family and from my mother. And so all I can think about is who am I going to leave the kids with because I really want to go back to work." (IDI 12)

Summary

The term "mental health" was not well received by many participants. Participants instead shared stories related to their overall mood during their perinatal journey. Religion was also very important for some participants when it came to their mental well-being.

Bottom Line

These experiences describe a range of emotions, coping mechanisms, and challenges related to the mental well-being during and after pregnancy.

Question: *Were you able to access any services for your mental health? Tell me more about this experience.*

What they are saying:

"No, I wasn't… it's important to have someone who talk to, but I have a brother who is a psychologist who live in [REDACTED] and we are so close to each other, and I talk to him about everything. At the same time, he's like he's doing session on me, but it's someone I can trust and he's my brother… that his job too. He was always calling me… Yes. I had the support. Family support is important. That's why." (IDI 4)

"I was prescribed medication… The medication was helpful… the people coming into my home like [REDACTED] who came to my home just speaking and staying, it was very helpful for me." (IDI 6)

"I had doctors advising me so I can be mentally well, so I can give birth, have a healthy childbirth, and also, I had an assistant... Yes,… I also had an assistant, a social assistant that was also helping me have a healthy childbirth." (IDI 7)

"Yes. I also have to say it was really, really excellent. They were always answering my questions, asking questions, getting to know me, helping me out. It was really good." (IDI 12)

"At first I had full access to that due to the insurance because after the baby is born, you can keep the full MaineCare for about a year after the baby was born… I think I was referred to [REDACTED] for mental health and I did so until [REDACTED] turned one… After that I lost some of my insurance. I'm only keeping the emergency services insurance. I haven't been able to follow up with that due to the cost." (IDI 12)

Summary

Some participants, those with strong familial support, didn't feel the need for mental health services. Others found positive outcomes with prescribed medication and professional assistance during pregnancy. A few participants faced challenges accessing services due to insurance limitations and costs after the baby's first year.

Bottom Line

These stories emphasize the vital roles of family support, mental health professionals, medication, home visits, providers' advice, and social assistance during pregnancy and postpartum. Challenges such as insurance limitations and continued access to support services can exacerbate mental health concerns.

***Question**: Did you receive any education about prenatal care and postpartum care? Tell me more about this.*

What they are saying:

"For educational material, I would say that was my appointment learning from my gynecologist. And there was a woman who came at my home from Maine Family, I don't know how you would call them, but she would give me advices." (IDI 6)

"Yes. Like breastfeeding?... In WIC… Maine Families also… were giving me some papers and it's so helpful. So I am not surprised when my baby behave differently, so I just go and read… I feel myself comfortable that she's fine." (IDI 10)

"Yes, either after giving birth, I just, I think I emailed… letting him know about the baby one month, or the baby two months… with the document, they told me what to expect each month. The child will be doing this and this month, the child be doing that. He also followed up with me and tell me what to expect with the child each month." (IDI 7)

"No, the only thing that I received was the little books that they give us from the hospital. That's the only thing that I received. Nothing else." (IDI 5)

Summary

Some participants received limited educational resources, others used materials from standard prenatal appointments, and others received advice from outside services. Information from WIC and Maine Families was also cited as helpful.

Bottom Line

Pregnant and parenting individuals in BIPOC communities appreciate educational materials and professional support in navigating their perinatal care in Maine. There is a need for more prenatal and postpartum education.

Question: *How was your birthing experience/s?*

What they are saying:

"I'm not sure if it happen to other people, but mostly for immigrants, when we are seen, they bring interns, the student… We don't have choice. They will come and tell you, "Yeah, this is an intern." And then we are like, "Why can't you first ask me before you bring them in?"…They have to learn how to talk to us and give us a choice before they come just like they took decision already." (FG1)

"My first time doing it in the US, and it was really a beautiful experience… It was painful at first… it was my first natural birth… I tried to deal with the pain because it was the first time that I was having contractions, but I couldn't deal with it… So then it was after that I asked if we could put the epidural… then once they put in the epidural I was much better, and the nurses were there to help me change positions and be comfortable." (IDI 8)

"At first, I thought that when I used to imagine my experience, I thought it will be… very complicated, it'll be very hard, very serious, but it wasn't what I imagined, and the reality was quite different… My experience, it was just unforgettable, and everybody helped me properly and it helped me to develop nicely and to get through the experience." (IDI 11)

"It was extremely hard, but they were able to give me an epidural, so that eased the pain during delivery and that's how after that I was able to give birth… they treated me very well, they cared for me very well… They did everything that they wanted to do with me, they would tell me ahead of time…" (IDI 9)

"All this fear, all this was really painful. I cannot explain the pain... It was really painful because I didn't want them to give me epidural… last minute, I had to ask them to give me epidural. There was a lot of suffering… But after the baby, I feel like all the pain went away." (FG1)

Summary

Participants shared diverse birthing experiences, emphasizing positive aspects, like planned inductions and supportive care, alongside challenges such as pregnancy-related difficulties and traumatic labor experiences. Support from friends, family, and healthcare professionals played a crucial role. Cultural differences in birthing practices and concerns about hospital procedures were noted.

Bottom Line

The narratives underlined the importance of kindness, clear communication, and cultural sensitivity in during delivery. The challenges highlighted offer valuable insights for improving and enhancing the overall birthing experience.

Question: *Now, tell me about your experiences with the care you received after you were pregnant (during the first year).*

What they are saying:

"First year was a hard and worst year because we had a COVID… My husband was out of the state after I gave birth… I have to call somebody to do the shopping for us… I could not sleep nights because I'm the person who very active in the morning, go to work, do something. Staying home, it was hard… Sometimes I was angry... I was yelling on my kids. Sometimes I was saying, "Why we are here? Why COVID came at this time?" (IDI 5)

"…the resources that is not available here is people with you after... Everybody is busy, everybody is working…For me it was my first child. After eight months I went back home." I was like, "I'm going to lose my mind if I stay here." (FG3)

"After giving birth, I also had another problem with blood pressure, and I had to stay at the hospital for five days… I was still depressed, which was more difficult since I had the baby at that time to take care of… I kept going to my appointment and kept taking my treatment as needed." (IDI 6)

"After I had my daughter, my blood pressure got so high, so they had me stay in the hospital for four more days. I was afraid of the pregnancy because I was considered older." (FG3)

"So in the hospital they take care of you and the baby, you're sleeping, you're eating, you're not worrying about anything… You come home and all the support system is gone. Then it's you… Or you and your husband." (FG3)

Summary

Participants had distinct post-pregnancy experiences, ranging from joyful familial support to challenges exacerbated by the COVID-19 pandemic. Positive feedback was given for medical, psychological, and blood pressure-related follow-up care. Some participants expressed a desire for more home support, noting cultural differences in available resources compared to their home countries.

Bottom Line

The postpartum period presented a mix of positive and challenging experiences, emphasizing the importance of comprehensive support during this critical time.

Question: *What other challenges did you face in seeking healthcare for yourself or your baby?*

What they are saying:

"I think in the immigrant community, we want to be less trouble. We don't give bad reviews... we don't know how to go on those websites. Most of us, we don't go on those websites, because of... English, and manners, where we come from. You can't just go and say bad things on someone. So having someone that we trust there… we can go to, and say, "This and this happened," in your language, and can go advocate for her or representing you for them, it will help." (FG2)

"During the pregnancy I had toothache and I had problems with my vision, it was not comfortable at all, but unfortunately the insurance I had at the time was not covering those." (IDI 6)

"COVID situation, doctors, and everybody around were exhausted with the situation and overwhelmed with the situation. That's why they did a lot of mistakes, and... gives the wrong answers in the wrong moments." (FG2)

"When you're nine months pregnant or eight months pregnant, driving, it's hard, but you have to drive. You have to go to work; you have to keep your appointment and you have to take care of your kids. It's very stressful… And being by yourself." (IDI 4)

"Most of the time we're not taken seriously. And the accent looks like, the bigger, the thicker accent is, the less IQ… Having someone who can advocate for us in the hospitals would be great." (FG2)

"Sometimes they give emergency situations only because they don't have anything else if you're an asylum seeker. MaineCare as an asylum seeker… very difficult." (FG2)

Summary

Pregnant and parenting individuals in BIPOC communities encountered many additional challenges during perinatal care, including transportation stress, language barriers, insurance limitations, eviction concerns, COVID-19 challenges, immigrant stereotypes, and trouble accessing insurance for asylum seekers.

Bottom Line

The challenges experienced in accessing healthcare for BIPOC/immigrant parents could be alleviated by advocates, better translation services, and increased awareness and access to perinatal services.

Question: *How did you cope with stress/fears/worries during your pregnancy and after having your baby?*

What they are saying:

"Since I had this child, I don't stress anymore." (IDI 7)

"For myself is faith, praying a lot, being close to God, reading a lot of Quran, the Muslim Bible. It helped me, all that, a lot of prayers, a lot of talking to my family, Face Timing my family…When I was having the baby, my sister came from [REDACTED] and my husband was there. I wasn't alone. That support and a lot of this is because of the faith I have." (IDI 4)

"During my pregnancy, it was not that easy. I was not that open to explain everything to anyone. So I was facing everything to myself. I was closed. But when I gave birth, so things started to be normal because I can talk with friends, I can talk with a social worker… It was not easy… Sometime I was crying myself, but I did not want to reveal that. I was afraid, how am I going to have a baby? How am I going to deliver? I don't know. How is it going to be?" (IDI 10)

"My mom also, she advise me a lot, a lot, a lot… Yeah, and then she always give me advice for the baby. If he has a fever, put him cream or Vicks or something like that. Or give him oil, put oil on his body and skin. And she will always ask, advise me, and my husband also. So, if I don't have those persons, I don't know how I can survive." (IDI 5)

"I can only say the medication because myself, I was not able, or I did not know how to manage. Yes, that was something that I forgot, thank you for reminding me. I used to go to do walks and just doing walking in the nature and everything, it was helpful and then when I go back home I feel better." (IDI 6)

Summary

Participants shared varied coping strategies. While some did not actively cope, others found relief in the transformative experience of parenthood. Religious practices, family support, and exercise were significant coping mechanisms.

Bottom Line

There are many different coping strategies when it comes to perinatal stressors among various BIPOC communities in Maine with religion and family support being two of the most mentioned strategies.

Question: *Did anyone experience high blood pressure during their pregnancy? If you feel comfortable sharing, what was that experience like?*

What they are saying:

"It was not during pregnancy, after giving birth… During pregnancy, I don't know. It was stressful, but I was healthy. I did not have a blood pressure problem. I did not have fever or something like that, nothing. I was healthy, but I was too much in myself." (IDI 10)

"So it wasn't easy for me. I don't know if it's because it was the first time I got pregnant, but it was not easy for me… With the hormones… this is why it was not easy for me… And I had blood pressure, my blood pressure was high… I had the diagnosis by the doctor throughout the pregnancy." (IDI 6)

"So there is a problem with language, culture, difficulties don't have anywhere to sleep. I'm saying about my experience when I came here. So I lived in the shelter with those kind of signs that showing me maybe there's something behind my pregnancy. It was my first time. No experience. No English, nothing. So I was lucky enough to go to the clinic of shelter. So it was hard. They found out I have high blood pressure, a lot of things." (FG1)

"I usually have on my pregnancy low blood pressure." (IDI 4)

"So, it was my first child. I went to my regular visit. I didn't have an interpreter, so my husband was helping out… So, you know something is wrong when a lot of doctors are talking around you. So I had to ask, "What's going on?" And they were like, "Your pressure is really high. You have a high blood pressure." (FG3)

"They give me a prescription, but I did not take because I was scared. And then I said, "No, I don't want to take the prescription, but I'm going to cure myself with the water and ice." (IDI 5)

Summary

Many participants experienced high or low blood pressure levels during pregnancy that needed monitoring. A few participants with high blood pressure were prescribed medication and some participants experienced elevated blood pressure after labor.

Bottom Line

It was common for BIPOC participants to have experienced blood pressure concerns during their perinatal journey. Some felt very well taken care by providers, while others experienced stress and suspicion with taking blood pressure medications.

Question: *What about other health issues?*

What they are saying:

"So I also had diabetes in the process and a lot of hard times, a lot of difficult moments. But this pregnancy came to actually clear up my tears." (FG1)

"I think people are not well-educated about diabetes. Even I was well treated where I was, but they didn't educated me about the diabetes. So after they do the testing, they tell you have diabetes, and you think "it's in my family", I don't have any issues with diabetes." (FG1)

"… I was diagnosed with gestational diabetes for my daughter, so I was following up with the diabetes doctors and everything. The pressure was too much. I know how to control my diet, but the doctors were giving me insulin, and guess what? The insulin affected my daughter. She was born premature, and she had to stay in NICU for three weeks because after she was born, she wasn't gaining weight." (FG3)

"Yes, I have a problem, but I don't know what is that. They just told me that I have to go back to the hospital on October… but I don't know what is that… This October… I did an exam and the exam; it gave a negative result. So they said that they have to check again after one year, but I don't know what is that. They did not explain what to me." (IDI 10)

"They give a stabilized medication so I can take it and it was very expensive, and at the time I didn't have insurance to pay for those. This was the thing that was very difficult for me and I really wanted to have a baby at the time, so that was very hard for me to pay for that." (FG 2)

Summary

Many participants experienced other health issues during their perinatal care. Some common examples were diabetes, anemia, and unidentified health issues that participants did not fully understand.

Bottom Line

BIPOC pregnant and parenting people in Maine need more education about different health issues that can happen during pregnancy.

DETAILED FINDINGS – BIPOC Focus Groups and Interviews

Question: *What does respectful health care look like to you?*

What they are saying:

"I believe the most important thing is listening to the patient because they have the care, but we have the need… So they have to listen to the patient so they can best provide whatever quality care they can offer." (IDI 12)

"So first of all, to respect me, and when I say respect me, I'm making a reference to my color. So no discrimination not to treat me differently from other people, from other colors." (IDI 6)

"The nurses were very, very kind, but sometimes you see some who they are not welcoming you. When they come to your room, there is no smile on their face. I don't know why they're doing this job. If you don't like it, don't do it. Yes. When you ask them, if you ring, and I call them twice, three times, they say, "You have to be patient. You need to wait." Sometimes you're in pain, you need the medicine… They don't yell at you directly, but the way that they talk to you, you can understand this person is not welcoming you, is not nice to you." (IDI 4)

"I did not see any disrespectful or in my religion or anything else. I would like to add something. I'm a Muslim, and then each time that I go to my provider, she always takes care of me, and she always sends me a woman. I don't ask, but when she saw me that I'm Muslim, she said, "Okay, my assistant will be a woman just for you." And I said, "Okay, thank you." (IDI 5)

"How can I say this? I think it's important to be on good terms with the patient. It's important not to speak too loud to the patient and it's important to smile a lot. I think that when the patient and the doctor have a good relationship it helps the patient to feel better." (IDI 8)

"They were very nice with me, they were kind and at each time they would follow-up, every time." (IDI 9)

Summary

Participants expressed a variety of ways providers can embody respectful health care. The most common things mentioned were providers being kind and supportive, acknowledgement of different cultures and religion, smiling, and the importance of listening to the patient.

Bottom Line

It makes all the difference when a provider embodies respectful care during the perinatal journey – especially among BIPOC communities.

Question: *Tell me about a time when you felt most understood by a healthcare provider during your pregnancy? What about after your pregnancy?*

What they are saying:

"Yes… I had a provider who was explaining I think everything to me. There are ladies who were prepared to be a mother, but I wasn't. I was not prepared to be a mother, but I find myself pregnant. Then I assumed my pregnancy. I didn't want to accuse people. I just accepted… So that provider, she was like I can say my mirror because everything that I have that I don't understand, I can just write it in the paper. Then when I arrive in the hospital, she start explaining to me." (IDI 10)

"Well, I think that it was the first time where we met each other that it was, if I don't remember, if I'm not wrong, in the month of May and all that month that I see the doctors, and also in October when I gave birth to my child and I delivered the baby… It was very positive because I delivered a baby in a very good health, that was very positive." (IDI 11)

"So something that happened during this birth was that after [REDACTED} was born, my belly didn't come back down. It remained really big. And so this was something different and surprising because when I had my daughter, my belly had shrunk back right after, but that doesn't happen with this birth. And so I really felt, I was really glad that I got continued support and patience from the doctor with this." (IDI 12)

"I do not remember a particular event, but they were always understanding. The hospital already know my situation, what I explained to you, happened to me in the past." (IDI 7)

Summary

Many participants praised healthcare providers for their understanding and support during and after pregnancy. Some participants appreciated their advice, clear communication, and navigating uncertainties. Postpartum care was also very appreciated.

Bottom Line

These narratives collectively underline the key role of healthcare providers in fostering positive experiences throughout the pregnancy and postpartum journey.

Question: *What else can health providers do to nurture a strong and positive relationship with pregnant people and new parents?*

What they are saying:

"I will say they have to be honest to them. They have to give them time they want. And I will also recommend a translator because a lot of my community doesn't speak English. And then some mom always complain, "Oh, you know, I didn't have a translator today. I did not understand what the provider said to me or what the provider advised to me." So, be honest with the patient and provide a translator." (IDI 5)

"For me, what I can say, the provider should give time to listen to new mothers because it is very important because when you are pregnant or you are a new mother, you have everything. You have many questions in you. So when they provider doesn't give you time to talk, so you will go back with your questions. For me, I think the provider have to give more ears to hear most… I had only two providers in my pregnancy, so they were so kind to me. I could call. Even when I'm at home, I could call… then they're going to give me my provider. I had no barrier with that." (IDI 10)

"I was provided with a midwife that was helping me with breastfeeding. They were helping me with pumping for about a month." (IDI 7)

"I think actually the toughest job comes from the pregnant person themselves and those around her, so their family and their partner. She can guess she can be followed up not only by gynecologist but also a therapist and psychologist. But she's the one that has to do the most work herself because no matter how you look at it's no easy job to produce a life. And so it can really get to you in all facets of your being. It can get to you both for mind and body. So I think that's where the crux of it lies." (IDI 12)

"Well, to me they took really gave care of me, they gave me time to ask questions and they responded so I really didn't have any problems." (IDI 8)

Summary

Participants recommended many different ways providers can nurture relationships with their perinatal patients. They often suggested honesty, allocating ample time for patients, offering more breastfeeding support, and delivering attentive care.

Bottom Line

There are multiple ways perinatal providers can build stronger relationships with pregnant and parenting individuals.

Question: *Did anyone have a home-visiting provider such as a nurse or community health worker? What was that like? Would others be interested in that service?*

What they are saying:

"I think it would be helpful, because sometimes you are on your own, you don't know, you have some questions, you have some needs or desires, but you don't have anybody to talk to tell you how to go about that… with you all coming it's good because I have a chance to ask someone a question. Let's say, for example, the other day I got in some small cars, the little, tiny cars, and when you all came you were like, "No, this is not good for him or for his age." This is not something I knew, so that... You see this is a good addition to have." (IDI 9)

"It really depends on how you see things. I could say yes, it's nice for me but maybe other people would see it differently. I say that because I have some friends who say, "Oh, no, I wouldn't want people coming in and helping." But for me, I think it's nice because things are done very differently here than in Africa, so I enjoy having the help." (IDI 8)

"Besides [redacted] and the nurse that comes to my home, I don't have anyone else… I think that, yes, for the new mothers, this is a very good service and it's a very good experience that can improve this new experience as a new mother in your house. So yes, I think that this is a very good thing, and yes, I think that they would be interested in it." (IDI 11)

"I was offered, but because I was with my mom and I was living with her at the time and I had that support, so I was grateful for that." (FG3)

"They didn't offer us when I was in 2020… I don't know if it doesn't exist or there is. I don't know because of the COVID, but I did not get that service… right now, if I get pregnant, I will, yes, number one. I need help." (IDI 5)

Summary

Participants had different experiences with home-visiting providers. Some relied on familial support and others had recent experience with a home-visiting provider. Many participants complimented the services provided by home visits, noting positive instances of emotional and practical support.

Bottom Line

Many pregnant and parenting individuals among Maine BIPOC communities would utilize home-visiting provider services. Those that use this service already report very positive experiences.

Question: *Do you have any recommendations for how health care providers can incorporate important cultural traditions into care?*

What they are saying:

"Have some fear of visits with different people because we're so far from our culture and the culture here is really different. You could just be followed everywhere, and you know that the police can always arrive, so we just are sometimes afraid… For me I have a lot of visits, people come visit often and that is what got rid of that fear. I don't have that fear so much anymore… I've had so many visits." (IDI 8)

"I think that each people has its own culture in each of the countries that they treat, because they have a lot of patients, a lot of cultures, people from Asia, Africa, different cultures that they have to know and they have to be willing to understand because it is not the same, the way the patients are treated and the mentality of the doctors here than the way they're going to receive the treatment in their countries because they have a different culture. So they have to be willing to understand those different things that each culture has, so they have to be willing to understand." (IDI 11)

"I was fortunate enough to have only excellent doctors and their teams… I think they did a good job in understanding my cultural differences… that's not the only thing that has to happen. It's also important for us pregnant mothers and be mindful and understand the cultural differences with the providers as well." (IDI 12)

"For example, I use the hot water and the towel to break the water by myself and I tell them, "Okay." When I ask her, I have vomiting… labor, I tell her, "Okay. I need a needle." She tell, "No," I tell her, "Why no?" Some people they know. I know what I'm doing or what I'm dealing with it. I'm nurse in Sudan. I have my nursing. My auntie, she's midwife also. I work a lot even with the pregnant women in Sudan and in the labor room also. They don't listen. Some of them actually is very mean" (FG3)

Summary

Participants often suggested more culturally competent healthcare and education for perinatal providers. They suggest accommodating cultural and gender preferences, such as the preference for female providers, and stress the impact of consistent relationships with the same doctor.

Bottom Line

Recommendations focused on cultural awareness, collaborative care, and sensitivity for effective and inclusive healthcare services.

Question: *Is there anything else that could help future families in your community receive the care they need?*

What they are saying:

“Will be awesome that the pregnant ladies in the community, they can obtain the Medicare card during the pregnancy.” (IDI 6)

“I think the shelter. In my time when I was pregnant, we were living with homeless, those people who are... so it was not that easy. I think if they can separate them because pregnancy - brings more stress.” (IDI 10)

“I'm a single mom… It's too hard to work, and then to pay a babysitter and to pay the bills. Even when I ask for the food stamp, they give like nothing… It's 300 for three kids for a month. Just I work hard…” (FG2)

“It's an everyday fight being Black.” (FG2)

“Whenever they see a name they're not familiar with especially last names, they ask, "You need a translator?" They don't even talk to you to make sure you understand” (FG3)

“When I go to the doctors, I feel like if I tell them the amount of kids that I have, they always judge me.” (FG3)

“Medical transportation is a big thing… recommend more of it. Secure housing for pregnant moms is also one.” (FG3)

““I think having somebody who can advocate for us there, because most of the time we're not taken seriously. And the accent looks like, the bigger, the thicker accent is, the less IQ. So… having someone who can advocate for us in the hospitals would be great.” (FG2)

“Someone that comes to the house and gives you information, because everything is new for us, and tells you, well, the baby's going on the right path and is developing in such way, and this is correct, and that's just a phase… I know that it can be hard for some mothers to open their houses for this kind of interaction or visit. So them, or you guys… insist a little bit more, because it's so good.” (FG4)

Summary

Participants stressed the need for accurate interpretation services, improved communication on cultural practices, and early access to healthcare resources and insurance - including MaineCare during pregnancy. Challenges related to housing, older parents, childcare, and financial support for single mothers were also widely discussed.

Bottom Line

Cultural sensitivity training for healthcare professionals, expanded support programs, and resource centers were highly recommended for families navigating the perinatal health care system in Maine.

Question: *What is one thing you wish healthcare providers understood when they were caring for you during your pregnancy or after your pregnancy?*

What they are saying:

"For example… talking about abortion here, there is some subject that are taboo back home. Yes, there is some time we talk about, ask someone her kid or child to do abortion is just I don't know… it's very taboo back home." (FG1)

"My second kid is on spectrum, he has autism, but it's like each time I was [there], they would tell me, "You see, you have son who is on spectrum, there is a lot of chance that other will be the same way." It's like if we want to make decision, to be like we are coming to tell you, to tell us what to do. We are just asking… Give us advice for what we came for, not tell us, "Don't do this because..." It's like… I'm always scared to go to ask them, because I'm like they going to reminding me about my son is on spectrum… Every time I see the doctor I'm about five months pregnant, I make sure I'm healthy, because I don't want to meet until I'm already pregnant. Wish they cannot take one case as a universal." (FG1)

"I was going to talk about the food. I guess all the hospital around the area they don't have [options] of food. I don't feel immigrants have option, the food they cook with in the hospital when you order something, the thing they bring they are totally different from what they are using. I'm not sure how we can do it because they don't always have immigrants in there. It is so hard for us. Every time we want to eat like we need someone to bring food from home because there are nothing for us." (FG1)

"I was going to say, I had a really positive experience when it came to lactation. My nurse was also a lactation consultant, so I think maybe if there are some incentives to offer free courses or something to nurses or offer them a stipend, I think that would be really helpful. Right after I gave birth, she was right there to help me start lactating." (FG3)

Summary

Participants wished healthcare providers would focus on cultural sensitivity, holistic care, patient empowerment, and effective communication. Concerns included hospital food, abortion decisions, awareness of patients' backgrounds, and mental health. Participants also highlighted the need for improved patient-nurse relationships and increased staffing.

Bottom Line

Some BIPOC pregnant and parenting individuals in Maine had very positive relationships with their perinatal providers. Even so, there are still many things providers can do to understand their BIPOC patients better.

Methodology: Rural Focus Groups

Background and Research Objectives

The Maine Center for Disease Control and Prevention (Maine CDC) contracted with Market Decisions Research (MDR) to perform a 2023 Perinatal Health Disparities Needs Assessment for the state of Maine. This project contained many elements; this component is focused on the qualitative evaluation. MDR collected qualitative data from participants that were either pregnant or recently gave birth in the state of Maine. The overall research objective was to better understand key drivers of maternal health in Rural and Diverse Populations. This specific part of the report focuses on Maine rural populations that were pregnant and/or parenting children younger than three years old.

In 2022, the Maine Children's Alliance conducted qualitative research funded by a Maine Health Access Foundation Systems Improvement and Innovation grant. This previous project also aimed to better understand and explore policies to address racial inequities in maternal and infant health. This project's previous research findings and recommendations were used as a sounding board for the qualitative portion of the 2023 Perinatal Health Disparities Needs Assessment. Findings from this project are meant to elaborate on and contextualize the research performed by the Maine Children's Alliance in 2022.

Sample and Recruitment

For the rural-focused qualitaitve data collection, MDR used an address-based sample (ABS) recruitment method with a push-to-web methodology. Eligibility criteria for participation included the following: older than 18, pregnant and/or parenting within a child three years of age or under, current Maine resident, must have received perinatal care within the state of Maine, and living in one of the following rural-identified counties:

- Aroostook
- Franklin
- Hancock
- Kennebec
- Knox
- Lincoln
- Oxford
- Piscataquis
- Sagadahoc
- Somerset
- Waldo
- Washington

Address-Based Sampling

MDR worked with Marketing Systems Group (MSG) to develop a sample list from addresses in the USPS Computerized Delivery Sequence File. To improve sample targeting, additional household level

characteristics were appended to the ABS including name, phone number, census tract, age/gender of head of household, etc. Addresses that had flags for rural counties/towns and the presence of a child (under 3) in the household were prioritized. A total of 2,000 invitation letters were mailed to Maine residents that excluded addresses from the following Maine towns: Biddeford, Portland, South Portland, Westbrook, Lewiston, and Auburn.

These addresses were mailed an invitation letter with details about focus group/interview participation and instructions on how to navigate to our screener. Screener questions focused on demographics (to ensure a representative sample), Maine residency status, location (rural counties/towns), and pregnancy/parenting status. Each invitation letter included a unique ID number allowing the household to complete the screener only once, and a URL and QR code to allow respondents easy access to the online screener.

The Focus Groups and Interviews: Logistics

The rural perinatal focus groups included 10 participants across two focus groups (five in each group) and three in-depth interview participants. Individuals completing focus groups were compensated $150 for their time with a gift card or check and interview participants were compensated $75. Data collection occurred in November 2023. Each focus group was 90 minutes and each interview was about 30 minutes. All were facilitated using Zoom's webinar-based video conferencing. The recorded discussions were transcribed for analysis.

Focus Group Moderation and Interviewing

A trained MDR moderator conducted the focus groups and interviews. MDR's qualitative data collection approach uses techniques focused on managing group dynamics and sensitive topics. At the beginning of each group and interview, the moderator explained to participants what to expect. To develop rapport and build trust between the participants, the moderator focused on connecting with participants from the beginning of each group and interview. Every group and interview allowed for introductions of each participant. These steps were critical components of the project and allowed participants to comfortably share their experience and stories about vulnerable and sensitive subjects. Additionally, the first section was always open-ended, providing an opportunity for each participant to become part of the conversation. By asking the right initial questions, the discussion flowed naturally to the important topics in the discussion guides.

In-Depth Interview and Focus Group Discussion Guides

Both the focus group discussion guide and in-depth interview questions were developed by MDR in collaboration with the Maine CDC's Maternal and Child Health Program and Office of Population Health Equity. The guides explored topics such as the care pregnant and parenting people received while they were pregnant, birthing experience, prenatal education, access to perinatal services, emergency/high-risk pregnancy experience, postpartum care, barriers to perinatal care, and relationships with providers. For these particular focus groups and interviews, the moderator focused on asking questions from a rural point of view for participants. A copy of the focus group discussion guide and in-depth interview questions can be found at the end of the report.

Analysis and Reporting

For each round of focus groups, MDR did the following steps for qualitative analysis.

8. **Recording and Transcript Review:**
   MDR started the qualitative analysis by thoroughly examining the recordings and transcripts of the focus groups and interviews, gaining a comprehensive understanding of the participants' discussions and responses.

9. **Thematic Analysis of Verbatim Responses:**
   Next, MDR conducted thematic analysis of the verbatim responses obtained, identifying key themes and patterns from the participants' comments and opinions. This process happens after gaining familiarity with the data. The research team started thematic analysis coding by creating a set of initial codes that represent the meanings and patterns seen in the data.

10. **Grouping Quotes and Themes from Moderator's Guide:**
    It is then important to organize the quotes and themes according to the structure of the moderator's guide, enabling a more coherent and comprehensive analysis of the data. This also helps answer the original research questions of the project.

11. **Comparative Analysis of Themes and Findings:**
    MDR compared the identified themes and key findings across different focus groups and interviews, finding both similarities and differences in the participants' responses.

12. **Creation of a Top-Line Report:**
    MDR prepared a top-line report summarizing the significant findings and key themes derived from the analysis of the discussions.

13. **Detailed Findings Based on Moderator's Guide:**
    Finally, MDR composed a detailed report that closely followed the question flow of the moderator's guide, incorporating supportive quotes and examples from each focus group and interview. Each question from the guide is supported with a summary and bottom line of the findings.

14. **Summary of Major Findings:**
    The last step was to summarize the key findings, providing an overview of the most significant insights derived from the entire qualitative research analysis process.

Qualitative Research Limitations

As a qualitative method, focus groups and in-depth interviews excel at uncovering the reasons why participants feel a certain way or have a specific opinion. However, the thoughts and beliefs expressed by participants are not necessarily representative of a larger population's disposition. Singular comments may only represent one individual's stance – unless it can be shown to be part of a general trend of beliefs or perceptions.

Key Findings: Rural Focus Groups and Interviews

1. *Pregnancy and Prenatal Care: Each pregnancy entails unique needs, leading to diverse experiences for each individual.*

- Many participants had positive experiences during past pregnancies or their most recent ones. These experiences were marked by supportive providers and loved ones, feeling well informed by healthcare professionals and resources, and easy access to care.

- Access to midwifery care in rural areas was limited, either due to staffing or insurance barriers, impacting the prenatal and birthing experience. Those that did have a midwife most always reported a positive experience.

- The most overwhelming or confusing parts of the prenatal period for most participants involved the fear of the future and unknown risks they may encounter during late pregnancy and birth. These feelings were increased if they didn't have a consistent healthcare provider who they could see throughout their pregnancy.

- Other difficult experiences with care stemmed from providers not listening to their needs or respecting their expertise over their own bodies.

- Some participants reported feeling judged or pressured by providers during appointments on topics such as genetic testing, abortion beliefs, mental health, medications during pregnancy, and alcohol consumption. This made it hard to trust providers or share their concerns or questions with them.

2. *The birthing experience was reported to be either highly positive or deeply negative based off the care that participants received.*

- While the prenatal period often required less encounters with the hospital, delivery is an event that serves as a major touchstone between patients and the hospital system.

- Due to the nature of this event, participants felt the most vulnerable during this period and the care they received during this time was especially important.

- One of the most important determinants to the birthing experience is communication among providers, patients, and the loved ones of patients during labor.

- The factors that contributed to negative birthing experiences was lack of cohesion between their care team, being under the care of unfamiliar providers, and not being included or informed about decisions during their delivery.

- Those who had positive birthing experiences attributed the success to being surrounded by those who were familiar to them, and who they trusted. In addition, their providers were patient,

supportive, communicative, and experienced professionals who prioritized their comfort and safety.

3. The postpartum experience was the most challenging period for rural participants overall.

- Participants reported the postpartum period as particularly challenging on a mental, emotional, and physical level.

- Many participants struggled with some amount of postpartum depression. This could be amplified by lack of sleep, meeting the needs of their newborn, physical exhaustion, and difficulties adjusting to daily life and navigating care.

- Participants discussed at length the days immediately after giving birth. Many discussed the pressure they face to start feeding their baby. Some mentioned they felt immense pressure to start breastfeeding at the hospital, sometimes to the point where loved ones had to advocate for them. Those who had good experiences with lactation consultants were less likely to experience stress related to feeding their baby.

- In some cases, the partners and spouses of participants were not available as needed due to parental leave policies at their work and COVID-19 policies.

- Parenthood was portrayed as a lonely experience filled with doubt, contrasting with the idealized image of a "supermom."

4. Postpartum care was seen as lacking on several levels by almost all participants.

- Nearly all rural participants expressed a lack of postpartum resources. Inadequate mental health support was noted, with difficulties accessing care, long waitlists, and inappropriate medication prescriptions listed as barriers.

- Some felt within this timeframe there was a shift in provider attention from their health to the baby's health, sometimes at the expense of their own well-being.

- Most participants would have been interested in a home visiting nurse if this type of service was available or if they were aware of this resource. Those that were aware and utilized Maine Families, were very satisfied with the program and would highly recommend to other parents.

- Most participants shared that the transition from OB/GYN care to general medicine for their own care was very unclear and usually forgotten about. Some participants received more attention from their child's pediatrician than their own primary care provider.

5. Participants face a variety of barriers that directly impact their perinatal experience.

- Many participants faced challenges accessing childcare services during the postpartum period. This stemmed from long waitlists, costs, and meeting strict requirements where they wanted to access care.

- Some participants reported facing challenges surrounding financial assistance during their perinatal journey. Low-income participants reported feeling stigmatized by some providers and the assistance they received as being insufficient. Others expressed a need for financial assistance but struggled because they did not meet the requirements of financial assistance.

- Finding mental health support was a challenge to many participants throughout the perinatal experience. Those with preexisting mental illnesses and medication prescriptions struggled to find reliable information and care while pregnant. Finding support during the postpartum period could be especially difficult.

- There were different experiences among participants when it came to travel and distance for their care. Some were within 10-45 minutes of their facilities while a few others had to drive more than an hour. If emergency services were needed, some participants would need to travel over two hours.

6. *Feedback on prenatal and postpartum education and resources was inconsistent.*

- Participants who were familiar with the healthcare system or those who had given birth in the past reported receiving educational information from their providers.

- First-time mothers and those who were already experiencing complications in their pregnancy felt they didn't receive enough education.

- In nearly all cases, participants felt they'd benefit from receiving more education during their perinatal journey.

7. *The most useful coping strategies amongst participants were social networks and maintaining mental and physical health.*

- The most important social connections amongst participants were family and loved ones, especially those with prior experience in parenting or those who were willing to help them with childcare.

- Finding the time to access support groups was difficult for most participants. Some were aware that groups existed in their community, and others were unaware of any resources but expressed interest in them.

- Participants who were able to use in-home services considered them invaluable during the postpartum period.

- Some participants utilized social media forums and online parenting groups throughout their pregnancy and during their postpartum care.

8. *Many participants underwent their perinatal journey during the COVID-19 pandemic. This drastically altered their experiences and continues to leave a lasting impact.*

- The high rates of demand and staff turnover in healthcare disrupted the ability to establish consistent relationships with providers during their perinatal care.

- The pandemic made many midwifery and in-home services even more unavailable for participants, which for some took away their preferred type of prenatal care.

- Fears surrounding isolation protocols during childbirth added to heightened anxiety for many participants during their birthing experience.

- The social distancing during the COVID-19 pandemic made it difficult for participants to get the postpartum support they needed. Many were unable to connect with resources, social supports, and loved ones who could offer daily support.

- Accessing needed mental health support and securing other types of care was increased during this time.

- Some participants expressed concern that the changes brought on by the pandemic within healthcare systems will be permanent.

9. *Despite the diverse perinatal experiences among participants, most agreed on the importance of building good relationships with providers and that there are ways that perinatal care can be improved.*

- Consistency of care and communication amongst providers and patients were the biggest contributors to the positive experiences for participants and the most important to improve care.

- Supports and services for the postpartum period was an area most in need of improvement, with nearly every participant citing the need for better mental health, financial, and community support.

- Participants felt most heard and understood by providers they had ongoing positive relationships with. The importance of providers remaining courteous, empathetic, open-minded, and accessible to patients was emphasized amongst nearly everyone.

Question

"This activity is called "speak your mind". I am going to show you a picture. I want everyone to say out loud what immediately comes to mind once you see the picture. Everyone ready?"

What they are saying:

"The grip on the belly doesn't look warm and fuzzy to me. To me, it looks like a fearful grip. … Yeah, the way his hands are put together doesn't look like they're having a warm, fuzzy conversation." (FG2, Participant 2)

"I felt a little anxiety seeing this picture. I think the background image more so than the foreground. I think the doctor, the way that they're sitting is stressful looking to me, so I'm really anxious that there's bad news on the table or some complication coming for this lovely pregnant lady." (FG1, Participant 1)

"My midwife at least was... She was always very hands-on, and I don't know, it really felt like she was right there next to me literally all the time, which I enjoyed because I needed that being a first-time pregnant person. But the idea of someone sitting on the other side of a desk and she's like, it looks like they're giving you some terminal diagnosis, like a pill bottle sitting in front of you." (FG1, Participant 5)

Summary

Participants noted that the image both aligned with and diverged from their personal experiences with pregnancy. For some, pregnancy was a complex mix of joy and fear. Others felt anxiety while looking at the image.

Bottom Line

Participants had mixed reactions to the icebreaker image.

Question: *Tell me more about your experience with the care you received while you were pregnant.*

What they are saying:

"I was pregnant all through COVID, and COVID was at its worst when I did deliver. I want to have another child, but I don't want that same experience again. That is one thing that I know for sure. It wasn't an amazing experience by any means, and I really wish that I would've had a relationship with the provider that delivered my child. I would've been a lot more comfortable." (FG 1, Participant 2)

"I wouldn't say I had a terrible experience while I was pregnant. Toward the end of my pregnancy was pretty terrible. It was when they were supposed to do her growth scan. My husband and I were both very, very big babies, and I'm not a very big person, so I was pretty scared that she was big. This doctor was new, fresh out of school new. Literally, she just graduated. She puts the ultrasound machine on my stomach, and she goes, "I don't know how to use the measurement, but I can tell she's head down so you're all set." I was terrified." (FG2, Participant 5)

"I was pleased with the care I received. I went to all the scheduled appointments. I don't really know if that's what you're asking, but I had a pretty good experience overall with my third baby. They were attentive, They explained all the testing and I didn't have any pregnancy issues, so it was really smooth. It was my third baby (…) I was able to access test results online. I think they emailed them as well. No, I was able to reach them by portal, by phone, in person. It was very accessible to me." (IDI 2)

Summary

Rural participants had unique perinatal experiences, with variations between providers and across multiple births. Those who were pregnant during the COVID-19 pandemic often felt disconnected from their healthcare teams, leading to distressing childbirth experiences.

Bottom Line

Overall, experience with prenatal care is diverse - but many pregnant people in rural communities experienced similar hardships during the beginning of the COVID-19 pandemic.

Question: *What was the most confusing or overwhelming part of this time?*

What they are saying:

"One of the things I found challenging this time and all the times I also tend towards the anxiety. And there are so many things where it's like every symptom, everything you feel is either totally fine and normal or else everyone's dying. Okay, cool. How will I know the difference?" (FG1, Participant 4)

"The most overwhelming part of pregnancy was always the unknown. So each time you go into an appointment, not knowing if you were going to have a complication, I had my first pregnancy at the age of [redacted], so there was always that overwhelming feeling of just knowing you're at risk for more things. So every time you went into an appointment at the beginning, it was always asking about genetic testing and risk factors and risk stratification. I suffered a fall towards the end of my pregnancy at week 35, and fortunately my baby was fine, but I would say that was probably the most anxiety provoking after that in terms of not knowing what was going to happen if I did any damage." (IDI 3)

"Having seriously very traumatizing and excruciatingly painful delivery with my daughter, and also a situation like what you said with a doctor who I just didn't know, didn't feel comfortable with, and the doctors that were in and out during my first delivery were not communicating with each other. They all had a different plan of how they were going to go about this. My daughter ended up being born with, from the vacuum, she had a massive lump bruise on her head (…) the vacuum was never discussed ahead of time through my pregnancy." (FG2, Participant 5)

Summary

The most confusing or overwhelming time mentioned by participants during their pregnancy and birth was facing unknown risks. This included providers they didn't know well, or lack of communication between providers and their patients. Some also mentioned prenatal genetic testing felt overwhelming and made them concerned for possible risks their pregnancy may encounter.

Bottom Line

The most confusing or overwhelming parts of pregnancy came from facing the unknown; be it from a health standpoint or through poor quality of care.

Question: *How long did it take for you to receive care while you were pregnant?*

What they are saying:

"I had way more ultrasounds than anybody else. It wasn't bad. The only thing that was a little difficult was the drive. So I had to drive an hour every time I had to go to the doctor. So once I got to the end of my pregnancy, I was going to the office at least once a week in [redacted]. So that was really the only inconvenience." (FG 2, Participant 4)

"I didn't realize that you don't get seen and at most practices until you've been pregnant for a little while, so that was a shock for me. I was incredibly anxious at the beginning, so I wish I had had more information about how the care starts prior to actually becoming pregnant. I didn't see anybody until I was like eight weeks pregnant. And so I was spinning around in circles for the first... I think I found out at five weeks, so three weeks of just waiting." (FG1, Participant 5)

"For lab testing, for the glucose test, and then for the initial genetic screening and the gender blood work, I did have to travel to a different office. And then of course for the birth of the baby, I had to go to the hospital, which was also a separate location. But for all of my standard prenatal appointments, I just went to the same gynecologist. And the offices they sent me to for blood work were actually really convenient as well because they were all sort of in the same... I would say within three to four miles of each other. So it was all very convenient and closely located." (IDI 2)

Summary

Most participants said they did not experience long wait times to receive prenatal care. There were different experiences among participants when it came to travel and distance for their care. Some were within 10-45 minutes of their facilities while a few others had to drive more than an hour.

Bottom Line

Rural participants did not report long waiting lists for prenatal care, but some had to travel long distances.

Question: *Were there services or resources you accessed successfully and had a positive experience with during pregnancy? Tell me more about that.*

What they are saying:

"It was super helpful again that I was at a small practice. We had one doctor, one midwife. Those were the only two people I ever saw. And I would flip-flop appointments between the two. I would meet with the doc one month and then midwife the next month, and they were both present at my birth. And so it was really nice to have both of them be on the same page as well, not have people saying conflicting things." (FG1, Participant 2)

"We went to [redacted], and then I gave birth at the [redacted] hospital They just gave us information. Everything was our choice. They were very supportive and encouraging. And so our experience, and my personal experience through the prenatal and childbirth and delivery was honestly nearly perfect for a first-time experience. I have no complaints with them. They were very attentive. I had regular appointments. They were very encouraging, very helpful." (IDI 1)

"I had a great experience at the emergency room. They knew what they were doing, they prioritized me, made sure that I was good, she was good. I was able to go home that same day. But it was very, very scary (…) I was very, very impressed with their staff. Everybody, they knew what they needed to do. Even my husband was like, "That was great."" (FG2, Participant 2)

Summary

Almost all participants had positive experiences at some point in their perinatal experience. The key factors that made for a positive experience was a healthy pregnancy, quality relationships, and consistent care from healthcare providers. Participants who had positive experiences throughout pregnancy often had better deliveries and postpartum mental health.

Bottom Line

Based on some rural participants' stories, positive experiences with prenatal services are key foundations for improving perinatal outcomes for parents.

Question: *For anyone who needed emergency services, urgent care, or high-risk care during pregnancy, how was your experience?*

What they are saying:

"I have Von Willebrand's disease. It's a bleeding disorder where my blood doesn't clot at all. So I had to have a bunch of medications before I could have her. So they were trying to schedule me to be induced two weeks before my delivery so all of the doctors that I needed were there for the delivery. She had other plans and came a week earlier (…) They're very organized. They are very sufficient. And I got in, and they had to work quick. My daughter, I was only in labor for three hours, and I drove an hour of it. And I'm still here to talk about it. I didn't have any complications." (FG2, Participant 4)

"In the hospital it felt like you were just isolated, and you didn't see anyone very often. Actually, when I went to have my C-section, there was complications. I wasn't taking to the anesthesia, and they didn't even tell my partner what was going on. They just said, "You are going to have to go in the other room," and they put me out. It just happened so fast, and I didn't know anything what was going on. They didn't tell him anything. He thought something bad happened." (FG1 Participant 3)

"So it was quite easy actually, I just called my OB, described my injury and my symptoms, and I was able to go over to the emergent care, labor, and delivery room. Got right in, got great care, re-assurement and observed for a certain amount of hours and then sent home." (IDI 3)

Summary

Participants who had emergency services or high-risk care during their pregnancy had mixed experiences. Some reported feeling well accommodated and informed about their health needs by their providers, making the experience more manageable. Others felt their experiences were traumatic. This was most common in emergencies during delivery.

Bottom Line

Emergency services for pregnant and delivering parents can be stressful. Better organization and preparation for emergencies could put patients' minds at ease.

Question: *How was your mental health/anxiety/mood during your pregnancy?*

What they are saying:

"The first time I wanted to get pregnant, which was three years before I actually did, I was like, "Okay, I'm ready to do this." And I went off all of my medications and I had what my husband called my quarter life crisis, and I just completely spun out and I was like, "I can't." I had convinced myself that I can't be a mom because I'm not mentally able to do it. I'm not physically built to be able to do it, which was really crappy to feel like that (…) "If you can't be off of antidepressants for nine months, then you shouldn't be a parent," kind of a thing. That's what it felt like to me. Once I got the right care team and I had people who were up on research and were listening, that was a lot nicer." (FG1, Participant 2)

"We had to go into our, whatever, our birth plan meeting that we had, and we were essentially told that if I was to test positive for COVID while I'm in labor, my daughter would have to be put into another room. And if my husband was negative, he would be able to be in that room with her, but I wouldn't be able to take care of my baby, which was insane to me. And it wasn't even like they were open to giving me that choice myself as to whether I wanted to. It was pretty much, she's going to go into a different room if you test positive." (FG2, Participant 2)

"My second daughter, I was pregnant with her at the tail end of all the COVID stuff. So I was still pretty worried about, because I was pregnant with her during all of that, and so I was a little bit nervous with the hospital restrictions for that (…) I was a little bit nervous about that, and that was pretty stressful." (FG2, Participant 1)

Summary

Participants' mood and mental health varied on a personal level. Some already had a history of mental health struggles, and others felt their mood was stable. Many participants felt concern about their upcoming delivery during the height of the COVID-19 pandemic. Above all, participants reported their biggest struggles came during the postpartum period.

Bottom Line

Expecting parents are at higher risk for mental health challenges and need better mental health support and resources from their healthcare providers – especially in rural communities.

Question: *Were you able to access any services for your mental health? Tell me more about this experience*

What they are saying:

"I was on medication through my pregnancy with the blessing of my midwife and the OB because I suffer from anxiety and depression. That was just always a topic of conversation for every appointment I had because they were aware of it, they would check in with me, which helped a lot with the anxiety during pregnancy." (FG1, Participant 5)

"I don't know if it's because working in the healthcare you have a lot of understanding of all of the things that could possibly go wrong. So I would say I was anxious a little bit more than usual through it because of this unknown fear that something bad was going to happen. But other than that, I would say I was still functional. I didn't require any intervention for it. It was just one of those things that I kind of had to process. My OB was really understanding and realistic and just kept giving me factual reassurance. I think as the pregnancy went on, that got better." (IDI 3)

"It wasn't a cognitive behavioral thing that was going on. It was lack of sleep and not having support. I called probably 20 different psychologist office across the entire state. I was willing to drive up north. I was willing to drive two hours to [redacted]. I was willing to drive to [redacted] if I had to. And I got to the point where I ended up utilizing the... Your insurance companies have the online telehealth and psychology is one of them. And that's what they told me that I could utilize if I really needed help now. And those physicians were not able to prescribe the level of medication that was needed in my case because it's a telehealth." (FG2, Participant 5)

Summary

Overall, participants struggled to access appropriate mental health resources that addressed the root causes of their problems (e.g., lack of sleep and social support). Participants reported experiencing long wait times and navigating barriers to access proper medication.

Bottom Line

Accessing mental health services during pregnancy was significantly more difficult for pregnant and parenting individuals compared to other services.

Question*: Did you receive any education about prenatal care and postpartum care? Tell me more about this.*

What they are saying:

"During pregnancy, they were offering classes. There was a breastfeeding class, and there was also a birthing class. And my husband and I did go through the birthing class. Wished we would've gone through the breastfeeding class, but that was very helpful. It was free to attend, and they both would've been free to attend. And the birthing one in particular was really helpful. Talking about the options they do in intrathecal." (IDI 1)

"Yes, in the form primarily I feel like of handouts to sift through. And I did reference... They gave us this one big... I want to call it like a handbook, and right at the beginning, there was a whole bag of stuff they gave us in the beginning of the pregnancy and then there was one they gave us at the end. So the first one talked all about the different phases of pregnancy and what to expect and different... It was really helpful, actually. I did read through that just to remind myself what to expect each phase of the pregnancy. And then upon leaving the hospital after giving birth, they gave me another one that went through the baby's first few months and what to expect there and just kind of something to reference." (IDI 2)

"They also offered classes throughout the pregnancy. They offered, I think four or five times a year and you could sign up for it and it would be like, this is what you're going through right now. And it was like this, where it was a group of pregnant people who were all sharing what they were going through and people who were actually there who were doctors and could speak to it." (FG1, Participant 2)

Summary

Participants had mixed responses for the education they received during their perinatal journey. While first-time parents were especially interested in getting more educational resources, participants who had given birth to children in the past still gained value from classes or written resources when used.

Bottom Line

Participants benefitted when they were able to access prenatal and postpartum resources.

Question: *How was your birthing experience/s?*

What they are saying:

“I think it was positive overall. One of my biggest frustrations was I felt like, you know your body the best and the nurses didn't always think I was right. And so that was a little bit frustrating (…) I did feel like you have to do a lot of advocating for yourself, which I guess if you have a voice to do that, but I feel like some people don't, especially if it's a first time and you don't know what to expect, and you're just like, "I'm not really sure, but I'm feeling all of these things." And then you don't know what that means yet. That can be really scary, so I felt like you really had to speak up for yourself during the labor process.” (FG1, Participant 1)

“It was nearly perfect, I think. All of the care I received, the ladies, I guess the best way I could put it is they wouldn't come in too much into the room. They had a really good timing for when they would come in and out to check on me or to let me rest (…) during the delivery, there was a nurse who kept telling me where to put my hands, but she wasn't being rude about it. She was just trying to do her job. And I'm like, no, this is where my hands are going to be. This is what's comfortable for me. And she only said it a couple of times and then she let it go.” (IDI 1)

“I ended up having a three-day labor with her, and I saw four different doctors the time that I was in the hospital. The doctor that ended up delivering for me, she had just gotten on shift an hour before and I'd only met her also one time (…) My daughter ended up being born with, from the vacuum, she had a massive lump bruise on her head (…) they were pumping me full of a lot of narcotic pain medications, so I was not in my right mind.” (FG2, Participant 5)

Summary

Participants had varying experiences when they gave birth. Those who had a positive experience felt that communicative, supportive, and trusting providers helped make their birth a good experience. Those who had negative experiences felt that lack of information, being with unfamiliar providers, and providers who wouldn’t listen to their concerns were detrimental to their experience.

Bottom Line

The degree to which providers know their patients and are communicative sets the foundation for the birthing experience.

Question: *Now, tell me about your experiences with the care you received after you were pregnant (during the first year).*

What they are saying:

"The worst of that for me was actually postpartum (…) There was the compounding factor of the whole COVID lockdown, couldn't have anyone come over, hadn't slept in a month and a half kind of thing. But it just was very overwhelming to feel like I had no feedback (…) I do have a history of postpartum depression, so I knew that was a risk. Reached out about that early and often but also went through dealing with a lot of doctors that just my health doesn't matter." (FG1, Participant 4)

"The postpartum care, they didn't really offer me. There weren't any resources because I definitely would've taken advantage of them had I known about any (…) I don't remember the women's health center or the hospital offering anything. Even when I would ask, they would just give me encouragement. Have someone watch the baby so you can sleep well. When my husband went back to work, I didn't have anybody. So that wasn't super helpful. And beyond that, I wasn't made aware of any resources if there were any available as far as that goes." (IDI 1)

"I don't think there really was a whole lot of postpartum care. It was just a little quick follow up to see where you're at, and then it's, "Okay, well call us if you have any concerns." But then it's like people that suffer from postpartum, they don't really typically know why they're feeling the way they feel, and being embarrassed about those emotions, a lot of times people won't seek help or because they're not educated on it." (FG2, Participant 3)

Summary

Participants reported a lack of structure to the care they received after giving birth and/or a lack of care entirely. They reported a shift in provider attention from them as the parent to their newborn. Moreover, participants mentioned that the effort required to schedule their postpartum appointments got in the way of their main focus - caring for their newborn and recovering from giving birth.

Bottom Line

New parents need significantly better care during the postpartum period.

Question: *What was the most confusing or overwhelming part of this time of your care?*

What they are saying:

“One of the things that created a lot of anxiety after was lactation consultation that I feel... I know it's dependent on the place of birth and if they're baby friendly centered hospitals or not, but I will say there was a lot of pressure with that. I think that would probably be the only thing that looking back made me feel some anxiety or a little uncomfortable.” (IDI 3)

“Even before I left the hospital, it was horrible. I wasn't able to breastfeed. I tried and I tried and I tried, and I understand they want to give you all of the options and all the resources and try this and try this and try this, but I was so tired and just felt like I had been run over by a truck and just I couldn't think straight. I was exhausted. I was so overwhelmed trying to get in the hospital and trying to breastfeed her and I couldn't do it (…) She had been out of me for a solid day and a half and she has not eaten and I'm glazed over. I don't even know what to do anymore. I feel like my body's failing me. And those creeping thoughts again, you screwed up.” (FG1, Participant 2)

“I remember literally, physically ripping my hair out at one point because I was so exhausted by the things that were going on postpartum. But now that I've been through it that bad and also have been through a pregnancy and postpartum that wasn't like that, I know how to provide myself the resources prior to having that baby to make sure that I'm okay, instead of relying on the system to help.” (FG 2, Participant 5)

Summary

Participants often said after birth, they felt mentally and physically exhausted and needed to focus on the survival of their newborn. Participants often described trying to overcome postpartum depression and anxieties while navigating challenges with caring for their newborns. In particular, participants cited that figuring out how to feed their newborns was an especially stressful period.

Bottom Line

The postpartum period was reported as being one of the most difficult periods of the perinatal period, exacerbated by lack of support.

Question: *What other challenges did you face in seeking healthcare for yourself or your baby?*

What they are saying:

"There are a couple times where our appointment was just changed or we were kind of given an ultimatum per se like, "Okay, well you have to see this person on this day or else we're going to have to reschedule your appointment." And for my husband and I, it's really hard to just randomly reschedule an appointment. I think sometimes that is a little disrespectful or that's just an assumption that the offices shouldn't make. I think it should be more of a better conversation about it." (IDI 3)

"When my son was two months old, my husband left for almost three months, and I was left alone. I worked full time. I had two kids. One of them was not sleeping, and I got to the point that it was postpartum psychosis (…) I had to put in an extreme amount of effort and work to be able to get postpartum care that I needed." (FG2, Participant 5)

"Mostly I would say it was because I just didn't feel like I had time really either, because with two kids and the household to run and we all got... I only had eight weeks off work and so we all got COVID, so a lot of times everyone was home. I was like... I just didn't really feel like I had time to do any of that support stuff, even if I had wanted to." (IDI 2)

"Right after you have a baby, you have so much on your mind, you are worrying about feeding and diapering and trying to do anything remotely related to resting. And to pick up the phone and be like, "Hey, I think I need to come in for an appointment," it's just not going to happen. It's not the first thing on your mind. The first thing is you're taking care of your baby." (FG1, Participant 1)

Summary

The biggest challenge shared among participants was balancing their needs with a busy schedule when caring for their newborn. Some faced challenges due to work, partners not having enough time to support them, issues getting childcare services, travel logistics, and complications from COVID-19.

Bottom Line

It is a struggle to balance new parenting responsibilities while navigating the perinatal health system for care. More support and understanding is needed to help parents access the care they need.

Question: *How did you cope with stress/fears/worries during your pregnancy and after having your baby?*

What they are saying:

"Postpartum I got a regular rhythm of moving and that helped a lot. Just that social need and then also medication and my psychiatrist and all those sorts of things. Got some medication and then it's like, "Oh, right, that's what that is supposed to feel like." But I think it was incredibly isolating, especially during the pandemic and especially postpartum because nobody could come over and see my cute little new baby." (FG1, Participant 4)

"I exercise a lot, I just always have. So if I got really anxious, I would exercise. I would talk to my other friends that had young kids or moms. I would say I mostly talked to my other friends for some relief that knew what I was going through." (IDI 2)

"The only reliance that I had when I was postpartum was my best friend. And honestly, I don't know what I would've done without her. But I didn't have any resource... I don't even feel like I was ever asked if I was okay by her provider's office or my provider's office. I mean, they give you a little questionnaire when you go in, but it was very not discussed. It is embarrassing to say, I feel like they should treat everybody like they have the issue, and then if they don't, kind of rule them out. Because it's embarrassing to tell somebody, "Mentally, I don't really feel okay right now."" (FG2, Participant 2)

Summary

Almost all participants emphasized the importance of finding support through their social connections such as online groups, family, friends, and trusted providers. In addition, many participants felt that physical exercise and therapy were key to coping with the stress and anxieties during and especially after their pregnancies.

Bottom Line

Healthy habits such as social connection and accessing mental health care are key to helping new parenting individuals cope after having their baby.

Question: *Did anyone experience high blood pressure during their pregnancy? If you feel comfortable sharing, what was that experience like? What about other health issues?*

What they are saying:

"I had preeclampsia with my first, so my second was high risk right out of the gate, so my blood pressure was pretty elevated. I actually took aspirin my entire pregnancy to help control that (…) I feel like that just terrified me more. But it ended up being totally fine, just had to be closely monitored. But I feel like the practice that I went to was very good about, especially during COVID protocols, to be able to get me in every week for an ultrasound was really big to just make sure everything was okay." (FG1, Participant 1)

"I had it with both, and it happened around 18 weeks, 20 weeks with both of them (…) they just monitored it. And as weeks kept going by, it was always borderline. It was still fine, but not okay enough to... You know what I mean? And then that's why they induced me with both because my levels had gone crazy and my blood pressure was skyrocketed." (FG1, Participant 3)

"It was preeclampsia with both. But I went in to a doctor's appointment and they measured my blood pressure, and the doctor was like, "You're going to the hospital right now to be induced," is what happened with mine. But I was also 37 weeks." (FG2, Participant 5)

"The first couple weeks or whatever [postpartum], they want you to look for blood clotting, and I had a large blood clot that I was concerned about, and I was able to reach someone after hours, and they had a portal where you could send pictures and, I have access to a computer and the internet, so I was able to access everything perfectly fine. I think they scheduled me for a couple postpartum appointments, and I had no issues with that getting there." (IDI 2)

Summary

Of the participants who experienced high blood pressure, nearly all of them reported consistent monitoring throughout their pregnancy and needing an induced labor.

Bottom Line

Participants with high blood pressure received adequate monitoring throughout their pregnancy.

Question: *What does respectful health care look like to you?*

What they are saying:

"Just listening first and foremost, hearing me out and not talking over me and assuming what I mean and if they don't quite understand, asking me to elaborate was very helpful. Because there's a lot of times where I felt like I was talking and they weren't hearing what I was saying because they spit back some textbook report response to what I was saying, and I'm like, "That's literally not relevant at all." It's isolating. You feel alone and you don't even have your doctors listening to you, and they're supposed to be the ones that are your only sail on your little rowboat lost out at sea here." (FG1, Participant 2)

"Obviously answering any questions I have. Answering them thoroughly. Letting me know what my options are, but without being pushy or aggressive about it, or just letting me make my own choices (…) not making it so obvious as a healthcare provider where you stand politically on that, but just presenting me with what options I have in healthcare, what my risks are, et cetera." (IDI 1)

"A respectful healthcare relationship would require you to be completely honest and full transparency. And if I was running a few minutes late, they always took me and never made me feel like terrible about it, because I had two young kids at home and I would just get there... So no, I think it just means that you feel comfortable with your doctors and they respect you as a person and professional, and good bedside manner." (IDI 2)

Summary

Nearly all participants agreed that respectful healthcare is built from: communication, honesty, trust, information, accessibility, support, and empathy.

Bottom Line

The overall idea of respectful healthcare for people experiencing the perinatal journey are similar.

Question: *Tell me about a time when you felt most understood by a healthcare provider during your pregnancy? What about after your pregnancy?*

What they are saying:

"My obstetrician and my pediatrician so far, they've just been really great. My first pregnancy ended in a miscarriage, so I did have a lot of, like I said at the beginning, a lot of anxiety of the unknown and something bad happening. So again, my obstetrician was really good at just reassuring me, basically telling me that everything that happens that is out of our control, provided me with evidence-based medicine and numbers and data, and just kept it very objective. So I felt like he took the time to do that where he didn't really necessarily need to. I would say that was probably one of the biggest things that made such a positive impact with me and him and our relationship." (IDI 3)

"My experience I know is born out of my good rapport with my doctor, but I did call the maternity ward a lot and ask questions, and they were very accommodating, which is good. But I also was able to email my doctor back and forth, and she was willing to email with me, so the random question that popped into my head at 03:00 AM when I'm in tears because I can't get any sleep, I feel like I'm about ready to keel over. It was nice to be able to do that instead of having to call the emergency room in the middle of the night." (FG1, Participant 2)

"My midwife that I had through my pregnancy and delivery, she was understanding about the mental health struggles I was having. Again, I don't remember her really offering me any resources, but she was very understanding of what I was experiencing and going through." (IDI 1)

Summary

Participants felt most understood by providers when they had an ongoing relationship and felt familiar with them. In addition, participants who felt heard, understood, and well informed by their providers left a lasting positive impact.

Bottom Line

Facilitating ongoing care and relationships between patients and providers leads to overall better communication and understanding.

Question: *What else can health providers do to nurture a strong and positive relationship with pregnant people and new parents?*

What they are saying:

"Really making sure that they're aware of all of the possible resources and options out there, and make sure that those are probably multiple times clearly communicated to the new parent and new parents. It's really one of the biggest improvements I think that could be made (…) there's so much going on, so much to remember when you're going through all that. So just making sure that we're aware that these resources are available. Take advantage of them." (IDI 1)

"Offering constant resources. I think that for my personal experience, I think for first time moms, the best thing they can do is explain the bad side too. Because I feel like healthcare providers tend to just be like, "Oh, it's going to be..." If they talk about all the physical things that will happen to you, but not... I don't know, I wish somebody had told me, "It's okay, you don't have to love every second baby when the baby comes out. You might not feel that attachment and that's okay," but nobody really talks about those things. So I think that, that causes a lot of women to feel like when they have the baby feel guilty, like, "Oh, I don't feel what I should." And then that just adds to your postpartum depression that you might be feeling. And so I think healthcare providers could do a better job counseling to some degree so that women don't feel as guilty for not feeling what they think they should when they have babies." (IDI 2)

Summary

Participants agreed that communication, transparency, giving quality medical care, and proactively offering resources at every step of the perinatal journey is key to nurturing a strong and positive relationship with pregnant people and new parents.

Bottom Line

Providers must work to build better communication, empathy, and honesty to build stronger relationships with patients.

Question: *Did anyone have a home-visiting provider such as a nurse or community health worker? What was that like? Would others be interested in that service?*

What they are saying:

"If it was an option, honestly, I would say one of the nurses or midwives coming to my house once a day, maybe for the first week at least or something. But that's probably not realistic. So maybe offering some sort of class or just a get together for other postpartum couples that have just had a baby where at least I have someone to talk to or other women to talk to that have just had a baby." (IDI 1)

"No. But I know that they mentioned that after the baby was born, they did give different phone numbers for people that would be willing to come to the house, like consultants or I know that those services were available, but I just never had to use them." (IDI 2)

"We participated in [redacted]. It was somebody who was literally just there to check in on you and your family and make sure you were good. And then if you weren't good, give you resources. But she helped me with literally everything from sourcing formula to finding daycares, to helping me with milestones. Being a first-time parent I'm like, "I don't know, are they supposed to be talking by five months? I have no idea. I don't know what to expect here." It was really nice to have somebody there who was able to provide me context and resources. I tell every single person I know that they're pregnant, I'm like, "Sign up for [redacted]. It's amazing. Worst case scenario, they bring you free diapers."" (FG1, Participant 2)

Summary

While some participants had benefitted from home visiting providers, most participants did not utilize home-visiting providers postpartum. Some cited the COVID-19 pandemic making it difficult to access in-home care. However, some indicated they would like this service if they knew how to access it during their perinatal journey.

Bottom Line

New parents have benefited and shown interest in accessing more home-visiting services.

Question: *Do you have any recommendations for how health care providers can incorporate important cultural traditions into care?*

What they are saying:

"I don't know if I could necessarily give any recommendations on that. I'm born and raised here in [redacted]. I'm Caucasian, I'm Christian. Definitely, I think you've probably talked, and will talk with people who could offer a much better insight into that. Because I'm the basic white girl. I don't disrespect the other cultures, but I don't know much about them, so I don't know how to help in those areas." (IDI 1)

"I don't really know because I am pretty basic. I don't have any strong cultural ties, so I couldn't even imagine what... I think they try to be really respectful of people's birthing preferences, and we didn't have a lot of cultural variety because I live in... There's not a lot of cultural variety, I feel like, in this part of [redacted] where we live." (IDI 2)

Summary

Nearly all participants did not feel they could give helpful recommendations for this question. Some mentioned that this was due to where they fit demographically, or because they felt that where they lived was not culturally diverse.

Bottom Line

Incorporating more cultural traditions into care was not a familiar topic to rural participants.

Question: *Is there anything else that could help future families in your community receive the care they need?*

What they are saying:

"Making sure that those postnatal care resources are available. If I had known about Maine Families, I would've utilized those resources, which maybe they did tell me, I don't know. You're so flooded with information, but just checking in, making sure that people are okay after the fact, I think would be really helpful. I don't know that I have anything else to add except for daycare is super expensive and that really hard to get and it sucks to be a working parent." (FG1, Participant 1)

"I feel like the mental health, the postpartum care for the mental health part of your postpartum care, should be included in that whole picture of billing for the pregnancy, because it is all related. You would not have been depressed had you not had that baby. You would've not had those issues had you not had that baby. So in all reality, I feel like... But the world we live in today, and I know this again because I work at [redacted], the insurances drive everything. Insurances are the doctors, they make the doctors do the things that they feel is necessary, whether it's what should be done or not, but something should be. And I don't know how you would ever fix that because the insurances think they know everything today." (FG2, Participant 4)

"There's always a need for various financial assistance. I have friends that are still paying off the hospital costs. It's so expensive to have babies (…) offering resources for babysitters." (IDI 2)

Summary

While participants offered many ideas, the most commonly mentioned need was better postpartum resources, childcare, and financial assistance.

Bottom Line

There is a big need for better healthcare, community support, mental health services and financial assistance during the postpartum period.

Question: *What is one thing you wish healthcare providers understood when they were caring for you during your pregnancy or after your pregnancy?*

What they are saying:

"It's just a very difficult time to ask for anything because this image has been built up of the super mom who can do all of it. If there are a way to self-serve some of those resources without having to remember to give the nurse a paper form six times, that I think would reduce a lot of the barriers I know it would've for me." (FG1, Participant 4)

"I think some of them do understand this, but I wish that maybe they understood that even though they deal with this every day for these women, it's scary. And I was not one to have a thousand questions, but I know some women probably have a bazillion questions and a bazillion concerns and I'm sure it gets old. But I think it's good if they can realize that, for these women, even though, to the healthcare providers, it's an everyday thing, and for us non-medical professionals, it can be really scary, and hopefully they can just be patient with us and just continue to answer all of our questions and be available." (IDI 2)

"You never can really judge or understand fully what a person is going through. So whatever is bothering them is a legit thing, whether or not in the scheme of things it may be a big deal or not. I think just always being able to just be respectful of that and keep a very open mind to whatever might be bothering the person or whatever ailment, whether it's just a person's (…) it doesn't seem like a big deal to that person just as a provider, keeping an open mind and recognizing that everything is important and to just kind of base care on that." (IDI 3)

Summary

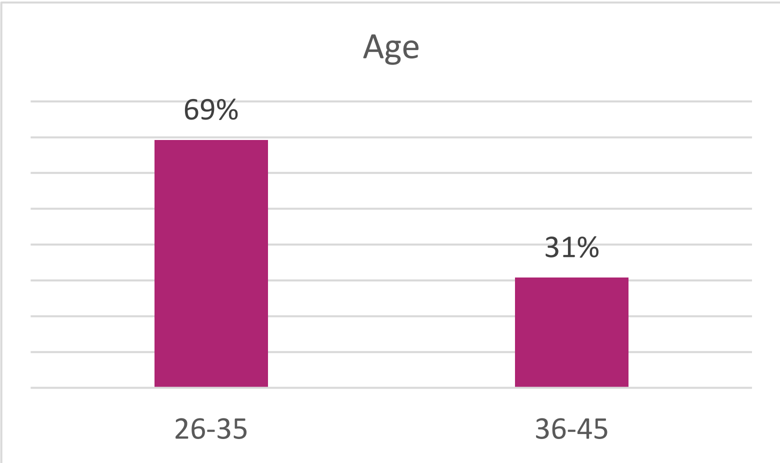
Participants wished that providers would better understand the physical, mental, and emotional challenges that are faced during the perinatal journey. Keeping a judgement-free and empathetic view of patients is crucial for delivering the best care possible.

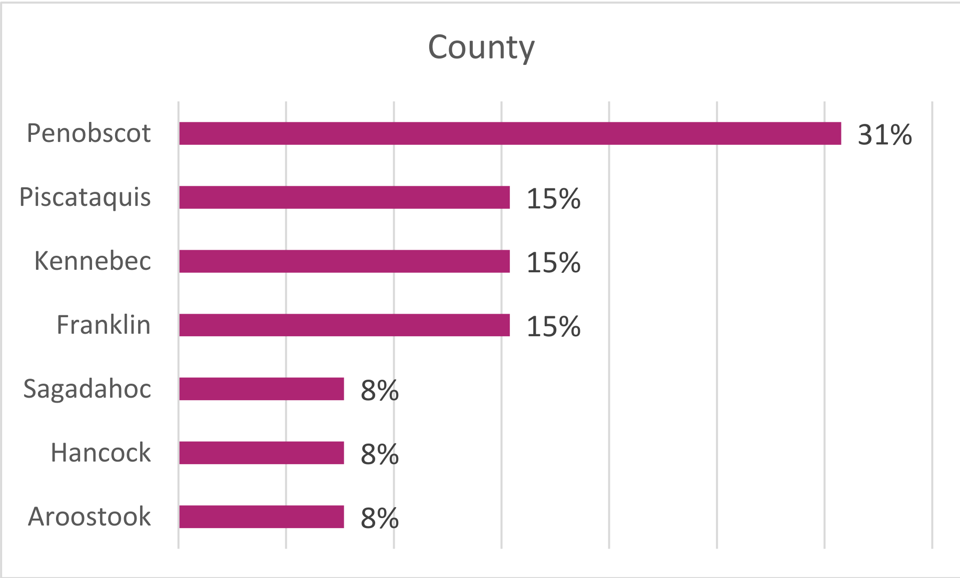
Bottom Line

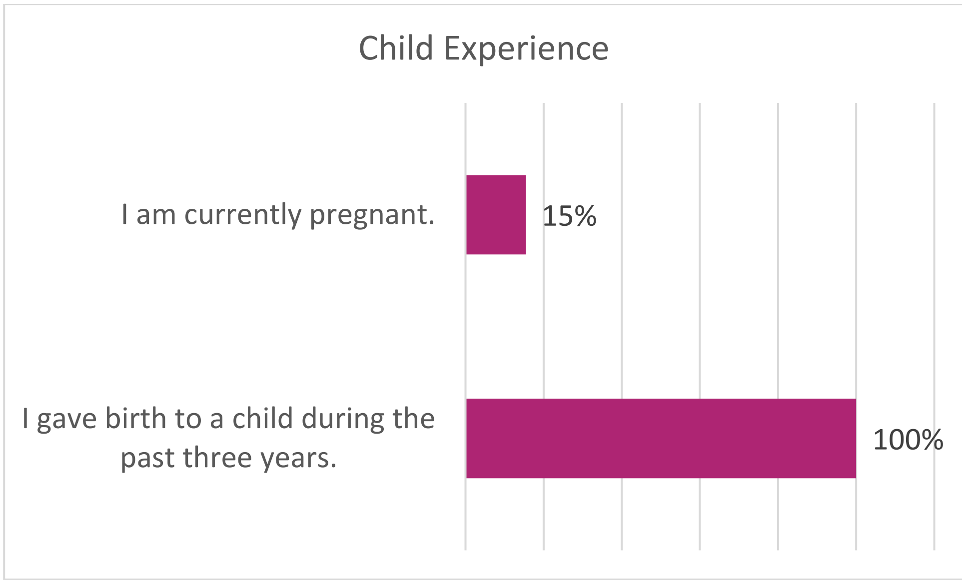
Providers should refrain from judgement of pregnant and parenting individuals and acknowledge their individual perspectives and needs.

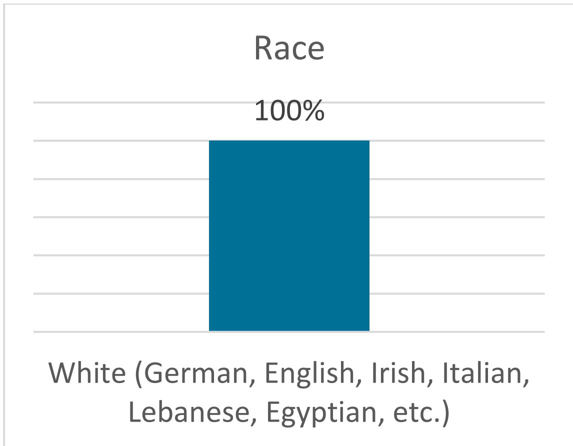
DEMOGRAPHICS: Rural Focus Groups and Interviews

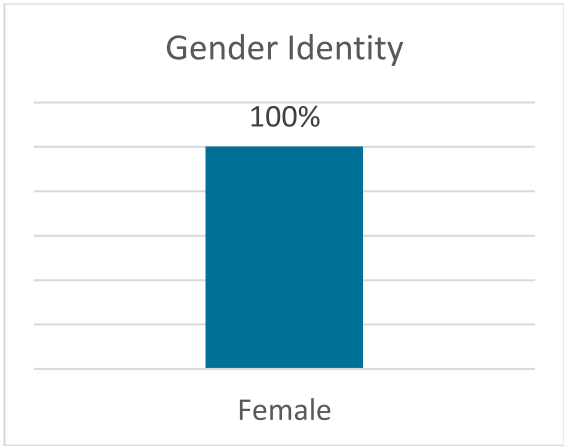
Group	Participant Total
Focus Group 1	5
Focus Group 2	5
In-Depth Interviews	3
Total	**13**






Child Experience
I am currently pregnant.
15%
I gave birth to a child during the past three years.
100%


Race
100%
White (German, English, Irish, Italian, Lebanese, Egyptian, etc.)


Gender Identity
100%
Female

Focus Group Discussion Guide

Introduction	Hi, everyone, thank you for joining me today. My name is NAME and I'm the moderator for today's focus group. I work for Market Decisions Research, an independent research firm in Maine, and I've been trained to lead this discussion. We are working with the Maine Center for Disease Control and Prevention (Maine CDC) on a needs assessment of perinatal care across the state. Part of this project includes focus groups and in-depth interviews with pregnant and parenting people from diverse populations in Maine. You have been invited to participate to share your thoughts. We want to learn about your experiences and hear your personal story to better understand the needs of people and families when they experience pregnancy, labor and delivery, postpartum care, or the first year of care after having a child.
Agenda & Acknowledgement	So, thank you, again, for joining us today. This will be a free-flowing discussion, and I'd like to hear from each one of you about all the topics I will bring up. Say what you think, there are no right or wrong answers, and everyone's opinion is respected. The group will run for about an hour and a half. I have my discussion guide with questions in front of me, but it is exactly that – a guide. New topics may come up and that's great. You are the experts.
Disclosures	This discussion will be video, and audio recorded for note-taking and reporting purposes. I need to write a report about what we discussed, and I will use the recording to help me. I will include what was said, but not who said it. Nothing you say will be tied back to you and none of your comments will be used to identify you. You are welcome to skip any question you'd like and leave the group if you need. You will receive a $150 gift card, check, or cash as long as you're here for at least half of the discussion. Does anyone have any questions about this or recording before we begin? I will start recording now.

<table>
<tr><td>Guidelines</td><td>I’d like to remind everyone to above all be respectful and follow these guidelines:

• Please allow everyone equal time to talk.
• If you need to step away for a minute, please do so quietly.
• Some topics today might be sensitive to talk about. I will make sure to check in periodically during the group to make sure everyone is feeling ok. Only share what you feel comfortable with, and please let me know at any time if we need a break.
• Please do not talk about any responses shared by other participants outside of this focus group.</td></tr>
<tr><td>Terminology</td><td>For simplicity, at different points in our discussion, I will use the following terms:
During Pregnancy and After Pregnancy Care: We refer to this as the health and care of pregnant people and their babies before, during, and after birth - up to one year. A reminder that every participant is at a different stage of their care.

“Care”: We refer to care as the efforts to maintain or improve physical, mental, or emotional well-being, especially by trained and licensed professionals such as nurses, doctors, doulas, midwives, medical assistants, physician assistants etc.

Healthcare Provider: A licensed person or organization that provides healthcare services.</td></tr>
<tr><td>Self Intros</td><td>I’d like to have everyone introduce themselves. Let’s go around and please share your first name and something you’re looking forward to in the next few months. I’ll go first.</td></tr>
</table>

Part 1: **Intro Activity**	Let's dive into the discussion! I always love to start with an activity. This activity is called "speak your mind". I am going to show you a picture. I want everyone to say out loud what immediately comes to mind once you see the picture. Everyone ready? **SHOW IMAGE** PROBE: Tell me more about "thought, phrase, emotion"? PROBE: Why do you think "topic" came to your mind first? PROBE: What do you think they are thinking about in this picture? PROBE: What do you think they are saying to each other?

Part 2: Personal Experience	Thank you everyone. Now let's dive more into the discussion. **Tell me more about your experience with the care you received while you were pregnant.** PROBE: How did you start your journey with your care? PROBE: Could there have been an easier way to access the services or resources you needed? PROBE: What was the most confusing or overwhelming part of this time? **How long did it take for you to receive care while you were pregnant?** PROBE: Were you ever on a waitlist? PROBE: How far did you have to travel for appointments? How long would this take? PROBE: Did you ever have to delay care or miss appointments due to time and distance? PROBE: Did you have to travel to a different place for your care during pregnancy versus a birthing center? Tell me more about that. **Were there services or resources you accessed successfully and had a positive experience with during pregnancy? Tell me more about that.** **For anyone who needed emergency services, urgent care, or high-risk care during pregnancy, how was your experience?** PROBE: What could make these services better? **For anyone who needed translation services, how was your experience?** PROBE: What could make these services better? **How was your mental health/anxiety/mood during your pregnancy? What about after?** PROBE: What could have helped you feel better? PROBE: Were you able to access any services for your mental health? Tell me more about this experience. **Did you receive any education about prenatal care and postpartum care? Tell me more about this.** **How was your birthing experience/s?**

	Now, tell me about your experiences with the care you received after you were pregnant (during the first year). PROBE: Could there have been an easier way to access services or resources you needed after having the baby? PROBE: What was the most confusing or overwhelming part of this time of your care?
Part 3: Barriers	How is everyone feeling? Next, let's talk more about barriers to care. **What other challenges did you face in seeking healthcare for yourself or your baby?** PROBE IF NEEDED: Cost of care/insurance? Getting time off work? Fear of going into debt? Transportation? Fear/lack of trust in medical providers? Language barriers? **How did you cope with stress/fears/worries during your pregnancy and after having your baby?** PROBE: What could have helped you feel better? **Did anyone experience high blood pressure during their pregnancy? If you feel comfortable sharing, what was that experience like?** PROBE: How about other health issues?

Part 4: Relationships with Providers	Our next section is about relationships. **What does respectful health care look like to you?** PROBE: What does it look like for pregnancy? PROBE: What does it look like during the first year after pregnancy?? PROBE: Tell me about a time when you did not receive respectful care. **Tell me about a time when you felt most understood by a healthcare provider during your pregnancy? What about after your pregnancy?** PROBE: What made it a positive experience? **What else can health providers do to nurture a strong and positive relationship with pregnant people and new parents?** **Did anyone have a home-visiting provider such as a nurse or community health worker? What was that like?** PROBE: Would others be interested in that service? Why or why not? **Do you have any recommendations for how health care providers can incorporate important cultural traditions into care?**
Part 5: Solutions	We are doing great on time! The final topic I would like to hear about are any remaining solutions we haven't mentioned yet regarding pregnancy and after pregnancy care in the future – especially in your community. **Is there anything else that could help future families in your community receive the care they need?** **What is one thing you wish healthcare providers understood when they were caring for you during your pregnancy or after your pregnancy?**

Close	Looks like we're running low on time. **I always like to go around and collect your final thoughts – especially if you were not able to share something during the discussion.** Thank you all for coming. This has been a wonderful group. Does anyone have any final questions before we wrap up? **EXPLAIN COMPENSATION FOR GROUPS.** **PROVIDE RESOURCE OPTIONS.** Thank you again, it was a pleasure to meet everyone, have a great night!

In-Depth Interview Guide

ME Perinatal Health Disparities Needs Assessment
In-Depth Interview Guide

Introduction:

Hello, my name is (introduce self). Thank you for your time and interest in this interview. I work for Market Decisions Research, an independent research firm in Maine, and I've been trained to lead this discussion. We are working with the Maine Center for Disease Control and Prevention (Maine CDC) on a needs assessment of perinatal care across the state. Part of this project includes focus groups and in-depth interviews with pregnant and parenting people from diverse populations in Maine. You have been invited to participate to share your thoughts. We want to learn about your experiences and hear your personal story to better understand the needs of people and families when they experience pregnancy, labor and delivery, postpartum care, or the first year of care after having a child.

The interview is voluntary, and there are no right or wrong answers. Any information you provide will be confidential and the data will be shared in summary form only. You may also skip any question you do not want to answer. The interview should take no longer than 45 minutes to complete. You will receive a $75 gift card or a physical check after completing the interview as a thank you for your time.

If it is ok with you, this interview will be recorded and transcribed so you can have my full attention without too much notetaking. Nothing you say will be tied back to you and none of your comments will be used to identify you. You are welcome to skip any question you'd like and leave the group if you need. You will receive a $75 gift card, check as long as you're here for at least half of the discussion. Do you have any questions about this or recording before we begin? I will start recording now.

IF ONLINE AND CAMERA OFF: If you happen to have a web cam, it would be great to have it on. Body language and facial expressions are important as they help us to better understand what a participant is saying or trying to say. If you are unable to do this, that is absolutely fine.

Great, let's begin.

Initial Experience

- **Tell me more about your experience with the care you received while you were pregnant.**
  PROBE: How did you start your journey with your care?
  PROBE: Could there have been an easier way to access the services or resources you needed?
  PROBE: What was the most confusing or overwhelming part of this time?

- **How long did it take for you to receive care while you were pregnant?**
  PROBE: Were you ever on a waitlist?
  PROBE: How far did you have to travel for appointments? How long would this take?
  PROBE: Did you ever have to delay care or miss appointments due to time and distance?
  PROBE: Did you have to travel to a different place for your care during pregnancy versus a birthing center? Tell me more about that.

- **How was your birthing experience/s?**

- **Were there services or resources you accessed successfully and had a positive experience with during pregnancy? Tell me more about that.**

- **Did you receive any needed emergency services, urgent care, or high-risk care during pregnancy, how was your experience?**
  PROBE: What could make these services better?

- **Did you receive translation services, how was your experience?**
  PROBE: What could make these services better?

- **How was your mental health/anxiety/mood during your pregnancy? What about after?**
  PROBE: What could have helped you feel better?
  PROBE: Were you able to access any services for your mental health? Tell me more about this experience.

- **Now, tell me about your experiences with the care you received after you were pregnant (during the first year).**
  PROBE: Could there have been an easier way to access services or resources you needed after having the baby?
  PROBE: What was the most confusing or overwhelming part of this time of your care?

- **Did you receive any education about prenatal care and postpartum care? Tell me more about this.**

Barriers

Next, let's talk more about barriers to care.

- **What other challenges did you face in seeking healthcare for yourself or your baby?**
  PROBE IF NEEDED: Cost of care/insurance? Getting time off work? Fear of going into debt? Transportation? Fear/lack of trust in medical providers? Language barriers?
- **How did you cope with stress/fears/worries during your pregnancy and after having your baby?**
  PROBE: What could have helped you feel better?

- **Did you experience high blood pressure during your pregnancy? If you feel comfortable sharing, what was that experience like?**

PROBE: How about other health issues?

Relationships with Providers

Our next section is about relationships.

- **What does respectful health care look like to you?**
  PROBE: What does it look like for pregnancy?
  PROBE: What does it look like during the first year after pregnancy?
  PROBE: Tell me about a time when you did not receive respectful care.
- **Tell me about a time when you felt most understood by a healthcare provider during your pregnancy? What about after your pregnancy?**
  PROBE: What made it a positive experience?
- **What else can health providers do to nurture a strong and positive relationship with pregnant people and new parents?**
- **Did anyone have a home-visiting provider such as a nurse or community health worker? What was that like?**
  PROBE: Would others be interested in that service? Why or why not?
- **Do you have any recommendations for how health care providers can incorporate important cultural traditions into care?**

Solutions and Challenges

We are doing great on time! The final topic I would like to hear about are any remaining solutions we haven't mentioned yet regarding pregnancy and after pregnancy care in the future – especially in your community.

- **Is there anything else that could help future families in your community receive the care they need?**
- **What is one thing you wish healthcare providers understood when they were caring for you during your pregnancy or after your pregnancy?**

Close

Looks like we're running low on time. **Do you have any final thoughts you would like to share?**
Thank you for coming. This has been a wonderful interview. Does anyone have any final questions before we wrap up?

STOP RECORDING

EXPLAIN COMPENSATION. $75 dollars – choice of physical check or electronic gift card. Checks go out on Mondays and take some time. Gift cards can be sent within 24 hours. Gift card option has about 40 choices (examples include Amazon, Walmart, Target, Restaurants, Virtual Visa card etc.).

If check – record full name and address. If gift card – preferred email. Document on the incentives excel sheet in teams.

Maine Perinatal Needs Assessment: Perinatal Health Indicators Quantitative Overview

February 2024

Prepared by:
Cecelia Stewart, PhD, MPH

Perinatal Health Indicators Quantitative Overview

Background

Market Decisions Research (MDR) was contracted by the Maine Center for Disease Control and Prevention (ME CDC) to conduct a statewide perinatal health disparity needs assessment. A component of that work was to develop a list of key perinatal health indicators, informed by perinatal stakeholders across the state, and to compile said indicators into a spreadsheet based on existing data. The Maine Perinatal Health Disparities Overview provides a narrative context to this spreadsheet. Specifically, this report will focus on highlighting disparities across and between various demographics.

MDR compiled these indicators into a spreadsheet with available trending data for Maine and the most recent United States (US) benchmarks. These key indicators were reported overall, as well as by various demographics (when accessible). These data were compiled from various resources including CDC WONDER, Maine CDC Vital Records, Maine Automated Child Welfare Information System, Pregnancy Risk Assessment Monitoring System (PRAMS), Behavioral Risk Factor Surveillance System (BRFSS), and the Healthcare Cost and Utilization Project at the State Inpatient Databases (HCUP-SID). Count, percent, and rate are reported where appropriate and when data were available. Confidence intervals and statistical significance are not presented as the demographic breakdowns of many indicators reveal quite small or even suppressed numbers. Additionally, analysis of this sort was beyond the scope of this project; instead, the focus was to compile existing data to show an indicator's trend over time. As such, no causality can be determined from this overview and conclusions should be drawn and interpreted with caution.

A list of all key indicators can be found in Appendix A.

Key Findings

- Infant mortality rate (IMR) has remained relatively unchanged in Maine; however, disparities exist. Births covered by MaineCare experienced higher rates of death compared to births covered by other insurance providers, and Black/African American and American Indian/Alaskan Native experience higher IMRs compared to their white counterparts.
- The Sudden Unexpected Infant Death (SUID) mortality rate in Maine dropped in 2020 to its lowest level since 2008. Disparities in SUID in Maine are difficult to ascertain due to overall small numbers.
- In 2021, Maine's overall preterm birth rate of was significantly lower than the U.S. average, however, since 2017 the rate of preterm births has steadily increased in Maine, along with the U.S. Relatively high rates of preterm births are seen among Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) participants and Medicaid recipients as reported through Maine's birth certificates. The rate of preterm births to American Indian/Alaska Native birthing persons in 2021 was higher than any other racial category, and higher than the U.S. national average for American Indian/Alaska Native birthing persons.

- The percentage of low birthweight infants has remained relatively steady (between 7% and 8%) in Maine from 2018 to 2022. Of all racial/ethnic groups, Black/African American birthing persons experienced the highest percentages of infants considered low birthweight.
- In 2022, 83% of birthing persons in Maine received early prenatal care (in the first trimester). White birthing persons in Maine experienced the highest rates of early prenatal care, followed by Asian, Hispanic, American Indian/Alaska Native, those identifying as multiple races, and Black/African American birthing persons.
- The prevalence of smoking during pregnancy is consistently higher in Maine across almost every demographic and socioeconomic category when compared to the national average.
- Limitations exist regarding perinatal data in Maine. These limitations include lack of nuance within quantitative data, small sample sizes when broken down by demographic, and an inability to measure the impact that Covid-19 had on perinatal metrics.

Birth Patterns

While the number of births in Maine declined by 18.5% from 14,151 in 2006 to 11,534 in 2020, Maine experienced a slight increase (4.5%) in the number of births in 2021 for a total of 12,006 births (Centers for Disease Control and Prevention National Center for Health Statistics, 2022; Terhune, 2023a). This translates to a 2021 birth rate of 8.7 per 1,000 relevant population (Osterman et al., 2021). Maine's birthing community is witnessing an increase in diversity as well as an increase in the age of birthing persons (Maine Centers for Disease Control and Prevention, 2022a; Terhune, 2023a).

Women aged 25-44 experienced an increase in fertility rates in Maine, a trend parallelling the United States, where the national mean age of first birth for 2021 was 27.3, an all-time high for the nation (Osterman et al., 2021). This trend is seen as a positive societal shift as birthing persons have increasing agency to prioritize careers or control the timing of starting a family (Terhune, 2023a).

Births to Mainers identifying as Black or African American have seen an average annual increase of 7.5% from 2000 to 2020 (Maine Centers for Disease Control and Prevention, 2022a). Additionally, the "New Mainer" community, comprising refugees, migrants, and asylees primarily from East and Central Africa and the Middle East, has been growing. This population faces unique challenges accessing prenatal, postpartum, and early childhood services due to federal immigration regulations, unfamiliarity with the American health system, and language barriers (Maine Centers for Disease Control and Prevention, 2022a).

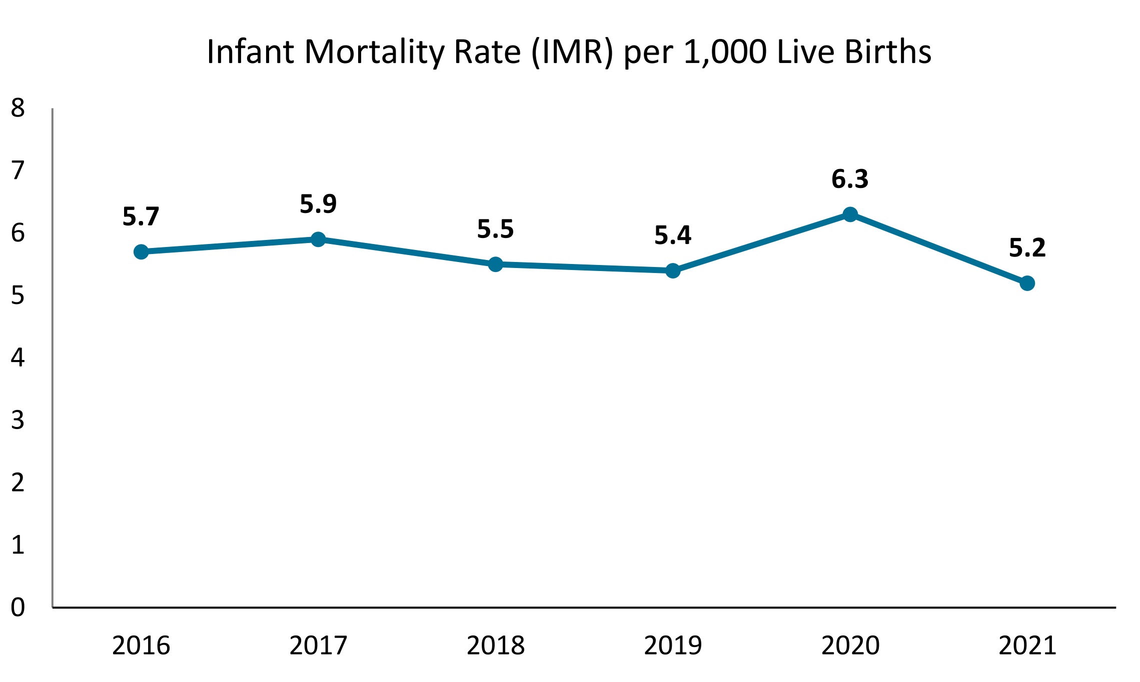
Infant-Level Indicators

Infant Mortality Rate

An infant death is defined as any death to a live born infant prior to their first birthday (Centers for Disease Control and Prevention, 2023c). As a state with a smaller population, Maine experiences pronounced effects on the infant mortality rate (IMR) with even small shifts in birth rates and infant deaths. For instance, when births decrease and infant deaths increase, even by a small margin, the IMR can exhibit a notable increase.

Maine’s infant mortality rate (IMR) remained relatively unchanged from 2016 to 2019. However, within the 2016-2021 time period, Maine’s IMR peaked in 2020, a year which saw 72 deaths among

Maine resident infants, translating to an IMR of 6.3 deaths per 1,000 live births (Centers for Disease Control and Prevention National Center for Health Statistics, 2022). In 2021, the state's IMR decreased to 5.2 deaths per 1,000 live births (Maine Center for Disease Control and Prevention, 2023a).



Graph generated by MDR from CDC WONDER (Centers for Disease Control and Prevention National Center for Health Statistics, 2022)

Disparities in IMR are due many factors including discrimination, access to essential resources, and structural racism (Maine Center for Disease Control and Prevention, 2023a). Education is inversely associated with infant mortality, the higher the education of the birthing person, the lower the infant mortality rate of their babies and vice versa. Between 2017 and 2021 infants born to those with a high school diploma/GED or less died at nearly twice the rate of infants born to those with at least some college credit, at 8.2 infant deaths per 1,000 births compared to 4.2 infant deaths per 1,000 births, respectively (Maine Center for Disease Control and Prevention, 2023a).

The IMR for infants covered by MaineCare was 6.9 deaths per 1,000 births from 2017-2021; this is in contrast to the IMR for infants covered by other insurance/payer types, which was 4.7 deaths per 1,000 births (Maine Center for Disease Control and Prevention, 2023a).

Maine follows national data that show infants born to birthing persons identifying as Black/African American or American Indian/Alaska Native experience higher mortality rates as compared to their white counterparts. Between 2017 to 2021, the IMR for Black/African American infants was 7.5 deaths per 1,000 births; the IMR for American Indian/Alaska Native was 13.6 deaths per 1,000 births (Maine Center for Disease Control and Prevention, 2023a). These were both higher than the IMR among white mothers, which was 5.4 deaths per 1,000 births during the same time-period (Maine Center for Disease Control and Prevention, 2023a). The IMR for infants born to Asian/Pacific Islander birthing persons was the lowest in the state as compared to other racial/ethnic categories at 2.7 deaths per 1,000 births (Maine Center for Disease Control and Prevention, 2023a).

Sudden Unexpected Infant Deaths
Sudden Unexpected Infant Deaths (SUID) is a category of infant deaths that include sudden infant death syndrome (SIDS), accidental suffocation/strangulation in bed, and other unknown causes (Centers for Disease Control and Prevention, 2023b). SUID has historically been among the top three causes of infant death in Maine. The SUID mortality rate in Maine dropped in 2020 to its lowest level since 2008 (Maine Center for Disease Control and Prevention, 2023a). The 2021 mortality rate also remains low (Maine Center for Disease Control and Prevention, 2023a).

This drop in SUID coincided with a significant initiative launched by the Maine Department of Health and Human Services (DHHS) in mid-2019. The statewide Safe Sleep Initiative (SSI) aimed to raise awareness and promote safe sleep practices among caregivers, healthcare, and social service providers. Central to this campaign were the “ABCDs” of safe sleep, which advocated for infants to sleep alone in their crib, be placed on their backs, have a clean and clear crib environment, and emphasized the risks of caregiver substance use (Maine Department of Health and Human Services, 2021). SSI utilized various outreach methods, such as a social marketing campaign, educational material distribution, birth hospital quality improvement initiative, the distribution of the safe sleep kit to families at no cost through the hospitals and safe sleep screenings (Maine Department of Health and Human Services, 2021). While it is essential to approach causation cautiously, it is noteworthy that the initiative's goals aligned with the observed downward trend in SIDS/SUID mortality rates from 2019-2020.

Disparities in SUID in Maine are difficult to ascertain due to overall small numbers. However, there is some evidence to suggest that infants on MaineCare may experience higher rates of SUIDs compared to infants covered by other insurance types. The rate of SUID for births covered by MaineCare was 1.2 deaths per 1,000 births as compared to 0.5 deaths per 1,000 births for births covered by other insurance types between 2014 and 2017 (Flaherty, 2020).

Preterm Births
The leading cause of infant mortality is preterm births which is defined as being born at <37 weeks gestation (Maine Center for Disease Control and Prevention, 2023a). In 2021, Maine's overall preterm birth rate of 9.4% was lower than the U.S. average of 10.5% (Centers for Disease Control and Prevention National Center for Health Statistics, 2022). It is important to note that since 2018 the rate of preterm births has slightly increased in Maine.

Some recent trends related to preterm births in Maine showed disparities among birthing individuals who rely on public assistance programs. Relatively high rates of preterm births are seen among Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) participants and Medicaid recipients (Centers for Disease Control and Prevention National Center for Health Statistics, 2022). WIC recipients experienced a preterm birth rate of 10.8% in 2021, a 15% increase from the prior year, which was closely aligned with the U.S. average of 11.3% (Centers for Disease Control and Prevention National Center for Health Statistics, 2022). Similarly, those on MaineCare had a preterm birth rate of 11.1% which was a slight increase from 10.1% in 2020 (Centers for Disease Control and Prevention National Center for Health Statistics, 2022). These figures emphasize the importance of interventions tailored to these groups.

The rate of preterm births to American Indian/Alaska Native birthing persons was 14.1% in 2021, higher than any other racial category, and higher than the U.S. national average for American Indian/Alaska Native persons at 12.3% (Centers for Disease Control and Prevention National Center for Health Statistics, 2022). These disparities should be interpreted with caution due to small n's. For all other racial categories, the rate of preterm births was either equal to or less than the preterm birth rate for the United States. The high preterm birth rate for American Indian birthing persons is particularly salient as Maine is home to a significant Indigenous population. According to the 2022 American Community Survey, 25,539 Mainers identify as American Indian or Alaska Native, either alone or in combination with another race. This comprises 1.8% of Maine's total population (US Census Bureau, 2022).

Low Birthweight

Low birthweight is a contributing factor to infant mortality (Flaherty, 2020; Maine Center for Disease Control and Prevention, 2023a). The percentage of low birthweight infants has remained steady in Maine from 2018 to 2022, ranging between 7% and 8% as compared to the United States where 8.5% of all infants were considered low birthweight in 2021 (Centers for Disease Control and Prevention National Center for Health Statistics, 2022). Overall, the percentages of low birthweight infants in Maine are lower than the national average across all demographics for 2021 (Centers for Disease Control and Prevention National Center for Health Statistics, 2022).

Over one-tenth (11%) of infants born to birthing persons with less than a high school diploma were considered low birthweight as compared to infants born to birthing persons with a high school diploma (10%), some college credit (9%), and a college degree (7%) (Centers for Disease Control and Prevention National Center for Health Statistics, 2022). Despite these differences, infants born to Mainers with any level of education were less likely to be low birthweight compared to infants born to all Americans with the same level of education (Centers for Disease Control and Prevention National Center for Health Statistics, 2022).

Of all racial/ethnic groups, Black/African American infants were the most likely to be low birthweight. In 2022, 13% of all Black/African American births were low birthweight as compared to 10% for Hispanic infants, 8% for white infants, 7% for Asian infants, 6% for infants identifying as multiple race[1] (Centers for Disease Control and Prevention National Center for Health Statistics, 2022).

In 2022, infants whose births were covered by other insurance (not self-pay, MaineCare or private) experienced low birthweight at a rate of 11%. This was followed by infants born to birthing persons covered by MaineCare (10%), infants born to birthing persons covered by private insurance (7%), another public insurance, and infants born to birthing persons who self-paid for their delivery (5%) (Centers for Disease Control and Prevention National Center for Health Statistics, 2022).

Early Prenatal Care

Early prenatal care is defined as accessing pregnancy-related care in the first trimester. In 2022, approximately 83% of pregnant Mainers received such care in the first trimester, a figure that sits

[1] There are not enough data on American Indian/Alaska Native and Native Hawaiian/Pacific Islander births to calculate the number of low birthweight infants in these categories.

above the national average of 78.3% (Centers for Disease Control and Prevention National Center for Health Statistics, 2022).

In 2021, Medicaid (MaineCare) participants in the state had a high rate of early prenatal care access (80%) which is higher than the national average of Medicaid recipients receiving early prenatal care at 78.3% (Centers for Disease Control and Prevention National Center for Health Statistics, 2022). Birthing persons with other public insurance or private insurance have also experience higher rates of early prenatal care at 81% and 91%, respectively (Centers for Disease Control and Prevention National Center for Health Statistics, 2022).

Early prenatal care varies by race/ethnicity. In 2021, white birthing persons in Maine experienced the highest rates of early prenatal care at 87%, which surpasses the national average for white birthing persons at 83.2%. (Centers for Disease Control and Prevention National Center for Health Statistics, 2022). The next highest rate is experienced by Asian birthing persons in accessing early prenatal care at a rate of 83%, followed by those who identify as multiple races (80%), American Indian/Alaska Native (78%), Hispanic (77%), and Black/African Americans (49%) (Centers for Disease Control and Prevention National Center for Health Statistics, 2022).

Black/African American birthing persons in Maine have lagged white birthing persons in accessing early prenatal care from 2018-2022 with 2022 rates being 49% and 85%, respectively. Black/African American birthing Mainers also experience less early prenatal care as compared to Black/African American birthing persons across the United States as of 2021 (42% vs.70%) (Centers for Disease Control and Prevention National Center for Health Statistics, 2022). Also of note is that the percentage of Black/African American birthing persons accessing prenatal care experienced a decrease of 14% from 2018 to 2022. Similarly, pregnant individuals in Maine born outside of the U.S. receiving prenatal care in the first trimester has decreased by 13% from 2018 to 2022 (Centers for Disease Control and Prevention National Center for Health Statistics, 2022).

Adequate Prenatal Care

Adequate (or above) prenatal care is assessed by determining which month birthing persons initiate prenatal care and the number of visits from initiation to delivery (Kotelchuck, 1994). Maine experienced a 3% decrease in adequate prenatal care from 2018-2022, with the 2022 percentage of adequate prenatal care sitting at 83% (Maine Center for Disease Control Maternal & Child Health Program, 2022).

Birthing persons aged 25-29 years and 30-34 years experienced the highest rate of adequate prenatal care between 2018-2022 at 87%. This was followed by birthing persons aged 35 years and older (85%), birthing persons aged 20-24 years (84%), and birthing persons under the age of 20 (80%). Education is directly related to adequate prenatal care; the higher the education, the higher the rate of adequate prenatal care. Nine-tenths (90%) of birthing persons with a college degree or higher received adequate prenatal care, followed by 84% of birthing persons with some college or an Associate's degree, 83% of birthing persons with a high school diploma, and 70% of birthing persons with less than a high school education.

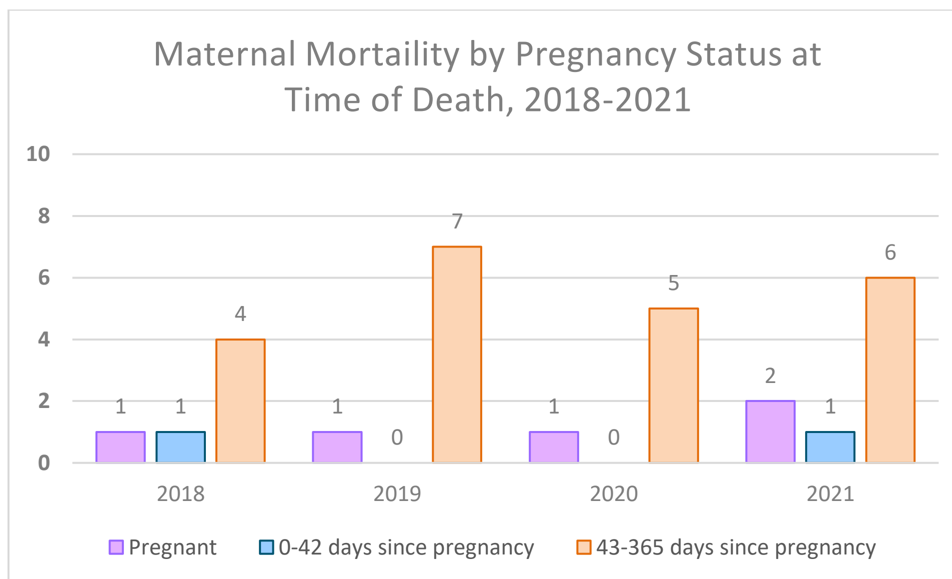
Maternal Level Indicators

Maternal Mortality

Three subtypes exist when categorizing death to birthing persons during or after pregnancy.

1. Pregnancy-related deaths: the death of a birthing person which happens due to pregnancy complications, events initiated by pregnancy, or the exacerbation of unrelated issues due to pregnancy that occurs while pregnant or one year postpartum (Maine Center for Disease Control and Prevention, 2023a; Review to Action, 2023).
2. Pregnancy-associated deaths: a death of a birthing person which occurs within the same timeframe as a pregnancy-related death (pregnancy to one year postpartum) but aren't caused by the pregnancy itself (Maine Center for Disease Control and Prevention, 2023a; Review to Action, 2023).
3. Maternal death: a death of a birthing person that occurs within the 42-day window after birth and occurs due to causes related to pregnancy (World Health Organization, 2024).

Between 2018 and 2021, pregnancy-associated deaths in Maine fluctuated, totaling 29 (Maine Center for Disease Control and Prevention, 2023a). In terms of pregnancy status, most deaths (n=22) occurred between 43 to 365 days post-pregnancy, underscoring vulnerability even well after childbirth.



Due to the low number of maternal deaths in Maine, it is difficult to analyze these numbers by subcategories such as demographics which in turn prevents the examination of disparate trends. The disparity related data that exists for maternal deaths focuses on education and insurance. Over half of the pregnancy-associated deaths occurred to birthing persons with a high school diploma or less (Maine Center for Disease Control and Prevention, 2023a). For the deaths in which insurance information was obtained (n=24), 19 were insured by MaineCare at the time of death (Maine Center for Disease Control and Prevention, 2023a).

Maternal Postpartum Checkup

Postnatal care is essential to the well-being of birthing persons and newborns (Galle et al., 2023). In Maine in 2020, 90% of birthing persons received a postpartum checkup, which is a critical aspect of postnatal care (Galle et al., 2023; Maine Centers for Disease Control and Prevention, 2022b). This value aligns with the national average. The percentage of birthing persons having a postpartum checkup has remained fairly steady from 2018 to 2021 with only a one percent decrease (Maine Centers for Disease Control and Prevention, 2022b).

The percentage of postpartum visits increases with increasing education. Four-fifths (80%) of birthing persons with less than a high school education received a postpartum checkup compared to 87% of birthing persons with a high school diploma, 94% of birthing persons with some college education and 98% with a college degree or higher. A somewhat similar pattern holds true for age; 88% of birthing persons under 20 received a postpartum checkup, 92% of birthing persons aged 20-24 and 25-29, and 94% of birthing persons between 30-34. The exception is that 92% of birthing persons over 35 years of age received a postpartum checkup, a percentage lower those in the next youngest 5-year age group.

Birthing persons identifying as multiple races and white received postpartum checkups and rates of 95% and 93%, respectively. This was followed by Hispanic (89%) and Black (83%) birthing persons. Conclusions about American Indian/Alaska Native, Asian, and Native Hawaiian/Pacific Islander cannot be made due to data suppression.

Postpartum Depression

Postpartum depression is a mental health condition that occurs in birthing persons in the period following childbirth and can include feelings of sadness and hopelessness and can interfere with daily life (Office on Women's Health, 2023). Studies show that postpartum depression inhibits personal development of birthing persons as well as creates an environment that is not conducive to optimal child development (Slomian et al., 2019). In 2020, the rate of postpartum depression for birthing persons in Maine was 11.6%, lower than the national average of 13.4% (Maine Centers for Disease Control and Prevention, 2022b). Overall, 2020 postpartum depression rates for various demographics in Maine (race, insurance, education, age) are comparable to that of the United States (Maine Centers for Disease Control and Prevention, 2022b).

Related, is postpartum screenings for birthing persons during their postpartum checkups. In 2021, 94% of all Maine birthing persons who had a postpartum checkup were screened for postpartum depression. Overall, postpartum depression screening rates were similar for most demographics as compared to the state overall. The one exception is that only 89% of birthing persons with less than a high school education who had a postpartum checkup were screened for postpartum depression.

Low-Risk Cesarean Deliveries

Cesarean deliveries are an essential tool for birthing persons with high risk of difficult deliveries or complication; however, cesarean delivery for low-risk first pregnancies is associated with negative health outcomes for both birthing persons and infants (Card et al., 2018; Office of Disease Prevention and Health Promotion, 2023). In 2021, 25% of low-risk first births across the state were delivered via

Cesarean section, slightly lower than the U.S. average of 26.3% (Centers for Disease Control and Prevention National Center for Health Statistics, 2022).

Between 2018-2022, just over one-third (34%) of Black birthing individuals experienced low-risk Cesarean delivery for their first birth compared to the overall state percentage of 25.3%, and the U.S. average for Black birthing persons of 31.2% (Centers for Disease Control and Prevention National Center for Health Statistics, 2022).

Between 2018-2022, just under one-third (30%) of Hispanic birthing individuals experienced low-risk Cesarean delivery for their first birth compared to the overall state percentage of 25.3%, and the U.S. average for Hispanic birthing persons of 25.5% (Centers for Disease Control and Prevention National Center for Health Statistics, 2022).

Maternal Tobacco Use

Smoking or using tobacco while pregnant has negative health implications for both the smoker and their baby. Infants are at increased risk of being born too early, having a birth defect, and experiencing SUID as well as growth and development hindrance (Centers for Disease Control and Prevention, 2023a). As for the birthing person, smoking can increase the chance of abnormal bleeding during pregnancy and delivery (Centers for Disease Control and Prevention, 2023a).
The prevalence of smoking during pregnancy is consistently higher in Maine across almost every demographic and socioeconomic category when compared to the national average (Maine Center for Disease Control Maternal & Child Health Program, 2022). While rates are showing a downward trend in recent years across nearly all demographic groups, the disparities between Maine and national rates highlight the need for further targeted interventions and policies in the state to address this health behavior.

In 2021, the percentage of Maine birthing persons identifying as American Indian/Alaska Native who smoked during pregnancy (25%) was about double that of the national average of 12.7% (Centers for Disease Control and Prevention National Center for Health Statistics, 2022). This rate is also much higher than that of any other racial/ethnic demographic in the same year. Potential reasons for increased use of tobacco among Indigenous peoples are nuanced and complex. Traditional Indigenous practices centered around tobacco but many of these customs were banned due to various legislative acts. This, combined with aggressive marketing practices, resulted in many Indigenous peoples transitioning to commercial tobacco to maintain cultural practices (Office on Smoking and Health, 2022). This rate decreased to 16% in 2022 (Centers for Disease Control and Prevention National Center for Health Statistics, 2022).

In 2021, the smoking rate among pregnant Hispanic birthing persons in Maine was concerning at 10.5%, a stark contrast to the 1.2% national average for the same demographic (Centers for Disease Control and Prevention National Center for Health Statistics, 2022).

Despite the overall higher smoking rates in Maine across many subgroups, Black/African American birthing persons in Maine fare better in this regard (2%) compared to the national average (3.8%) in 2021.

The prevalence of smoking during pregnancy among those born in the U.S. is almost double in Maine (11%) compared to the national average (5.7%). This rate did decrease to 9% in 2022 (Centers for Disease Control and Prevention National Center for Health Statistics, 2022). Interestingly, for those born outside the U.S., the rates are relatively closer and much lower than native-born residents, with Maine at 1% and the U.S. at 0.4% (Centers for Disease Control and Prevention National Center for Health Statistics, 2022). In 2021, 22% of birthing persons in Maine who were WIC participants smoked during pregnancy, a much larger percentage than the national average of 7.7%, however the Maine rate did decrease to 17% in 2022 (Centers for Disease Control and Prevention National Center for Health Statistics, 2022).

Limitations

Publicly accessible health data, often fall short in portraying the lived and current health experiences of Mainers, especially those identifying as Black, Indigenous, and People of Color (BIPOC). This lack of detailed representation arises partially from smaller sample sizes and lagged data but is also deeply rooted in the longstanding mistrust between BIPOC communities and historically white-centered systems (Crawford, 2019; Kauh et al., 2021).

Through our exploration, several gaps emerged from quantitative data referenced in this report. Firstly, quantitative data lacks nuance, meaning the details and context behind numbers are not understood. Without qualitative methodologies, quantitative measures only provide a snapshot of what is happening in aggregate. For instance, the deep-seated stresses stemming from enduring racism may not be tangibly measured in many public health surveillance systems, but they significantly affect BIPOC communities, including areas such as premature births and birth outcomes (Giscombé & Lobel, 2005; Permanent Commission on Racial Indigenous and Maine Tribal Populations, 2022). Conditions like hypertension have been linked to the stresses experienced from living in a racially prejudiced society, which can magnify the disparities in access to care and pregnancy complications such as gestational diabetes and pre-eclampsia (Giscombé & Lobel, 2005; Permanent Commission on Racial Indigenous and Maine Tribal Populations, 2022). This pattern of being unable to tell a complete story with quantitative data alone holds true for other perinatal indicators such as insurance, timing of prenatal care, etc. Other elements of the Maine Perinatal Health Disparities Needs Assessment focused on qualitative data collection and analysis to contextualize quantitative perinatal health metrics.

Second, due to Maine's demographics, when certain maternal and infant health indicators are disaggregated by race or other factors of interest, the resulting cell sizes can be quite small. This yields a few challenges; 1) unreliable estimates, making it difficult to detect changes over time or differences between groups, and 2) small cell counts may result in the need to suppress data to protect individuals' privacy, resulting in the inability to analyze said cells.

Thirdly, the advent of the Covid-19 pandemic in 2020 influenced perinatal metrics post 2020 in a way that cannot be measured in this overview.

Finally, this overview is simply a compilation of secondary data. As such, additional analyses such as test of statistical significance was not included, making it difficult to discern conclusions.

Conclusion

The Maine Perinatal Key Indicators spreadsheet and this narrative are a portion of the larger Maine Perinatal Health Disparities Needs Assessment. The other components of this project, which focus on workforce capacity, existing resources, and qualitative focus groups and interviews, aim to provide additional context to this quantitative section.

Bibliography

Card, D., Fenizia, A., & Silver, D. (2018). *THE HEALTH EFFECTS OF CESAREAN DELIVERY FOR LOW-RISK FIRST BIRTHS*. http://www.nber.org/data-appendix/w24493

Centers for Disease Control and Prevention. (2023a). *Smoking, Pregnancy, and Babies*. US Department of Health and Human Services. https://www.cdc.gov/tobacco/campaign/tips/diseases/pregnancy.html#:~:text=And%20smoking%20while%20you're,for%20you%20and%20your%20baby.&text=It's%20best%20to%20quit%20smoking%20before%20you%20get%20pregnant.

Centers for Disease Control and Prevention. (2023b). *Sudden Unexpected Infant Death and Sudden Infant Death Syndrome*. Department of Health and Human Services. https://www.cdc.gov/sids/data.htm#map

Centers for Disease Control and Prevention. (2023c, September 13). *Infant Mortality*. US Department of Health and Human Services.

Centers for Disease Control and Prevention National Center for Health Statistics. (2022). *National Vital Statistics System, Linked Birth / Infant Deaths on CDC WONDER Online Database*. http://wonder.cdc.gov/

Crawford, C. E. (2019). The one-in-ten: quantitative Critical Race Theory and the education of the 'new (white) oppressed.' *Journal of Education Policy*, *34*(3), 423–444. https://doi.org/10.1080/02680939.2018.1531314

Flaherty, K. (2020). *Understanding and Addressing the Drivers of Infant Mortality in Maine*.

Galle, A., Moran, A. C., Bonet, M., Graham, K., Muzigaba, M., Portela, A., Day, L. T., Tuabu, G. K., Silva, B. D. S. é, & Moller, A.-B. (2023). Measures to assess quality of postnatal care: A scoping review. *PLOS Global Public Health*, *3*(2), e0001384. https://doi.org/10.1371/journal.pgph.0001384

Giscombé, C. L., & Lobel, M. (2005). Explaining disproportionately high rates of adverse birth outcomes among African Americans: The impact of stress, racism, and related factors in pregnancy. In *Psychological Bulletin* (Vol. 131, Issue 5, pp. 662–683). https://doi.org/10.1037/0033-2909.131.5.662

Kauh, T. J., Read, J. G., & Scheitler, A. J. (2021). The Critical Role of Racial/Ethnic Data Disaggregation for Health Equity. *Popul Res Policy Rev*, *40*(1), 1–7.

Kotelchuck, M. (1994). An evaluation of the Kessner Adequacy of Prenatal Care Index and a proposed Adequacy of Prenatal Care Utilization Index. *American Journal of Public Health*, *84*(9), 1414–1420. https://doi.org/10.2105/AJPH.84.9.1414

Maine Center for Disease Control and Prevention. (2023). *Maine Maternal, Fetal, and Infant Mortality Review Panel (MFIMR) Annual Report*. chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/https://legislature.maine.gov/doc/9821#:~:text=In%202021%20there%20were%2062,deaths%20per%201%2C000%20live%20births

Maine Centers for Disease Control and Prevention. (2022a). *Early Childhood Comprehensive Systems Asset and Gap Analysis*.

Maine Centers for Disease Control and Prevention. (2022b). Pregnancy Risk Assessment Monitoring System (PRAMS). In *State of Maine Department of Health and Human Services*.

Maine Center for Disease Control Maternal & Child Health Program. (2022c). *MCH Data Dashboard*. https://www.maine.gov/dhhs/mecdc/population-health/mch/mch-data-dashboard.shtml

Maine Department of Health and Human Services. (2021). *Safe Sleep Initiative Evaluation Report*.

Centers for Disease Control and Prevention National Center for Health Statistics. (2022). *National Vital Statistics System, Linked Birth / Infant Deaths on CDC WONDER Online Database*. http://wonder.cdc.gov/
Office of Disease Prevention and Health Promotion. (2023). *Reduce cesarean births among low-risk women with no prior births - MICH-06*. US Department of Health and Human Services. https://health.gov/healthypeople/objectives-and-data/browse-objectives/pregnancy-and-childbirth/reduce-cesarean-births-among-low-risk-women-no-prior-births-mich-06
Office on Smoking and Health. (2022, June 27). Unfair and Unjust Practices and Conditions Harm American Indian and Alaska Native People and Drive Health Disparities. https://www.cdc.gov/tobacco/health-equity/aian/unfair-and-unjust.html
Office on Women's Health. (2023). *Postpartum depression*. US Department of Health and Human Services. https://www.womenshealth.gov/mental-health/mental-health-conditions/postpartum-depression#:~:text=Researchers%20believe%20postpartum%20depression%20in,her%20child%20which%20can%20cause%3A&text=Delays%20in%20language%20development%20and,Behavior%20problems
Osterman, M. J. K., Hamilton, B. E., Martin, J. A., Driscoll, A. K., & Valenzuela, C. P. (2021). *National Vital Statistics Reports Volume 72, Number 1 January 31, 2023*. https://www.cdc.gov/nchs/products/index.htm.
Permanent Commission on Racial Indigenous and Maine Tribal Populations. (2022). LD 1113: Racial Disparities in Prenatal Access in Maine.
Review to Action. (2023). *DEFINITIONS*. https://reviewtoaction.org/learn/definitions
Slomian, J., Honvo, G., Emonts, P., Reginster, J. Y., & Bruyère, O. (2019). Consequences of maternal postpartum depression: A systematic review of maternal and infant outcomes. In *Women's Health* (Vol. 15). SAGE Publications Ltd. https://doi.org/10.1177/1745506519844044
Terhune, J. (2023, January 31). Maine births ticked up in 2021 but still lag far behind national average. *The Portland Press Herald*. https://www.pressherald.com/2023/01/31/maine-births-ticked-up-in-2021-but-still-lag-far-behind-national-average/
US Census Bureau. (2022). *ACS Demographic and Housing Estimates*.
World Health Organization. (2024). *Maternal Deaths*. https://www.who.int/data/gho/indicator-metadata-registry/imr-details/4622

Appendix A

Topic	Indicator	Definition
Maternal	Received prenatal care beginning in first trimester	Number/percent of birthing persons who received prenatal care during the first trimester (between months 1-3 of pregnancy)
Maternal	Expected (adequate) prenatal care	Number/percent of infants whose birthing parent received adequate (or higher) prenatal care, as defined by receiving 80% of expected prenatal care
Maternal	Maternal postpartum checkup	Number/percent of birthing persons who reported having a postpartum appointment following their most recent pregnancy
Maternal	Postpartum depression screening	Number/percent of birthing persons who reported that they received a depression screening during their postpartum appointment
Maternal	Postpartum depression	Number/percent of birthing persons who screened positive for postpartum depression during their postpartum appointment
Maternal	Well-woman visit	Number/percent of women aged 18-44 who had a check up with their primary care/family medicine provider in the last year
Maternal	Rate of severe maternal morbidity per 10,000 hospital deliveries	Rate of in-hospital deliveries involving severe maternal morbidity (SMM) per 10,000 delivery hospitalizations. SMM includes many ICD-10 diagnosis and procedure codes, which can be found: https://datatools.ahrq.gov/hcup-fast-stats/?tab=special-emphasis&dash=92 under the Clinical Coding Definitions tab
Maternal	New mothers who drank alcohol during pregnancy	Percentage of new mothers who drank alcohol during the last three months of pregnancy.
Maternal	Percent of women who smoke during pregnancy	Number/percent of women who reported smoking cigarettes at any point during their pregnancy
Infant	Preterm births (<37 week gestation)	Number/percent of infants who were born prior to 37 weeks gestation

Infant	Cesarean deliveries among low-risk first births	Number/percent of NSTV (nulliparous, term, singleton, vertex) or low-risk births delivered by Cesarean section
Infant	Drug-affected infants per 1,000 births	Number/percent of infants born with suspected exposure to substance (from the mother in-utero)
Infant	Infants who ever breastfed	Number/percent of infants who were ever breastfed as indicated by whether or not they were breastfed at the time of discharge.
Infant	Low birthweight	Number/percent of infants who were both weighing 2499 grams or less.
Infant	Infant mortality rate	Number/rate of infants who died before their first birthday. Rate is per 1,000 live births
Infant	Fetal mortality (Number of fetal deaths and rate per 1,000 live births)	Number/rate of intrauterine deaths of a fetus prior to delivery.

MARKET DECISIONS RESEARCH

Maine Perinatal Needs Assessment: Workforce Review

February 2024

Prepared by:
Cecelia Stewart, PhD, MPH

Workforce Review

Background

The Maine Center for Disease Control and Prevention (Maine CDC) contracted with Market Decisions Research to perform a Perinatal Health Disparities Needs Assessment for the state of Maine. This component of the project is meant to detail the perinatal workforce in Maine. Specifically, this document outlines and assesses the workforce capacity of maternity services from preconception services to one-year postpartum. This project is supported by the State of Maine CDC and the US CDC Disparities Grant funding.

Introduction

In December of 2021, the White House declared a Call to Action to improve the state of parental and infant care in the United States (National Center for Health Workforce Analysis, 2022). Part of the need for improvement is due to perinatal workforce capacity issues; nationally, shortages in primary care, family medicine, internal medicine, and OB/GYN providers are projected for 2030 (National Center for Health Workforce Analysis, 2022).

Although Maine's population increased over the last decade, all counties in Maine experienced a 'natural decrease' in their populations in 2021, with natural decrease defined as fewer births than deaths occurring within a given population (U.S. Census Bureau, 2022). This natural decrease has remained despite an increasing number of births in 2021 and 2022 (Maine Center for Disease Control and Prevention, 2023b). While Maine's total adult population grew by about 10 percent between 2010 and 2020, the number of Mainers who are 18 or under declined by almost 2 percent during the same period (U.S. Census Bureau, 2021).

There is no definitive or singular reason for this natural decrease. However, this decrease has implications for perinatal care across the state. Despite increasing births, Maine's natural decrease can impact the capacity utilization of OB/GYN practices and maternity units in hospitals. This decline in capacity utilization may have been especially prevalent in rural areas; research shows that, nationally, the number of rural hospitals providing obstetric services declined from 2004 through 2018, and more than half of rural counties did not offer such services in 2018 (Hundrup & Young, 2022). The decrease in maternity wards, especially in rural areas has continued since 2018 (Torjussen, 2023). Recruitment and retention are also cited as some of the most common reasons for perinatal provider shortages in rural areas; evidence shows that many providers do not want to live in rural areas or work in low-volume rural hospitals (Hundrup & Young, 2022; Kozhimannil et al., 2015). Difficulties in recruiting and retaining rural providers have accelerated the rate of obstetric unit and rural hospital closures across the U.S. (Kozhimannil et al., 2015).

Additionally, the natural decrease in Maine' population may be at least partly rooted in Maine's demographic composition. Across the nation, white, non-Hispanic persons tend to have the lowest birth rates compared to other racial/ethnic categories (Office of the State Economist, 2021). Given that in 2020, about 91% of Maine's population was non-Hispanic White alone, this may potentially explain why Maine's birth rate remains among the five lowest in the nation (Office of the State

Economist, 2021; Terhune, 2023b). Further, as of 2019, Maine had the highest proportion of residents aged 65+, a population that does not contribute to the birth rate.

Despite the natural decrease in Maine's population between 2010 and 2020, in recent years there has been an increase in the number of births reported in the state, climbing from 11,532 births in 2020 to 12,087 births in 2022 (Maine Center for Disease Control and Prevention, 2023b). This recent uptick in births may suggest future demands for services.

Key Findings

The system of perinatal care in Maine is complex and comprised of many healthcare providers and support staff. The following are key findings from this report.

- OB/GYNs, family medicine providers, certified nurse-midwives (CNM), certified professional midwives (CPM), certified midwives (CM), pediatricians, advanced practice providers, doulas, and dentists/dental hygiene professionals are among some of the vital perinatal providers in Maine. The distribution of providers and the availability of services varies across the state, making the landscape of perinatal workforce capacity vastly different based on locale.
- Compared to Vermont and New Hampshire, Maine lags in the number of pediatricians and midwives. While these numbers are discouraging, Maine has higher per population providers of family medicine physicians and OB/GYNs as compared to Vermont and New Hampshire.
- Although the number of perinatal providers in Maine increased between 2008 and 2020, the number of providers per 100,000 population is generally unchanged during the same period. However, the projected numbers of perinatal providers in 2030 may not increase with projected population growth, exacerbating the need to increase and strengthen Maine's perinatal workforce capacity.
- Since 2015, Maine has seen the closure of seven obstetrics units, many of which have been in rural areas. Primary reasons cited by hospital representatives regarding closures include declines in admissions, low volume of births, and/or difficulties retaining workers (Bellavance, 2023; Sambides Jr, 2019; WGME, 2022).
- Gaps and limitations exist within Maine's perinatal workforce. Many of the limitations concern the lack of standardized data collection surrounding perinatal providers.
- Improving or implementing data collection systems, insurance reimbursements, provider incentives, remote consultations, doulas/community health worker services, and connecting existing perinatal resources could help Maine's perinatal workforce capacity.

Perinatal Workforce

Types of Providers

Many types of professionals make up the perinatal workforce. This report defines perinatal care as any care a pregnant or postpartum person may need from conception to one year after birth. The following providers are at the core of perinatal care and will be the focus of this section:

- **OB/GYNs** - physicians who specialize in providing care to pregnant people and the female reproductive system. OB/GYNs are present at births and can perform Cesarean sections (American Board of Obstetrics & Gynecology, 2023).
- **Family physicians** – physicians who provide comprehensive medical care and preventative services to each member of a family (American Academy of Family Physicians, 2023). Family physicians may attend births in hospitals and may also perform Cesarean sections, depending on their training (United States Government Accountability Office, 2022). Primary care physicians are considered a part of this category.
- **Pediatricians** – physicians who are concerned with and treat the health and development of children including preventative care and diagnosis and treatment of diseases (American Academy of Pediatrics, 2015).
- **Advanced practice providers (APPs)** – an advanced practice provider is a health care provider who is not a physician but performs medical activities typically performed by a physician (What Is an Advanced Practice Provider?, 2023). APPs include physician assistants (PAs), nurse practitioners (NPs), certified nurse midwives, and certified registered nurse anesthetists (Sarzynski & Barry, 2019).
- **Nurses** – many nurses have specialized training in obstetrics and newborn care and are essential to the perinatal workforce capacity. These nurses often work in a hospital setting, specifically in maternity units. Unfortunately, there is no way to determine the amount or percent of these types of nurses.
- **Certified nurse-midwives (CNM)** – an advanced practice professional that specializes in care during pregnancy, childbirth, and postpartum as well as general sexual, gynecological, and reproductive health (American College of Nurse-Midwives, 2021). CNMs attend births in hospitals, birthing centers, or in homes (United States Government Accountability Office, 2022). Midwives can also provide primary care from adolescence to adulthood and care for newborns for up to 28 days (about 4 weeks) of age (American College of Nurse-Midwives, 2021).
- **Certified professional midwives (CPM) and certified midwives (CM)** – licensed professionals who provide support, education, clinical care, and counseling during pregnancy, birth, and postpartum. CPMs/CMs are trained to recognize and escalate abnormal or dangerous conditions to other healthcare professionals. CPMs/CMs specialize in providing support for the childbirth process in home as well as at birthing centers and offices (American College of Nurse-Midwives, 2017).
- **Doulas**— trained professionals who provide physical, emotional, and informational support to mothers before, during, and after birth. They often attend births to act as an advocate and support for birthing mothers (DONA International, 2023; United States Government Accountability Office, 2022).
- **Dentists/dental hygienists** – health professionals in the field of dentistry, which includes the "evaluation, diagnosis, prevention and/or treatment (nonsurgical, surgical or related procedures) of diseases, disorders and/or conditions of the oral cavity, maxillofacial area and/or the adjacent and associated structures and their impact on the human body"

(Cincinnati Dental Society, 2023). Because lack of oral care and hygiene in pregnancy can lead to low infant birth weight, pre-eclampsia, and premature birth, these providers are considered essential to perinatal care (The American College of Obstetricians and Gynecologists, 2013).

This list does not encompass all providers that may touch the perinatal system of care, however, they are the most common. Other providers are part of the perinatal system of care, such as anesthesiologists, certified nurse anesthetists, respiratory therapists, and NICU support staff, particularly in hospitals equipped with maternity wards.

Perinatal Providers in Maine

To better understand how perinatal care is distributed across the state, the following tables show the number of perinatal-related providers by county and state overall, per 100,000 persons. Provider counts were obtained directly from the Health Resources and Services Administration (HRSA) Area Health Resources Files for 2021-2022.

Certain relevant providers, namely APPs and registered nurses are not included as there is no way to determine what specialties these professionals practice. Many APPs and nurses work in OB/GYN, hospital maternity wards, family medicine, pediatrics, etc. and are vital to Maine's perinatal workforce; however, without more granular data regarding where these professionals practice, their contribution to Maine's perinatal health landscape cannot be quantified. This holds true for other sections of this report that do not report on APPs or nurses.

Table 1. Midwives and OB/GYNs by County, 2021-2022

County	Relevant Population*	# of Midwives	Provider per 100,000 Population	# of OB/GYNs	Provider per 100,000 Population
Maine	238,152	78	32.8	170	71.0
Androscoggin	20,973	9	42.9	9	42.9
Aroostook	9,986	4	40.1	12	120.2
Cumberland	57,825	15	25.9	84	145.3
Franklin	5,358	1	18.7	3	56.0
Hancock	8,801	8	90.9	5	56.8
Kennebec	21,869	10	45.7	11	50.3
Knox	5,894	8	135.7	4	67.9
Lincoln	5,098	4	78.5	3	58.8
Oxford	9,312	0	0.0	6	64.4
Penobscot	28,350	10	35.3	14	49.4
Piscataquis	2,389	0	0.0	1	41.9
Sagadahoc	6,045	2	33.1	0	0.0
Somerset	8,142	0	0.0	3	36.8
Waldo	6,458	1	15.5	3	46.5
Washington	4,801	1	20.8	2	41.7
York	36,851	5	13.6	10	27.1

*Relevant population are women of childbearing age (15-44) in Maine counties. Accessed from the 2022 American Community Survey 2022 5-year estimates.

Data obtained from industry master files aggregated by the U.S. Health Resources and Services Administration (Health Resources and Services Administration, 2022).

Table 1 shows the number of midwives and OB/GYNs per county as well as their respective populations and providers per population. The counties of Oxford, Piscataquis, and Somerset do not house a single midwife. Conversely, Knox County has the highest number of midwives per capita with 135 midwives per 100,000 population. In Sagadahoc County, there are no practicing OBYGNs. Relative to other counties in Maine, Cumberland County and Aroostook County have more OB/GYNs per capita (145 and 120 per 100,000 population, respectively).

Table 2. Pediatricians and Family Medicine Doctors by County, 2021-2022

County	Relevant Population	# of Pediatricians	Provider per 100,000 Population	Relevant Population	# of Family Medicine Providers	Provider per 100,000 Population
Maine	283,940	258	90.9	1,372,247	835	60.8
Androscoggin	26,852	16	59.6	111,034	52	46.8
Aroostook	13,789	12	87.0	66,859	36	53.8
Cumberland	62,566	113	180.6	305,231	242	79.3
Franklin	6,339	10	157.8	29,687	14	47.2
Hancock	10,555	5	47.4	56,192	43	76.5
Kennebec	26,737	15	56.1	124,486	114	91.6
Knox	7,716	6	77.8	41,084	18	43.8
Lincoln	6,582	6	91.2	35,828	25	69.8
Oxford	11,485	6	52.2	58,629	27	46.1
Penobscot	32,261	30	93.0	152,765	115	75.3
Piscataquis	3,140	1	31.8	17,165	9	52.4
Sagadahoc	7,453	4	53.7	37,071	11	29.7
Somerset	10,356	2	19.3	50,592	21	41.5
Waldo	8,147	3	36.8	39,912	21	52.6
Washington	6,597	1	15.2	31,121	8	25.7
York	43,365	28	64.6	214,591	79	36.8

*Relevant population for pediatricians are children aged 19 and younger in Maine counties. Relevant population for family medicine providers are all residents in Maine. Accessed from the 2022 American Community Survey 2022 5-year estimates.

Data obtained from industry master files aggregated by the U.S. Health Resources and Services Administration (Health Resources and Services Administration, 2022).

Table 2 shows the number of pediatricians and family medicine doctors per county as well as their respective populations and providers per population. Cumberland County has the highest number of pediatricians per capita with nearly 181 pediatricians per 100,000 population. Washington County has only one pediatrician; this translates to a rate of 15 pediatricians per 100,000 persons. Cumberland County has the highest rate of family medicine doctors at 79 per 100,000 populations, while Washington County has the lowest rate at 25 family medicine doctors per 100,000 population.

Table 3. Dentists by County, 2021-2022

County	Population	# of Dentists	Provider per 100,000 Population
Maine	1,372,247	741	54.0
Androscoggin	111,034	41	36.9
Aroostook	66,859	23	34.4
Cumberland	305,231	276	90.4
Franklin	29,687	11	37.1
Hancock	56,192	21	37.4
Kennebec	124,486	81	65.1
Knox	41,084	33	80.3
Lincoln	35,828	9	25.1
Oxford	58,629	20	34.1
Penobscot	152,765	90	58.9
Piscataquis	17,165	4	23.3
Sagadahoc	37,071	16	43.2
Somerset	50,592	9	17.8
Waldo	39,912	10	25.1
Washington	31,121	11	35.4

*Relevant population for family medicine providers are all residents in Maine.
Data obtained from industry master files aggregated by the U.S. Health Resources and Services Administration (Health Resources and Services Administration, 2022).

Table 3 shows the number of dentists per county as well as their respective populations and providers per population. Cumberland County has the highest rate of dentists at 90 per 100,000 population. Somerset County has the lowest rate of dentists at 17 dentists per 100,000 population.

State-to-State Comparisons

State-to-state comparisons with similar demographics and rural geographies can help contextualize Maine's perinatal workforce. Table 4 contains provider counts per population for Maine, New Hampshire, and Vermont. New Hampshire and Vermont were chosen as comparison states given their geographic proximity to Maine, their high proportion of non-Hispanic white residents, and their rural landscapes. Compared to Vermont and New Hampshire, Maine lags in the number of pediatricians (18 per 100,000) and midwives (5. per 100,000). Maine has relatively higher rates of family medicine physicians and OB/GYNs as compared to Vermont and New Hampshire.

Table 4. State-to-state perinatal providers comparison, 2021-2022.

Provider Type	Maine (per 100,000 Population)	New Hampshire (per 100,000 Population)	Vermont (per 100,000 Population)
Dentists	54.0	61.4	54.1
Family Medicine Physicians	60.9	39.4	56.2
CNM and CMS	5.7	7.4	8.7
OB/GYN	24.8	13.0	16.0
Pediatricians	18.8	19.7	28.5

Data obtained from industry master files aggregated by the U.S. Health Resources and Services Administration (Health Resources and Services Administration, 2022).

Changes in Perinatal Providers Per Population

The following analysis examines the change in the number of perinatal providers in recent years.

Table 5. Changes in select perinatal providers in Maine, 2008 versus 2020

Provider Type	Number of Providers, 2008	Relevant Population, 2010	Provider per 100,000 Relevant Population, 2008	Number of Providers, 2020 (2021 for CNMs)	Relevant Population, 2021	Provider per 100,000 Relevant Population		Percent change in provider per population from 2008 to 2020
OB/GYN	140	249,243 Women of childbearing age (15-44)	56.2	170	243,741 Women of childbearing age (15-44)	69.7		+24.02%
Family Medicine Physicians	740	1,327,567 Entire population of Maine	55.7	835	1,372,247 Entire population of Maine	60.8		+9.16%
Pediatricians	140	309,658 Children aged 0-19	45.2	258	279,585 Children aged 0-19	92.3		+104.20%
Certified Nurse Midwives	-	-	-	78	243,741 Women of childbearing age (15-44)	32.0		-
Dentists	360	1,327,567 Entire population of Maine	27.1	741	1,372,247 Entire population of Maine	54.0		+99.26%
Dental Hygienists	930	1,327,567 Entire population of Maine	70.0	974	1,372,247 Entire population of Maine	71.5		+2.14%

2008 provider data: obtained from the Maine Department of Labor's Workforce Analysis of Maine's Health Services Sector (Leparulo, 2010). *2010 and 2021 population data: obtained from US Census Bureau 1-year Population Estimates. 2020/2021 provider data: obtained from the Maine Department of Labor's Maine Healthcare Occupations Report, the Maine Population Outlook, and from industry master files aggregated by the U.S. Health Resources and Services Administration* (Dawson, 2022; Health Resources and Services Administration, 2022; Office of the State Economist, 2023).

Overall, for specialties associated with perinatal care that had available data (Table 5), the number of Maine-based providers grew modestly from 2008 to 2020, with pediatricians and dentists as the two exceptions to this modest growth. The number of dentists experienced the most marked growth over the 13-year period: the number of dentists more than doubled despite only a modest increase in the relevant population during the same period, equating to a nearly 100% increase in the number of dentists per relevant population from 2008 to 2020. While the number of pediatricians per 100,000 residents increased from 2008 to 2020, this increase runs parallel to a decline in the number of children ages 0 to 19 in Maine during the same period; as a result, the number of pediatricians per 100,000 children increased from 2008 to 2021.

Workforce Projections
Workforce projections for various perinatal professionals were obtained from Maine Department of Labor (DOL) for 2030 (Dawson, 2022). The Maine DOL utilized the United States Bureau of Labor Statistics methodology to calculate these projections (United States Bureau of Labor Statistics, 2022). This information provides insight into the future of perinatal care in Maine.

Table 6. Projected perinatal professionals per projected population for 2030 in Maine.

Provider Type	Number of Providers, 2020	Relevant Population, 2021	Provider per 100,000 Relevant Population, 2020	Number of Providers, 2030	Relevant Projected Population, 2030	Provider per 100,000 Population, 2030	Percent change in provider per population from 2020 to 2030
OB/GYN	152	243,741 Women of childbearing age (15-44)	62.4	140	239,099 Women of childbearing age (15-44)	41.7	-33.17%
Family Medicine Physicians	769	1,372,247 Entire population of Maine	56.0	732	1,397,663 Entire population of Maine	52.4	-6.43%
Pediatricians	138	279,585 Children aged 0-19	49.4	129	258,901 Children aged 0-19	49.8	0.81%
Certified Nurse Midwives (CNM)	62	243,741 Women of childbearing age (15-44)	25.4	64	239,099 Women of childbearing age (15-44)*	19.1	-24.80%
Dentists	587	1,372,247 Entire population of Maine	42.8	591	1,397,663 Entire population of Maine	42.3	-1.17%
Dental Hygienists	974	1,372,247 Entire population of Maine	71.5	999	1,397,663 Entire population of Maine	71.5	0%

Data is obtained from the Maine Department of Labor's Maine Healthcare Occupations Report, the Maine Population Outlook (Dawson, 2022; Office of the State Economist, 2023). **There is no projection for women of childbearing years for 2030. The calculation for this can be found in Appendix A.*

Table 6 illustrates that Maine Department of Labor (DOL) workforce projections show that there will be modest declines, as compared to 2020, in the number of OB/GYNs and CNMs across the state of Maine by 2030. While the relevant population of women of child-bearing age are also projected to decline slightly (by 2%), the number of relevant providers is projected to decline by much larger percentages (over 20% decreases in the number of providers per population for OB/GYNs and CNMs).

Table 7 presents the projected supply of and demand for OB/GYNs across all New England States for 2030. This allows for comparison between Maine and similar states such as New Hampshire and

Vermont due to their geographic proximity to Maine, their high proportion of non-Hispanic white residents, and their rural landscapes.

Table 7. Projected supply and demand of OB/GYNs for New England states, 2030*

State	Supply	Demand	Difference	Supply Adequacy
Maine	160	200	-40	80%
Connecticut	610	550	60	110.9%
Massachusetts	1,090	1,200	-110	90.8%
New Hampshire	170	190	-20	89.5%
Rhode Island	190	170	20	111.8%
Vermont	100	90	10	111.11%

Data is obtained from Projections of Supply and Demand for Women's Health Service Providers: 2018-2030* (Health Resources and Services Administration, 2021). *Supply and demand projections are based on the Health Resource Service Administration's (HRSAs) Health Workforce Simulation Model (HWSM). A description of this approach can be found in the citation above. Supply adequate is the ratio of supply over demand.* ***Provider supply numbers may differ slightly from numbers included in other tables derived from different data sources.*

Table 7 indicates that Maine has the lowest projected supply adequacy (ratio of supply over demand) for OB/GYNs in 2030. Connecticut, Rhode Island, and Vermont have supply adequacy percentages of 110.9%, 111.8%, and 111.11%, respectively, suggesting that supply exceeds demand. Maine, Massachusetts, and New Hampshire all have supply adequacy percentages less than 100%, suggesting that projected supply does not meet projected demand. Of these three states, Maine has the lowest projected supply adequacy at 80%. Reasons for the projected shortages both in the literature and anecdotally include but are not limited to lower pay in rural areas, difficulties with recruitment and retention, burnout especially since the Covid-19 pandemic, insurance-related administrative burden and more (Hundrup & Young, 2022).

Maine Hospitals

There are a total of 33 non-profit general acute care hospitals in Maine (this excludes psychiatric hospitals, rehab hospitals, etc.); 21 are birthing hospitals. Birthing hospitals contain maternity units that provide resources needed for childbirth and delivery, whereas non-birthing hospitals do not. Often, prenatal care can be obtained at a non-birthing hospital, but mothers will have to travel to a birthing hospital or alternative location (birthing center) to deliver their babies. Table 8 contains a list of birthing and non-birthing hospitals in Maine as well as the level of care for newborns. Rural hospitals are indicated in italics. Rural hospital designation is determined by a hospital's location; a hospital located outside of a US Office of Management and Budget/US Census Bureau metropolitan area is designated as rural (American Hospital Association, n.d.).

65% of Maine hospitals (n=21) are designated as rural hospitals (American Hospital Association, n.d.; Maine Hospital Association, 2019). Over half (54%) of birthing hospitals (n=12) are rural, while 69% (n=9) of non-birthing hospitals are in rural areas. Of the 21 rural hospitals, about 42% are non-birthing. Of the 21 hospitals in Maine that are designated as rural, 57% (n=12) are birthing hospitals. Of the 13 hospitals that are not designated as rural, 64% (n=9) are birthing hospitals.

Table 8. General Acute-Care Hospitals in Maine

#	Hospital	Location	Newborn Level Care	Maternal Level Care	Birthing or Non-Birthing
1	*Cary Medical Center*	Caribou	1	1	Birthing
2	Central Maine Medical Center (CMMC)	Lewiston	2	2	Birthing
3	*Down East Community Hospital*	Machias	1	1	Birthing
4	*Franklin Memorial Hospital*	Farmington	1	1	Birthing
5	*Houlton Regional Hospital*	Houlton	1	1	Birthing
6	LincolnHealth (Miles Campus)	Damariscotta	1	1	Birthing
7	MaineGeneral Medical Center	Augusta	2	2	Birthing
8	Maine Medical Center	Portland	4	4	Birthing
9	Mid Coast Hospital	Brunswick	1	2	Birthing
10	*Mount Desert Island (MDI) Hospital*	Bar Harbor	1	1	Birthing
11	*Northern Light (NL) AR Gould Hospital*	Presque Isle	1	2	Birthing
12	Northern Light (NL) Eastern Maine Medical Center (EMMC)	Bangor	3	3	Birthing
13	*Northern Light (NL) Inland Hospital*	Waterville	1	1	Birthing
14	*Northern Light (NL) Maine Coast Hospital*	Ellsworth	1	1	Birthing
15	*Northern Light (NL) Mayo Hospital*	Dover-Foxcroft	1	1	Birthing
16	Northern Light (NL) Mercy Hospital	Portland	2	2	Birthing
17	Pen Bay Medical Center	Rockport	1	1	Birthing

18	*Redington-Fairview General Hospital*	Skowhegan	1	1	Birthing
19	Southern Maine Health Care	Biddeford	1	2	Birthing
20	*Stephens Memorial Hospital*	Norway	1	1	Birthing
21	*Waldo County General Hospital*	Belfast	1	1	Birthing
22	*Bridgton Hospital*	Bridgton	N/A	N/A	Non-Birthing
23	*Calais Community Hospital*	Calais	N/A	N/A	Non-Birthing
24	*Millinocket Hospital*	Millinocket	N/A	N/A	Non-Birthing
25	*Northern Light (NL) Blue Hill Hospital*	Blue Hill	N/A	N/A	Non-Birthing
26	*Northern Light (NL) Charles A. Dean Hospital*	Greenville Junction	N/A	N/A	Non-Birthing
27	*Northern Light (NL) Sebasticook Valley Hospital*	Pittsfield	N/A	N/A	Non-Birthing
28	*Northern Maine Medical Center*	Fort Kent	N/A	N/A	Non-Birthing
29	St. Joseph's Hospital	Bangor	N/A	N/A	Non-Birthing
30	St. Mary's Regional Medical Center	Lewiston	N/A	N/A	Non-Birthing
31	*Penobscot Valley Hospital*	Lincoln	N/A	N/A	Non-Birthing
32	*Rumford Hospital*	Rumford	N/A	N/A	Non-Birthing
33	York Hospital	York	N/A	N/A	Non-Birthing

Hospital names in italics indicate rural hospitals.

Hospital Closures
Since 2015, Maine has seen the closure of seven obstetrics units – York Hospital (2023), Rumford Hospital (2023), Northern Maine Medical Center (2023), St. Mary's Regional Medical Center (2022), Bridgton Hospital (2021), Calais Regional Hospital (2018) and Penobscot Valley Hospital (2015), with all except for St. Mary's and York being rural (Torjussen, 2023). Primary reasons cited by hospital representatives regarding closures include declines in admissions, low volumes of births, and/or difficulties retaining workers (Bellavance, 2023; Sambides Jr, 2019; WGME, 2022).

Rural hospitals are often the largest employers in rural areas and maternity ward closures leave many OB/GYNs unemployed, forcing them to move to non-rural areas and exacerbating the perinatal workforce problems already plaguing rural Maine (Maine Hospital Association, 2019).

Impact of Covid-19 on Maine's Perinatal Workforce
Between 2019 and through 2020, the number of home births in Maine increased by 23% from 222 to 268, making Maine the ninth highest in the nation for home births (Health Resources and Services Administration, 2023; Terhune, 2022). This is thought to be due in part to COVID-19-related visitation restrictions at hospitals (Bellavance, 2023; Hubbard, 2021). The number of home births continued to increase in 2021 (313, 2.6% of all Maine births) and 2022 (334, 2.8% of all Maine births) in Maine (Centers for Disease Control and Prevention National Center for Health Statistics, 2022). The increase in home births in 2021 and 2022, has been accompanied by a small decrease in the percentage of hospital births; 97% (11,641) of Maine births occurred in hospitals in 2021 and 96.7% (11,690) in 2022 (Centers for Disease Control and Prevention National Center for Health Statistics, 2022). It should be noted that percentages between home births and hospital births in the same year do not add to 100%, as births can occur in other locations such as a freestanding birth center, doctor's office/clinic, etc.

Gaps and Limitations
The information summarized in this report provides a foundation for understanding the perinatal workforce capacity across the state; however, there is not a clear understanding of how many perinatal professionals work in Maine. Additionally, there are many barriers related to accessing information on perinatal workforce capacity. The following are gaps or limitations related to understanding Maine's perinatal workforce capacity:

- **Advanced practice professionals and nursing.** There is not much information on what medical specialties advanced practice providers (NP, PA, etc.) work in. The number of these clinicians working in maternity units, at women's health clinics, in pediatrics, et cetera is unknown and likely underreported.
- **Nursing.** Like advanced practice providers, data on what departments nurses work in is limited. This extends to other nursing-related healthcare professionals such as CNAs, LPNs, etc. It is difficult to fully describe the nursing landscape surrounding the perinatal system of care in Maine.
- **Family medicine.** Not all family medicine providers provide OB/GYN services and there is no way to determine which family medicine providers do and which do not.

- **Midwives.** Certified professional midwives (CPMs) require 3-5 years of training through accredited institutions, extensive clinical hours, national exam certification, state licensing, as well as standard perinatal license maintenance through continuing education, peer review, and the like. Tracking active practicing CPMs is available through state vital records, the Board of Complementary Health Care Providers, the Maine Association of Certified Professional Midwives, and the Perinatal Transitions Program. Certified nurse midwives (CNMs) and Certified Midwives (CMs) require accredited graduate-level midwifery programs and must pass a national certification exam. Tracking active CNMs is available through state vital records, the Board of Nursing and the ACNM Maine chapter. Tracking CMs is available through state vital records and the Board of Complementary Health Care Providers.
- **Doulas.** Like APPs, data on doula services – especially broken down by in-hospital and out-of-hospital services – are either absent or extremely limited. There is no repository of all doulas within Maine, making it difficult to ascertain how many exist and where they practice.
- **OB/GYN scope.** Some OB/GYNs do not practice obstetric services. Currently, there is no way to document or obtain this information, which may lead to inaccuracies in the estimated capacity of perinatal services. Additionally, OB/GYNs may be certified in other specialties such as family medicine or pediatrics. This may skew data related to the number of OB/GYNs practicing perinatal services and may result in overrepresentation.
- **Emergency responders**. Emergency responders are essential to the perinatal system of care in rural Maine as they often provide transit for high-risk pregnancies and can help deliver babies in areas to far from hospitals. Emergency medical technicians (EMTs) and paramedics are likely highly underreported in this report and across the state. Licensing varies across the state; for example, Portland firefighters who also have active paramedic licenses must claim "firefighter" as their occupation, making the total number of paramedics appear lower in city and state documents. Additionally, a large amount of emergency response work is done by volunteers across the state. Another consideration is that licensed emergency response personnel are lumped together, regardless of whether they have active or inactive licenses, meaning that some individuals who hold licenses do not actually work in the field. This is categorized as an overreporting of emergency personnel; however, this likely does not offset the underreporting due to volunteering and occupation classification.[2]
- **Perinatal support staff.** Support staff such as community health workers, interpreters, et cetera can play an essential role in providing support and advocacy for mothers, especially those identifying as Black, immigrant, Indigenous, and/or people of color (BIPOC). Currently, there is no way to discern how many support workers provide perinatal services and if there is a shortage. Additionally, there is no way to quantify how these support staff are impacting racial health equity in the perinatal space.

[2] This information was obtained from Marc A. Minkler, a Program Manager at the Maine Emergency Medical Services in Augusta, Maine.

Solutions/Next Steps/Recommendations

Maine's perinatal workforce capacity is complex due to Maine's rural landscape and an aging population less likely to give birth. A multi-faceted approach is needed to address the declining perinatal workforce capacity. The following should be considered.

Remote Consultations

The use of telehealth appointments has increased across the country due to the COVID-19 pandemic. Interventions delivered via telehealth modalities have been linked to improvements in breastfeeding, tobacco cessation, and obstetric outcomes (DeNicola et al., 2020). Maintaining this momentum and increasing the use of telehealth for perinatal appointments has the potential to increase access to care for all Maine mothers, especially those in rural areas whose alternative mode of treatment is to travel long distances to obtain adequate care (US Government Accountability Office, 2022). MaineCare has taken a critical step in expanding telehealth by covering all telehealth services for individuals covered by MaineCare (Office of MaineCare Services, 2024c). Additionally, the Maine Medical Partners-Women's Health-Division of Maternal-Fetal Medicine practice in southern Maine offers a robust telehealth program that supports high-risk obstetrical patients, especially in rural areas, across Maine and New England (Maine Health, 2023). Using this program as a guide and expanding insurance coverage for telehealth services, similar to MaineCare's telehealth policy, telehealth services have the potential to provide adequate care to pregnant and postpartum mothers, especially in rural Maine and other areas where physical providers are lacking.

Doula Services and Community Health Workers

Nationally, there are severe perinatal disparities by race. Black women are three- to four-times more likely to die due to pregnancy related complications as compared to white women (Howell, 2018). Pregnancy related mortality is also increased in Asian/Pacific Islanders, Indigenous, and some Hispanic birthing persons as compared to white birthing persons (Howell, 2018). Additionally, communities of color experience disparities in birth outcomes due to structural racism (Van Eijk et al., 2022). Similar disparities occur with prenatal care; birthing persons identifying as Black, Indigenous, and people of color (BIPOC) are less likely than white birthing persons to receive late (third trimester) or no prenatal care (Hill et al., 2022). Perinatal health disparities in Maine parallel national disparities and are well documented in the 2022 Maine Shared Community Health Needs Assessment Report and the Permanent Commission of Racial, Indigenous & Tribal Populations *Racial Disparities in Prenatal Access in Maine* Report to the Legislature (Permanent Commission on Racial Indigenous and Maine Tribal Populations, 2022). BIPOC birthing persons experience lower rates of prenatal access and care, and BIPOC infants are more likely to contribute to infant mortality statistics as compared to their white counterparts (Centers for Disease Control and Prevention National Center for Health Statistics, 2022; Permanent Commission on Racial Indigenous and Maine Tribal Populations, 2022). These disparities elucidate the need for recommendations and resources specific to Maine's BIPOC birthing persons. This is especially important as Maine's immigrant and refugee population is growing (Bartow, 2023).

Doula services not only provide positive birth outcomes for Black and underserved populations but can also help to address the effects of structural racism (Van Eijk et al., 2022). Community health workers (CHWs) provide essential wraparound services for many BIPOC Mainers, and this holds true for those who are pregnant or newly postpartum. These services include, but are not limited to,

applying for benefits, translation/interpretation services, and connecting with providers. While CHWs and doulas themselves cannot address the perinatal workforce shortage, hiring more CHWs and doulas, spreading awareness of and utilizing their services, as well as expanding CHW training to cover maternal and child health issues, will improve the existing perinatal system of care and reduce inequities, especially for BIPOC mothers in Maine.

Doulas

Evidence shows that leaning on the expertise of community-based organizations (CBOs) to understand the best ways to incorporate more doula services into the perinatal workforce is imperative (Van Eijk et al., 2022). CBOs should be involved in policy making, especially related to doula services as they understand the nuances associated with the impact of structural racism on perinatal outcomes. For example, while Medicaid reimbursement for these services may help to increase access to care for some individuals, obtaining reimbursement may be difficult for organizations employing doulas and may also change the scope of practice of doulas in a way that no longer benefits the communities of color that rely on them (Van Eijk et al., 2022). A current program, MaineMOM includes doula services; MaineCare coverage is starting with the transition and expansion of MaineMOM services from a federally grant-funded program to a MaineCare-covered service, with the objective of improving care for pregnant and postpartum people with opioid use disorder. Expanding insurance coverage of doulas beyond the MaineMOM program, which focuses on mothers with opioid use disorder, is an essential step in decreasing perinatal disparities in communities of color.

Additionally, data around doulas in Maine is lacking. According to data compiled by Market Decisions Research, there are currently (as of September 2023), at least 53 doulas practicing in Maine. The only way this information could be obtained was through internet searches; a methodology that has its flaws and cannot be corroborated by any professional associations. The lack of data around the number of doulas in Maine and who they serve makes it difficult to assess perinatal workforce capacity for non-white populations in Maine.

Community Health Workers

Currently, MaineCare is incorporating CHWs in various team-based alternative payment models for a range of populations. This work began in 2012 and continues today, with new service models having the option to include CHWs in their Medicaid reimbursed Health Home models (Office of MaineCare Services, 2024a). Currently, CHWs are included as permissible team members for Health Home models related to individuals with eligible chronic conditions at high-risk of adverse outcomes, including those experiencing long term homelessness (Community Care Teams) and members with opioid use disorder (Opioid Health Homes and MaineMOM) (Office of MaineCare Services, 2024a).

Additionally, MaineCare has implemented Primary Care Plus (PCPlus), a new payment model for primary care providers, that offers population-based payments tied to practice characteristics, population risk, and performance (Office of MaineCare Services, 2024b). As part of the phased roll out of PCPlus, MaineCare is incentivizing primary care practices to offer CHW services directly or in partnership with a community-based organization (the latter being preferred) as reimbursement for CHW services is part of the PCPlus program (Office of MaineCare Services, 2024b). The PCPlus

initiative fits well with broader state efforts to build and sustain the CHW workforce that has experienced significant growth and investment during the pandemic. There are over 230 primary care practices participating in PCPlus and over 200,000 MaineCare members attributed to these sites (Office of MaineCare Services, 2024b). This is a novel way to move towards increasing sustainability of CHWs for primary care through reimbursement, and this model should be extended to OB/GYNs offices or entities providing OB/GYN services.

Establishing Partnerships and Utilizing Existing Resources

Hub and spoke models have been cited as helping patients in rural areas receive necessary and appropriate care in the perinatal space (US Government Accountability Office, 2022). In this case, a hub would be a larger birthing hospital and the spokes would be smaller, rural, non-birthing hospitals or primary care clinics. This model allows for care coordination, training of providers in rural areas, and appropriate care to rural patient's communities. For example, a high-risk rural perinatal patient who requires specialty care would receive this care through collaboration between a specialist at a hub hospital and the patients' typical care team or hospital-based team. Currently, an informal hub-and-spoke model exists in Maine, with the Maine Medical Center in Portland and Northern Light (NL) Eastern Maine Medical Center in Bangor acting as hubs for the smaller hospitals across the state. Continuing to function as a hub-and-spoke model, whether formally or informally, will be imperative to provide high level perinatal care to mothers across the state.

The perinatal resources that exist across the state of Maine are often unknown to individuals who would benefit from them. These resources come in different forms such as support groups, ethnic-community based organizations (ECBOs), doulas, federally qualified health centers (FQHCs) and more. Organizations and efforts are often aimed at specific populations of perinatal people – immigrants and non-English speakers for example – and thus are imperative resources to incorporate into routine perinatal care. Promotion of these types of resources is vital to increasing utilization and connecting individuals to care and wraparound services that would complement perinatal care. Additionally, coordinating and collaborating across existing resources will help to provide accessible, appropriate, and adequate care to perinatal Mainers, while considering social determinants of health such as income, sexual orientation, and more. Continuing or beginning to convene workgroups, email communication, promoting and advertising resources, and/or conferences on perinatal resources in Maine would facilitate this process.

Data Collection and Quality

The level of data granularity needed to obtain a comprehensive understanding of Maine's perinatal workforce capacity is not currently tracked or collected. Some efforts are being launched across the state to collect more detailed data on the type of specialty practiced by mid-level providers, unfilled positions, reasons for hospital/maternity ward closures, and more. It will be important to align these efforts to avoid duplication and to work towards saturation of data collected. Collecting and analyzing these data will be imperative to understanding the nuance of Maine's perinatal workforce.

Specifically, more exploration should be done at how to collect data on specialties for all healthcare workers at the time of license renewal. Some efforts have been attempted but have often fallen short due to the optional nature of stating specialty or only asking for specialties of certain healthcare workers. The level of data granularity needed to obtain a comprehensive understanding of Maine's

perinatal workforce capacity is not currently tracked or collected at a statewide level in Maine. The Department of Labor and the Department of Health and Human Services are exploring options for surveying providers at the time of license renewal. To improve the quality of perinatal workforce data, data of this nature should be collected during any type of healthcare license renewal(Health Workforce Technical Assistance Center, 2016). To reduce the burden of data collected from healthcare professionals, these surveys could be reflective of multiple statewide entities' needs, for example, the Maine CDC, Department of Labor, Department of Health and Human Services, etc. A comprehensive survey aligned with the Cross-Profession Minimum Data Set could better provide details needed to inform policy. This is by no means a perfect solution but would allow for a more complete view of Maine's perinatal system of care.
Increasing data collection and quality is essential to fully understanding Maine's perinatal system of care. This is especially important as related to disparities. For example, data on doulas is lacking relative to other perinatal healthcare professionals. Since doulas most often support BIPOC communities through pregnancy, childbirth, and postpartum, missing data and information only perpetuates existing disparities and makes it difficult to assess how to improve doula services across Maine.

Financial Incentives for Rural Providers
Currently, the state of Maine offers some financial incentive options for medical providers in rural areas including various loan repayment options and tax credits (Maine Center for Disease Control & Prevention, 2023). The Rural Medical Access Program (RMAP) provides liability insurance rebates for physicians providing OB/GYN and pre-natal care in underserved areas (Maine Center for Disease Control and Prevention, 2023c).

In late 2021, Governor Mills noted that one focus of the Maine Jobs & Recovery Plan is to fund tuition support and loan relief programs for doctors, nurses, behavioral health professionals, and more (Office of Governor Janet T. Mills, 2021). This initiative was heavily influenced by the difficulties healthcare workers endured during the COVID-19 pandemic but will greatly aid in healthcare workforce capacity issues that predated the pandemic.

Continuing financial-based programs for Maine-based healthcare providers is essential to help bolster the rural perinatal workforce. Working with medical schools, nursing programs, residencies, and other provider training programs in Maine and other parts of New England to promote existing tuition reimbursement and loan relief programs may help to increase the number of healthcare workers interested in living and working in Maine.

MaineCare currently reimburses the state's 16 Critical Access Hospitals (most of which are rural) up to 109% of cost for facility-related costs, and 100% of costs for professional costs. In addition, the Department of Health and Human Services (DHHS) is in the process of hospital rate reform, which will invest in overall hospital reimbursement, including a proposal to update long-outdated Diagnosis Related Group (DRG) weights that will result in higher relative weighting of reimbursement for inpatient stays for many birth-related DRGs.

The Maine RMOMS Network is currently contracted with the Roux Institute to conduct a workforce needs assessment of the hospitals with obstetric units in rural Maine. Data collection was performed

through key informant interviews and healthcare facility observations/site visits. Nearly all rural hospitals (15 out of 16) participated in the assessment, 35 key informant interviews were held and approximately 40 in person informational interviews were held during the site visits. Findings will inform the development of a strategic work plan and recommendations for implementation in the RMOMS Network grant as related to rural perinatal care.

Increase the Number of Midwives
While the number of certified nurse-midwives is forecasted to grow by about 3% from 2020 to 2030 (Dawson, 2022), encouraging additional growth within this specialty may help to considerably alleviate existing strain on the broader system of perinatal care in Maine. Research shows that increasing the use of midwives in maternal care leads to increased patient satisfaction as well as fewer complications for parents and their infants, often at significant cost-savings (Altman et al., 2017; Carlson et al., 2019). Precedent exists in Vermont, where the current model of maternal care places a heavy emphasis on the use of midwives to improve outcomes (Campbell, 2018). As of 2021, about 21% of all births in Maine are attended by a midwife (Government Accountability Office, 2023), which is higher than the national average percentage (about 12%) but lower than Vermont (about 30%) and New Hampshire (about 26%). Expanding midwifery services to primary/family care practices, especially in rural areas, should be considered. The recommendation to expand midwifery services must be complemented with the recommendation of increasing insurance coverage of midwifery services. Various bills have been signed into law to cover midwifery services (LD 600) and working to build upon this momentum to increase insurance coverage of midwifery services through large insurance providers such as MaineCare will be an essential next step.

Conclusion

Despite a documented natural decrease in the state's population, the number of birthing age women and the number of children in Maine are projected to climb by 2030. These projected increases will lead to an increase in the demand for perinatal services that is expected to outstrip the supply of providers – especially in rural areas – and potentially overextend Maine's system of perinatal care capacity.

Although Maine's economy and geography present real challenges for improving this system of care, solutions ranging from providing financial incentives to rural providers, increasing access to telehealth and doula services, collecting higher quality and more detailed data, and strengthening the connections between perinatal providers and resources to encourage collaboration could, if successfully implemented, aid in bringing about the necessary changes to ease the strain on this system. However, to achieve equitable outcomes, decisionmakers will need to attend to the social determinants of health and disparities that influence the access to and quality of perinatal care a person receives, particularly for historically marginalized communities, and allocate resources appropriately.

Bibliography

American Academy of Family Physicians. (2023). *Family Physician, Definition* . https://www.aafp.org/about/policies/all/family-physician-definition.html

American Academy of Pediatrics. (2015, April 1). *Definition of a Pediatrician*.

American Board of Obstetrics & Gynecology. (2023). *Definition of an Obstetrician and Gynecologist*. https://www.abog.org/about-abog/policies/definition-of-an-obstetrician-and-gynecologist

American College of Nurse-Midwives. (2017). *Comparison of Certified Nurse-Midwives, Certified Midwives, Certified Professional Midwives Clarifying the Distinctions Among Professional Midwifery Credentials in the US*.

American College of Nurse-Midwives. (2021). *Definition of Midwifery and Scope of Practice of Certified Nurse-Midwives and Certified Midwives*.

American Hospital Association. (n.d.). *Fast Facts | US Rural Hospitals*.

Bartow, A. (2023, October 19). *Maine's refugee, asylum-seeker population is growing rapidly, expected to double*. WMTV 8. https://www.wmtw.com/article/maine-refugee-asylum-seeker-population-growing-rapidly/45583459#:~:text=Data%20from%20the%20Office%20of,62%20asylees%20and%20419%20refugees.

Bellavance, M. (2023, September 12). *York Hospital to close its birthing center amid staffing shortages*. News Center Maine. https://www.newscentermaine.com/article/news/health/york-hospital-to-close-its-birthing-center-september-25-2023/97-097cdfb3-2876-468f-b175-067a13c5a1eb

Cincinnati Dental Society. (2023). *Dentistry Definitions*.

Centers for Disease Control and Prevention National Center for Health Statistics. (2022). *National Vital Statistics System, Linked Birth / Infant Deaths on CDC WONDER Online Database*. http://wonder.cdc.gov/

Dawson, A. (2022). *2022 Maine Healthcare Occupations Report*.

DeNicola, N., Grossman, D., Marko, K., Sonalkar, S., Butler Tobah, Y. S., Ganju, N., Witkop, C. T., Henderson, J. T., Butler, J. L., & Lowery, C. (2020). Telehealth Interventions to Improve Obstetric and Gynecologic Health Outcomes: A Systematic Review. In *Obstetrics and Gynecology* (Vol. 135, Issue 2, pp. 371–382). Lippincott Williams and Wilkins. https://doi.org/10.1097/AOG.0000000000003646

DONA International. (2023). *What is a doula?*

Health Resources and Services Administration. (2021). *Projections of Supply and Demand for Women's Health Service Providers: 2018-2030*. https://bhw.hrsa.gov/data-research/review-health-workforce-research.

Health Resources and Services Administration. (2023). *Needs Assessment Update - Maine - 2023*. US Department of Health and Human Services.

Health Workforce Technical Assistance Center. (2016). *Health Workforce Data Collection FAQs*. http://bhpr.hrsa.gov/healthworkforce/data/minimumdataset/

Healthcare Regulatory Research Institute. (2023). *A Roadmap for Enhancing State Health Workforce Data*. https://www.hrri.org/workforce-cpmds

Hill, L., Artiga, S., & Ranji, U. (2022). *Racial Disparities in Maternal and Infant Health: Current Status and Efforts to Address Them*. https://www.kff.org/racial-equity-and-health-policy/issue-brief/racial-disparities-in-maternal-and-infant-health-current-status-and-efforts-to-address-

them/#:~:text=Notably%2C%20NHOPI%20women%20are%20four,White%20women%20(9%25%20vs.
Howell, E. A. (2018). Reducing Disparities in Severe Maternal Morbidity and Mortality. *Clinical Obstetrics and Gynecology*, *61*(2), 387–399. https://doi.org/10.1097/GRF.0000000000000349
Hubbard, K. (2021, March 4). *Pandemic Propels Interest in Out-of-Hospital Births*. US News and World Report. https://www.usnews.com/news/health-news/articles/2021-03-04/pandemic-propels-interest-in-home-out-of-hospital-births
Hundrup, A., & Young, C. (2022, October). *Maternal Health: Availability of Hospital-Based Obstetric Care in Rural Areas*. U.S. Government Accountability Office. https://www.gao.gov/products/gao-23-105515
Leparulo, P. (2010). *Workforce Analysis of Maine's Health Services Sector*. https://www.maine.gov/labor/cwri/publications/pdf/WorkforceAnalysisMaine'sHealthServicesSector.pdf
Maine Center for Disease Control & Prevention. (2023, August 1). *Programs for Providers*. Maine Department of Health and Human Services.
Maine Center for Disease Control and Prevention. (2023a). *Total Live Births by Residence County and Year*.
Maine Center for Disease Control and Prevention. (2023b, August 1). *Rural Medical Access Program*. Maine Department of Health and Human Services.
Maine Health. (2023a). *Maternal-Fetal Medicine*.
Maine Health. (2023b). *Midwife Care*.
Maine Hospital Association. (2019). *The Rural Maine Hospital Crisis: How to Help*.
National Center for Health Statistics. (2022). National Vital Statistics System. In *Department of Health and Human Services*.
National Center for Health Workforce Analysis. (2022). *State of the Maternal Health Workforce Brief*.
Office of Governor Janet T. Mills. (2021, October 25). *Governor Mills Announces New Maine Jobs & Recovery Plan Initiatives to Strengthen Maine's Health Care Workforce In Face of COVID-19 Pandemic*. State of Maine.
Office of MaineCare Services. (2024a). *Health Homes*. State of Maine Department of Health and Human Services. https://www.maine.gov/dhhs/oms/providers/value-based-purchasing/health-homes
Office of MaineCare Services. (2024b). *Primary Care*. State of Maine Department of Health and Human Services. https://www.maine.gov/dhhs/oms/providers/value-based-purchasing/primary-care
Office of MaineCare Services. (2024c). *Telehealth*. State of Maine Department of Health and Human Services. https://www.maine.gov/dhhs/oms/member-resources/telehealth
Office of the State Economist. (2021). *Maine Population Outlook 2008-2028*. https://www.maine.gov/dafs/economist/sites/maine.gov.dafs.economist/files/inline-files/Maine%20Population%20Outlook%20to%202028%20-%20Corrected.pdf
Office of the State Economist. (2023). *Maine Population Outlook: 2020 to 2030*.
Permanent Commission on Racial Indigenous and Maine Tribal Populations. (2022). LD 1113: Racial Disparities in Prenatal Access in Maine. In *Reproductive Toxicology* (Vol. 64). Elsevier Inc. https://doi.org/10.1016/j.reprotox.2016.04.001
Sambides Jr, N. (2019, January 29). *Lincoln Hospital files for Chapter 11 bankruptcy*. WGME.

Terhune, J. (2022, February). *Home births in Maine rise as patients seek control during pandemic*. The Portland Press Herald. https://www.pressherald.com/2022/02/22/home-births-in-maine-rise-as-patients-seek-control-during-pandemic/

Terhune, J. (2023, January 31). Maine births ticked up in 2021 but still lag far behind national average. *The Times Record*.

The American College of Obstetricians and Gynecologists. (2013). *Oral Health Care During Pregnancy and Through the Lifespan*.

Torjussen, M. (2023, March 31). *Expectant mothers face long drives as another rural Maine hospital discontinues its OB services*. WMTV 8.

United States Bureau of Labor Statistics. (2022, September 8). *Employment Projections: Calculations*. United States Department of Labor .

United States Government Accountability Office. (2022). *Maternal Health: Availability of Hospital-Based Obstetric Care in Rural Areas*.

US Government Accountability Office. (2022, October 19). *Maternal Health: Availability of Hospital-Based Obstetric Care in Rural Areas*. Office of Public Affairs.

Van Eijk, M. S., Guenther, G. A., Kett, P. M., Jopson, A. D., Frogner, B. K., & Skillman, S. M. (2022). Addressing Systemic Racism in Birth Doula Services to Reduce Health Inequities in the United States. *Health Equity*, *6*(1), 98–105.

WGME. (2022, May 11). *"Difficult and emotional": Lewiston hospital to end maternity services*. https://wgme.com/news/local/-st-marys-health-system-lewiston-hospital-to-end-maternity-services-maternity-and-womens-health-st-marys-regional-medical-center

Appendices

Appendix A – 2030 Projection for Women of Childbearing Age

There is no projection for women of childbearing years for 2030. For an estimate of this number, MDR utilized the Maine Population Outlook 2020 to 2023 (Office of the State Economist, 2023).

- The projection for ages 20-39 in 2030 (313,804) multiplied by the percentage of women (50.7%) in Maine = *159,099*
- Figure 6, 15-19 = *~35,000*
- Figure 6, 40-44= *~45,000*

Sum all italicized number for a total of **239,099** women aged 15-44 projected to live in Maine in 2030

Appendix B – Levels of Care

Levels of maternal and neonatal care were determined by using Maine CDC's LOCATe tool. For more information, visit: https://www.maine.gov/dhhs/mecdc/population-health/mch/

Maternity/Maternal Care

Level I Maternity Care: These hospitals provide basic care for healthy women during pregnancy, labor, delivery, and postpartum periods. They do not have neonatal intensive care units (NICU) or specialists to manage high-risk pregnancies or newborns.

Level II Maternity Care: These hospitals provide care for women with low-risk pregnancies and healthy newborns, as well as some basic neonatal care for sick or premature infants. They have the equipment and staff to manage most common complications of pregnancy and childbirth. However, they do not have the resources to manage complex or high-risk pregnancies and neonatal conditions.

Level III Maternity Care: These hospitals provide comprehensive care for women with high-risk pregnancies, complex medical conditions, or multiple gestations. They have advanced equipment, specialized staff, and NICUs to manage critically ill newborns. These hospitals may also have specialized services for fetal diagnosis, maternal-fetal medicine, and neonatal surgery.

Level IV Maternity Care: These hospitals are regional centers of excellence that provide the highest level of maternal and neonatal care. They have the most advanced equipment, technology, and expertise to manage the most complex and critically ill patients. These hospitals are typically located in large urban areas and have access to a wide range of specialists, including maternal-fetal medicine, neonatology, pediatric surgery, and other subspecialties.

Newborn/Infant Care

Levels of newborn care are defined by the American Academy of Pediatrics (AAP) and generally range from Level 1 to Level 4:

- Level 1: Basic newborn care, including routine postnatal care for healthy term newborns.
- Level 2: Specialty care for infants at moderate risk, including those born at 32 weeks gestation or later, or those with mild health issues that require monitoring or intervention.
- Level 3: Subspecialty neonatal intensive care for infants born at less than 32 weeks gestation or those with more severe medical conditions that require advanced care and technology.
- Level 4: Regional neonatal intensive care units (NICUs) providing the highest level of care,

Maine Perinatal Needs Assessment: Community Landscape

February 2024

Prepared by:
Cecelia Stewart, PhD, MPH

Community Landscape

Background

The Maine Center for Disease Control and Prevention (Maine CDC) contracted with Market Decisions Research to perform a Perinatal Health Disparities Needs Assessment for the state of Maine. This component of the project is meant to provide an overview of perinatal resources across the state. Maps provides a visual representation of where birthing and non-birthing hospitals, OB/GYNs, family medicine doctors, midwives, non-hospital birthing centers, and pediatricians are located. A compilation of existing Maine-based perinatal-related initiatives as well as Maine-based perinatal-focused resources are also presented in this document.

Maps

Each dot on a map represents a location of where the described care can be obtained. This was chosen purposefully (as opposed to a dot per each provider), to show a visual representation of where care is dispersed across the state. As such, a dot on a map may represent, for example, an OB/GYN practice that employs five OB/GYNs. This should be considered when interpreting this document. All maps were generated in Tableau Desktop based on data collected in 2023.

Hospitals

For the purposes of this document, hospitals are broken into birthing hospitals and non-birthing hospitals. Birthing hospitals are defined as hospitals that have maternity wards and OB/GYN providers on call 24/7. Non-birthing hospitals do not have maternity wards and thus do not have the capacity to deliver babies. Figure 1 compiles birthing and non-birthing hospital locations into one map, where Figures 2 and 3 break out hospitals by birthing and non-birthing, respectively. Information for Maine hospitals were found through the Maine CDC and confirmed/supplemented with Internet searches (*CDC Maternal and Child Health | Population Health | Maine DHHS*, n.d.). The Maine CDC provides an updated map of Maine hospitals, which can be found here.

Figure 1. All Hospitals in Maine, 2023

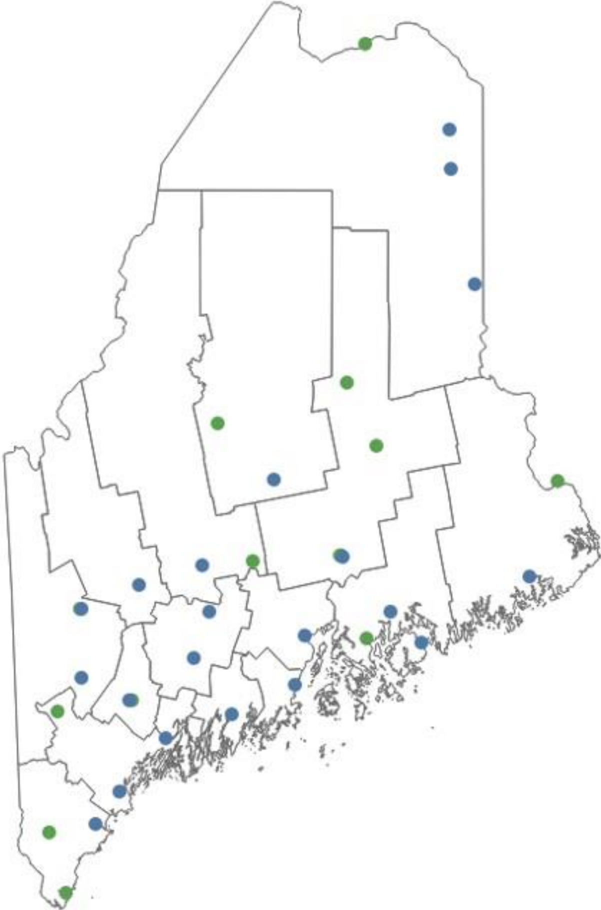


Figure 1. shows all hospitals in Maine. Blue dots represent birthing hospitals.
Green dots represent non-birthing hospitals.

Figure 2. Birthing Hospitals in Maine, 2023

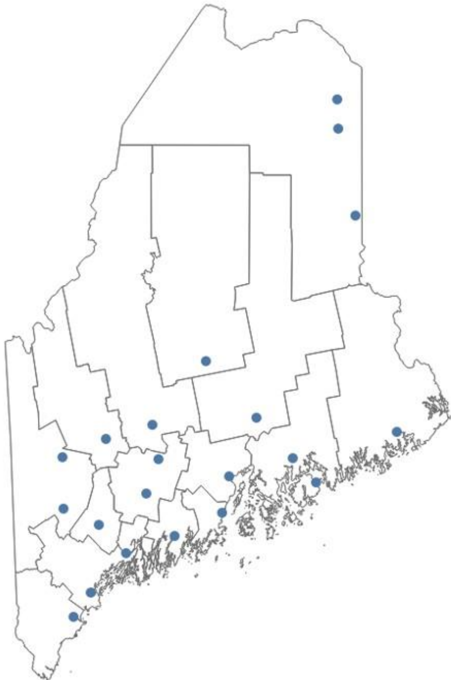
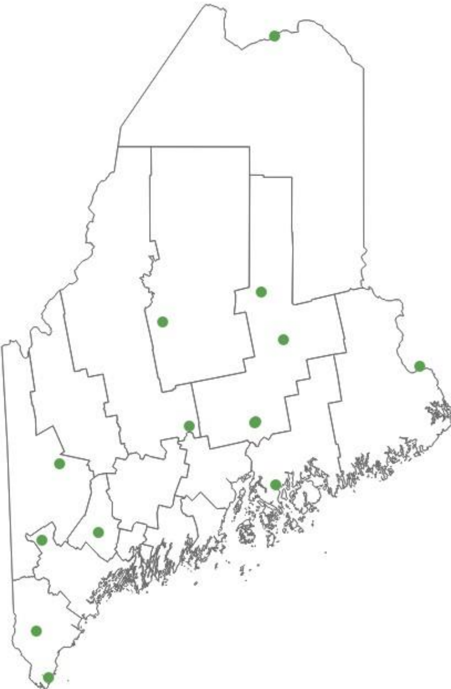


Figure 3. Non-Birthing Hospitals in Maine, 2023



Non-Hospital Birthing Centers

Figure 3. Non-Hospital Birthing Centers, 2023

Figure 3 shows the locations of birthing centers across the state. These centers are separate from hospitals and are often run by midwives. They vary in terms of what they provide patients (in-home births, education, water births, etc.).

Providers

The following maps show the spread of perinatal providers across the state of Maine. Perinatal providers include medical providers that provide essential medical care or pregnant/postpartum individuals and their children (up to 1 year of age). This includes OB/GYNs, primary care/family medicine providers, midwives, and pediatricians. Information for these providers were obtained from a master list provided to Market Decisions Research from the Maine CDC from 2022 and supplemented with Internet searchers to determine active providers. Advanced practice providers and nurses working in the perinatal space are not included in these maps as there is no way to determine what specialties they work in. Other nuances include that certain advanced level providers (such as nurse practitioners) can list their licenses to their home addresses, not where they practice, which would render maps inaccurate.

OB/GYN Providers

Figure 4. OB/GYN Providers, 2023

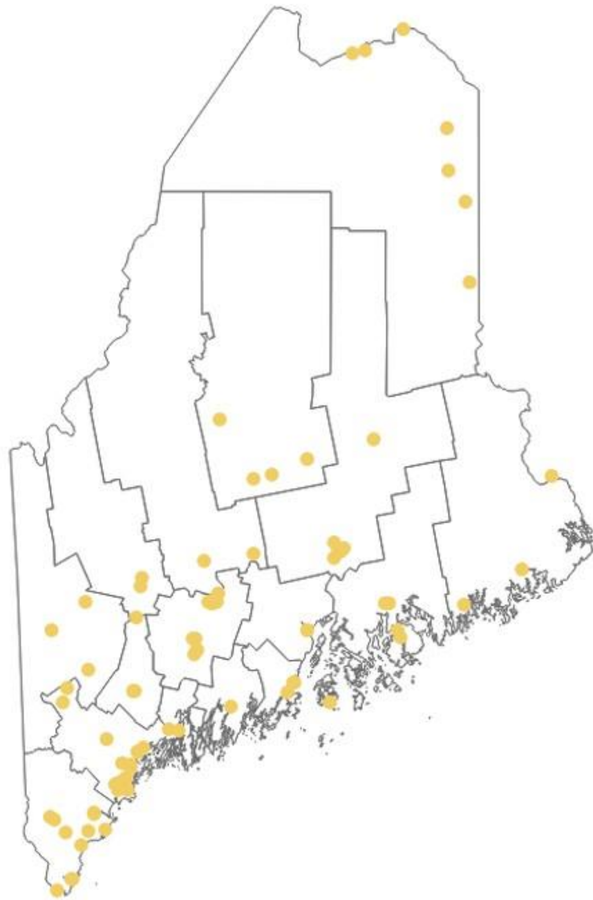


Figure 4 depicts the spread of OB/GYN providers across Maine. Obstetric and gynecological (OB/GYN) physicians specialize in providing care to pregnant people and the female reproductive system. OB/GYNs are present at births and can perform Caesarean sections (American Board of Obstetrics & Gynecology, 2023). For Figure 4., OB/GYNs are mapped by location. This means that more than one OB/GYN provider could be available at each location.

Family Medicine/Primary Care Providers

Figure 5. Family Medicine/Primary Care Providers (PCPs), 2023

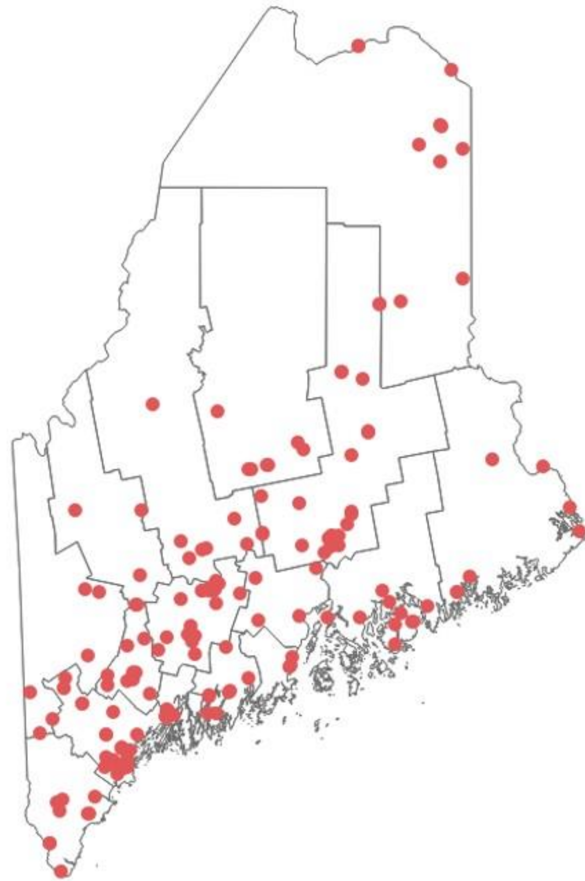


Figure 5 depicts the spread of family medicine and primary care providers across Maine. Family medicine physicians provide comprehensive medical care and preventative services to each member of a family (American Academy of Family Physicians, 2023). Family physicians may attend births in hospitals and may also perform Cesarean sections, depending on their training (United States Government Accountability Office, 2022). Primary care physicians are considered a part of this category. For Figure 5., family medicine providers/PCPs are mapped by location. This means that more than one provider could be available at each location.

Midwives

Figure 6. Midwives, 2023

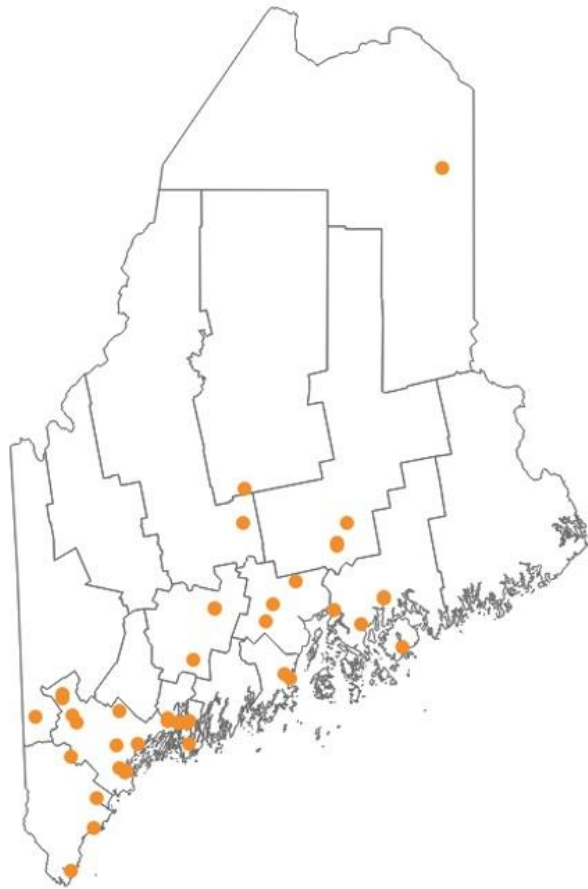


Figure 6 shows the locations of midwives across Maine. Certified nurse midwives (CNMs) and certified midwives (CMs) are advanced practice professionals that specialize in care during pregnancy, childbirth, and postpartum as well as general sexual, gynecological, and reproductive health (American College of Nurse-Midwives, 2021). CNMs attend births in hospitals, and CNMs and CMs can support births in birthing centers, or in homes (United States Government Accountability Office, 2022). For Figure 6, midwives are mapped by location. This means that more than one provider could be available at each location. Additionally, many midwives provide services over a certain geographic region. This varies by provider and is not captured in this map.

Pediatricians

Figure 8. Pediatricians, 2023

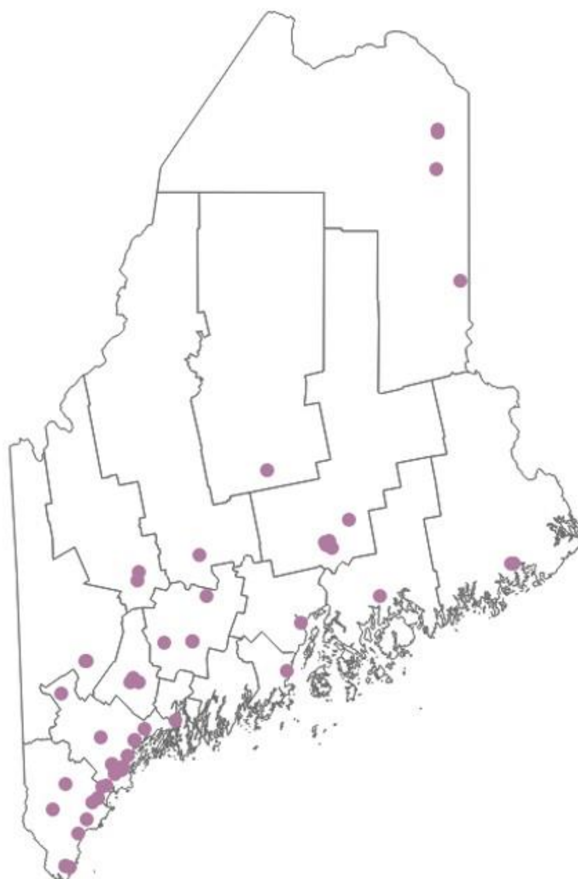
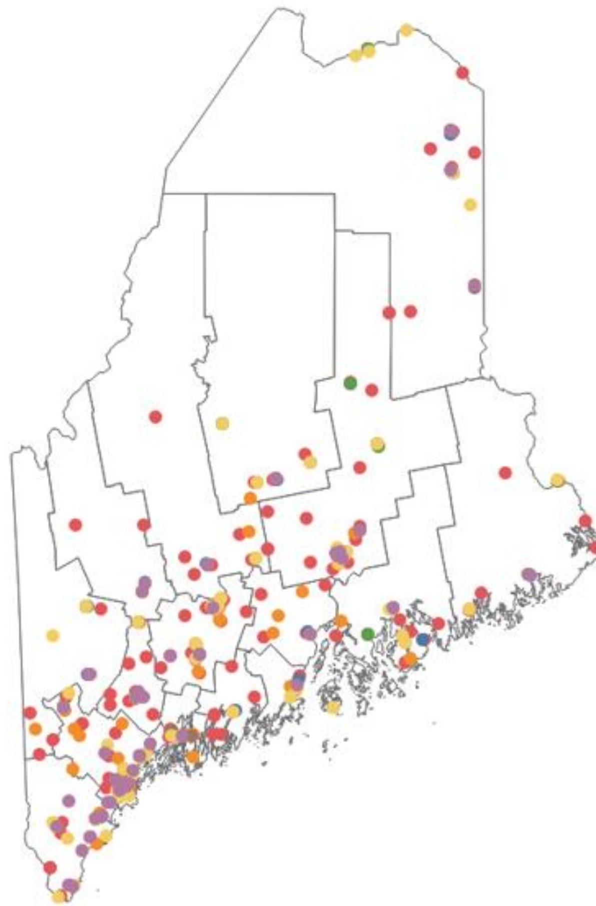


Figure 8 shows the locations of pediatricians across Maine. Pediatricians are physicians who are concerned with and treat the health and development of children including preventative care and diagnosis and treatment of diseases (American Academy of Pediatrics, 2015). For Figure 8, pediatricians are mapped by location. This means that more than one provider could be available at each location.

Compiled Perinatal Resources

Figure 9. All Perinatal Medical Resources, 2023



Blue dots represent birthing hospitals. Green dots represent non-birthing hospitals. Yellow dots represent OB/GYNs. Red dots represent primary care/family medicine providers. Orange dots represent midwives. Brown dots represent non-hospital birthing centers. Purple dots represent pediatricians.

Figure 9. Figure 9 overlays all birthing and non-birthing hospitals, OB/GYNs, primary care/family medicine providers, midwives, non-hospital birthing centers, and pediatricians across the state of Maine. Providers are mapped by location. This means that more than one provider could be available at each location.

Existing Perinatal Initiatives

The following table describes the existing Maine-based perinatal focus individuals across the state of Maine. The program name, description, location, funding, and timeframe are provided. These programs are federally funded and provide millions of dollars into Maine's perinatal system of care. Information for this table was obtained from the 2023 Building Maine's Perinatal System of Care: A Roadmap for the Future Report (Perinatal Quality Collaborative for Maine, 2023).

Program	Description of Program	Housed At	Funding	Timeline
MaineMOM	MaineMOM is dedicated to creating a statewide system of care for women with Opioid Use Disorder (OUD) and their infants	Maine DHHS, Office of MaineCare Services	Centers for Medicare and Medicaid Innovation $5.3 million total)	1/2020-12/2025
Maternal and Child Health Title V Block Grant	Improve maternal and child health outcomes across the state	MCDC/MCH	HRSA ($3.3 million annually with annual state Maintenance of Effort $3.7 million)	2021-2026 Next cycle begins in 2026
State Maternal Health Innovation (SMHI) and Data Capacity Program	Bring the voices of key stakeholders, including health care providers, community-based organizations, and Maine people together to address risk factors facing birthing people before and during pregnancy and after birth that can cause pregnancy loss and death in pregnant people and infants	MCDC/MCH	HRSA $1 million annual; $5 million total	2021-2026

US CDC ERASE Maternal Mortality (CDC ERASE MM) funding for Maternal Mortality Review Committee Expansion	A multidisciplinary committee dedicated to using data understand causes of maternal mortality in Maine. This committee provides recommendations based on data and case reviews as part of the Maternal, Fetal, and Infant Mortality Review Panel in Maine	MMA-CQI	US CDC ($150,000 annual, $300,000 total)	9/30/2022-9/30/2024
Perinatal Quality Improvement for Maine (PQC4ME)	PQC4ME is a statewide perinatal quality collaborative aimed at addressing perinatal challenges and improving outcomes for mothers, children, and families.	MMA-CQI	US CDC ($275,000 annual, $1.375 million total)	9/30/2022-9/29/2027
Rural Maternity and Obstetrics Management Strategies (RMOMS)	Statewide initiative aims to expand maternal services in rural Maine via telehealth, improve the continuum of care, support tailored education and training.	MaineHealth	HRSA ($997,000 annually, $4 million total)	2022-2026

Bibliography

American Academy of Family Physicians. (2023). *Family Physician, Definition* . https://www.aafp.org/about/policies/all/family-physician-definition.html

American Academy of Pediatrics. (2015, April 1). *Definition of a Pediatrician*.

American Board of Obstetrics & Gynecology. (2023). *Definition of an Obstetrician and Gynecologist*. https://www.abog.org/about-abog/policies/definition-of-an-obstetrician-and-gynecologist

American College of Nurse-Midwives. (2017). *Comparison of Certified Nurse-Midwives, Certified Midwives, Certified Professional Midwives Clarifying the Distinctions Among Professional Midwifery Credentials in the US*.

American College of Nurse-Midwives. (2021). *Definition of Midwifery and Scope of Practice of Certified Nurse-Midwives and Certified Midwives*.

CDC Maternal and Child Health | Population Health | Maine DHHS. (n.d.). Retrieved February 7, 2024, from https://www.maine.gov/dhhs/mecdc/population-health/mch/

Perinatal Quality Collaborative for Maine. (2023). *Building Maine's Perinatal System of Care: A Roadmap for the Future*. www.pqc4me.org

United States Government Accountability Office. (2022). *Maternal Health: Availability of Hospital-Based Obstetric Care in Rural Areas*.